

Statistics and Counters Reference, StarOS Release 21.28

First Published: 2022-09-29

Last Modified: 2026-07-24

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED “AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

All printed copies and duplicate soft copies of this document are considered uncontrolled. See the current online version for the latest version.

Cisco has more than 200 offices worldwide. Addresses and phone numbers are listed on the Cisco website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: https://www.cisco.com/c/en/us/about/legal/trademarks.html. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1721R)

© 2022-2026 Cisco Systems, Inc. All rights reserved.



CONTENTS

PREFACE

About this Guide xxxv

Conventions Used xxxvi

Supported Documents and Resources xxxvii

Related Common Documentation xxxvii

Related Product Documentation xxxviii

Contacting Customer Support xxxviii

CHAPTER 1

Statistics and Counters Overview 1

Introduction 1

CHAPTER 2

show aaa group name 3

show aaa group name 3

CHAPTER 3

show access-policy 13

show access-policy all 13

show access-policy full all 13

CHAPTER 4

show access-profile 15

show access-profile full name <profile_name> 15

CHAPTER 5

show active-charging 17

show activecharginganalyzer statistics name 19

show active-charging analyzer statistics name cdp 20

show active-charging analyzer statistics name dns 21

show active-charging analyzer statistics name h323 22

show active-charging analyzer statistics name h323 verbose 22

show active-charging analyzer statistics name http 25
show active-charging analyzer statistics name icmpv6 27
show active-charging analyzer statistics name ip verbose 28
show active-charging analyzer statistics name ipv6 30
show active-charging analyzer statistics name ipv6 verbose 30
show active-charging analyzer statistics name mipv6 32
show active-charging analyzer statistics name p2p protocol-group 32
show active-charging analyzer statistics name p2p protocol-group verbose 36
show active-charging analyzer statistics name p2p 87
show active-charging analyzer statistics name p2p verbose 139
show active-charging analyzer statistics name pptp 205
show active-charging analyzer statistics name rtp 205
show active-charging analyzer statistics name sip 206
show active-charging analyzer statistics name sip verbose 208
show active-charging analyzer statistics name tcp 211
show active-charging analyzer statistics name tcp verbose 212
show active-charging analyzer statistics name tftp 214
show active-charging bandwidth-policy name 215
show active-charging charging-action all 216
show active-charging charging-action name 219
show active-charging charging-action statistics name 220
show active-charging content-filtering category policy-id all 224
show active-charging content-filtering category statistics rulebase name 224
show active-charging content-filtering category statistics 226
show active-charging content-filtering server-group name 229
show active-charging content-filtering server-group statistics verbose 230
show active-charging credit-control misc-info max-backpressure 233
show active-charging credit-control session-states 234
show active-charging credit-control statistics 235
show active-charging database uidh 243
show active-charging dns-learnt-ip-addresses statistics sessmgr instance <instance> verbose 244
show active-charging edr-format all 245
show active-charging edr-format statistics 246
show active-charging edr-udr-file flow-control-counters 246

show active-charging edr-udr-file statistics 246
show active-charging firewall statistics 248
show active-charging firewall statistics nat-realm 250
show active-charging firewall statistics verbose 250
show active-charging firewall statistics protocol icmp verbose 257
show active-charging firewall statistics protocol icmpv6 verbose 258
show active-charging firewall statistics protocol ip verbose 260
show active-charging firewall statistics protocol ipv6 verbose 261
show active-charging firewall statistics protocol udp verbose 263
show active-charging firewall statistics callid <call_id> verbose 264
show active-charging firewall statistics domainname <domain_name> verbose 268
show active-charging firewall statistics username <user_name> verbose 273
show active-charging firewall track-list attacking-servers 278
show active-charging fw-and-nat policy name 278
show active-charging flow-kpi all 283
show active-charging flows full 284
show active-charging flows full 287
show active-charging flows summary 291
show active-charging flows full debug-info all 292
show active-charging flows full type p2p 292
show active-charging flows type cdp 293
show active-charging flows type p2p 295
show active-charging flow-mappings all 297
show active-charging group-of-ruledefs name 298
show active-charging nat statistics 298
show active-charging nat statistics unsolicited-pkts-server-list instance <instance_num> 301
show active-charging p2p-dynamic-rules verbose 301
show active-charging pcp-service all 301
show active-charging pcp-service name 302
show active-charging pcp-service statistics 303
show active-charging radio-congestion policy all 305
show active-charging radio-congestion policy statistics 306
show active-charging readdress-server-list statistics all 307
show active-charging rulebase name 307

show active-charging rulebase statistics 314
show active-charging rulebase statistics name 320
show active-charging ruledef firewall 330
show active-charging ruledef statistics 331
show active-charging ruledef statistics all firewall wide 333
show active-charging ruledef statistics all charging 334
show active-charging ruledef statistics all tpo 334
show active-charging ruledef tpo 334
show active-charging service all 334
show active-charging service-scheme statistics 337
show active-charging sessions all 338
show active-charging sessions credit-control server-unreachable 338
show active-charging sessions firewall required 338
show active-charging sessions full 339
show active-charging sessions full all 350
show active-charging sessions summary 363
show active-charging sessions summary type p2p 379
show active-charging subscribers full all 393
show active-charging subsystem all 398
show active-charging subscribers callid override-control 408
show active-charging subsystem facility acsmgr instance 408
show tcp-acceleration statistics sessmgr all 413
show active-charging tcp-proxy statistics all verbose 417
show active-charging tcp-proxy statistics socket-migration 422
show active-charging tethering-detection database sessmgr all 423
show active-charging tethering-detection statistics 424
show active-charging timedef all 425
show active-charging tpo profile statistics name 426
show active-charging traffic-optimization policy 426
show active-charging trigger-action all 427
show active-charging trigger-condition all 428
show active-charging udr-format all 428
show active-charging url-blockedlisting statistics 429
show active-charging url-blockedlisting statistics rulebase name 429

show active-charging video detailed-statistics 430
show active-charging video detailed-statistics container mp4 433
show active-charging video detailed-statistics rat cdma 434
show active-charging video detailed-statistics ue laptop 437
show active-charging xheader-format name 441

CHAPTER 6 **show administrators** 443
show administrators 443
show administrators session id 444

CHAPTER 7 **show alarm** 445
show alarm all 445
show alarm audible 446
show alarm central-office 446
show alarm facility 447
show alarm outstanding all verbose 447
show alarm statistics 448

CHAPTER 8 **show alcap** 449
show alcap counters 449
show alcap-service all 450
show alcap-service full 451

CHAPTER 9 **show apimgr statistics ise-server** 455
show apimgr statistics ise-server 455

CHAPTER 10 **show apn** 457
show apn all 457
show apn counter ip-allocation all 471
show apn name 471
show apn statistics all hsgw-only 473
show apn statistics 474
show apn statistics name 474

show apn statistics name qci 484

CHAPTER 11 **show apn-profile 495**

show apn-profile full name 495

CHAPTER 12 **show apn-remap-table 503**

show apn-remap-table full name 503

CHAPTER 13 **show asngw-service 505**

show asngw-service all 505

show asngw-service session all 508

show asngw-service session counters 509

show asngw-service session counters verbose 511

show asngw-service session full 517

show asngw-service session counters function-type data-path 519

show asngw-service session peer-address 523

show asngw-service session summary 524

show asngw-service statistics 524

show asngw-service statistics function-type ms-state-change 527

show asngw-service statistics function-type ms-state-change 530

show asngw-service statistics verbose 532

CHAPTER 14 **show asnpc-service 539**

show asnpc-service all 539

show asnpc-service session all 540

show asnpc-service session full 541

show asnpc-service session counters verbose 543

show asnpc-service statistics verbose 546

CHAPTER 15 **show bcmcs 551**

show bcmcs counters all 551

show bcmcs statistics 553

CHAPTER 16 **show bearer-control-profile** 561
show bearer-control-profile full name 561

CHAPTER 17 **show bssap** 563
show bssap+ statistics 563

CHAPTER 18 **show build** 565
show build 565

CHAPTER 19 **show bulkstats data** 567
show bulkstats data 567
show bulkstats variables user-plane-service 569
QCI 67 Support 570

CHAPTER 20 **show cae-group server name** 573
show cae-group server name 573

CHAPTER 21 **show call-control-profile** 575
show call-control-profile full name 575

CHAPTER 22 **show card** 595
show card diag 596
show card hardware (ASR 5000) 597
show card hardware (ASR 5500) 599
show card hardware (VPC-DI) 607
show card info (ASR 5000) 609
show card info (ASR 5500) 611
show card info (VPC-SI, VPC-DI) 614
show card mappings (ASR 5000) 615
show card table 616

CHAPTER 23 **show cdr** 619

show cdr statistics 619
show cdr file-space-usage 622

CHAPTER 24 **show cell-trace-module 623**
show cell-trace-module file-space-usage 623
show cell-trace-module statistics 623

CHAPTER 25 **show certificate 625**
show certificate 625

CHAPTER 26 **show cli 627**
show cli configuration-monitor 627
show cli history 628
show cli session 628

CHAPTER 27 **show chassis-throughput 629**
show chassis-throughput 629

CHAPTER 28 **show cloud 631**
show cloud configuration 631
show cloud hardware 632
show cloud monitor 632

CHAPTER 29 **show cmp 635**
show cmp history 635
show cmp outstanding-reg 637
show cmp statistics 637

CHAPTER 30 **show confdmgr 641**
show confdmgr 641
show confdmgr subscriptions 643

CHAPTER 31 **show configuration 645**

show configuration iftask boot-options 645
show configuration iftask boot-options verbose 646
show config 646
show config apn 647
show configuration access-link 647
show config context 647
show configuration srp 648
show config context verbose 648

CHAPTER 32 **show congestion-control** 651
show congestion-control configuration 651
show congestion-control statistics a11mgr instance 652
show congestion-control statistics asngwmgr instance 652
show congestion-control statistics egtpinmgr 653
show congestion-control statistics mme full 653

CHAPTER 33 **show connectedapps** 655
show connectedapps 655

CHAPTER 34 **show content-filtering** 657
show content-filtering category database 657
show content-filtering category database all 658
show content-filtering category database facility srdbmgr all 659
show content-filtering category policy-id id 660
show content-filtering category statistics 661
show content-filtering category statistics facility srdbmgr all 661
show content-filtering category url <url> policy-id <id> verbose 662
show content-filtering server-group name 663
show content-filtering server-group statistics 664

CHAPTER 35 **show chassis-throughput** 667
show chassis-throughput 667

CHAPTER 36 **show context all** 669

show context all 669

CHAPTER 37 **show cpu** 671

show cpu info 671

show cpu info verbose 672

show cpu table 674

CHAPTER 38 **show crash** 675

show crash config 675

show crash list 676

show crash all 676

show crash number 676

CHAPTER 39 **show crypto** 679

show crypto group summary 679

show crypto ikev2-ikesa security-associations summary 680

show crypto ikev2-ikesa security-associations summary spi 680

show crypto ipsec security-associations 681

show crypto ipsec security-associations statistics 684

show crypto ipsec security-associations summary 687

show crypto isakmp keys 687

show crypto isakmp security-associations 688

show crypto managers 688

show crypto managers instance 689

show crypto managers summary 690

show crypto map summary 690

show crypto statistics 693

show crypto statistics ikev2 699

show crypto template summary 708

CHAPTER 40 **show cs-network** 713

show cs-network all status 713
show cs-network statistics ranap-only 715
show cs-network statistics sccp-only 719

CHAPTER 41 show cscf 723
show cscf nat media mapping all 723
show cscf peer-servers full 724
show cscf service li-packet-cable statistics 725
show cscf service statistics name <service_name> all 725
show cscf sessions counters 744
show cscf sessions duration 746
show cscf sip statistics 747
show cscf tcp connections 752

CHAPTER 42 show decor 755
show decor-profile full all 755

CHAPTER 43 show demux-mgr 757
show demux-mgr statistics egtpegmgr all 757
show demux-mgr statistics egtpinmgr all 757
show demux-mgr sessions egtpinmgr all 758

CHAPTER 44 show dhcp 759
show dhcp call-id 759
show dhcp chaddr 762
show dhcp dhcp-service 762
show dhcp msid 765
show dhcp full msid 765
show dhcp status 768
show dhcp-service 769
show dhcp statistics 771
show dhcpv6 statistics 776
show dhcp username 778
show dhcp full username 779

CHAPTER 45 **show diameter** 783

show diameter aaa-statistics 783

show diameter aaa-statistics misc-data 795

show diameter authentication servers 796

show diameter diactrl proxy-vm-map 796

show diameter dynamic-dictionary all 797

show diameter endpoints all 797

show diameter message-queue counters outbound endpoint 798

show diameter osid-info sessmgr 800

show diameter osid-info sessmgr all 800

show diameter peers full all 801

show diameter statistics 802

show diameter tps-statistics verbose 810

CHAPTER 46 **show diameter-hdd-module** 813

show diameter-hdd-module file-space-usage 813

show diameter-hdd-module statistics 813

CHAPTER 47 **show dns-client** 815

show dns-client 815

show dns-client statistics dns-query NF P-CSCF apn name apn-name 817

show dns-client statistics dns-query NF P-CSCF apn all 817

CHAPTER 48 **show dynamic-policy** 819

show dynamic-policy statistics 819

CHAPTER 49 **show egtp** 823

show egtpc peers interface 823

show egtpc peers path-failure-history 824

show egtpc statistics path-failure-reasons 825

show egtp-service all 827

show egtpc sessions 830

show egtpc statistics 832
show egtpc statistics verbose 865
3GPP Release 9, 29.274 865
SRVCC Messages 871
IMSI/IMEI Statistics 879
Collision Counter Support in the GTP Layer 880
show egtp-service all 881

CHAPTER 50 show epdg-service statistics 885
show epdg-service statistics 885
show epdg-service statistics suppress-ir-handover 886
show epdg-service statistics interworking-5g 886
show epdg-service name 889
show epdg-service name name 890

CHAPTER 51 show event-notif 891
show event-notif statistics 891

CHAPTER 52 show event-record statistics 893
Show event-record statistics epdg 893
show event-record statistics pgw 894
show event-record statistics 895

CHAPTER 53 show fans 897
show fans 897

CHAPTER 54 show fa-service 899
show fa-service 899

CHAPTER 55 show fng-service statistics 903
show fng-service statistics 903

CHAPTER 56 show ggsn-service 907

show ggsn-service sgsn-table 907
show ggsn-service all 908

CHAPTER 57 **show gmb 913**
show gmb statistics 913

CHAPTER 58 **show gmm-sm 917**
show gmm-sm statistics 917
show gmm-sm statistics verbose 946

CHAPTER 59 **show gprs-service 1139**
show gprs-service all 1139

CHAPTER 60 **show gs-service 1143**
show gs-service all 1143

CHAPTER 61 **show gtpc 1147**
show gtpc counters ggsn-service 1147
show gtpc full 1149
show gtpc summary callid 1154
show gtpc statistics custom1 1156
show gtpc statistics custom2 1157
show gtpc statistics verbose 1157

CHAPTER 62 **show gtpc-load-control-profile full all 1179**
show gtpc-load-control-profile full all 1179

CHAPTER 63 **show gtpc-overload-control-profile full all 1181**
show gtpc-overload-control-profile full all 1181

CHAPTER 64 **show gtpp 1185**
show gtpp accounting servers 1185
show gtpp counters all 1186

show gtpp group 1191
show gtpp statistics 1198
show gtpp statistics group 1204
show gtpp statistics cgf-address 1204
show gtpp group name default 1210
show gtpp storage-server statistics 1210
show gtpp storage-server counters 1218
show gtpp storage-server local file counters 1218
show gtpp storage-server local file statistics 1218
show gtpp storage-server status 1219
show gtpp storage-server streaming file statistics 1221
show gtpp storage-server streaming file statistics verbose 1222
show gtpp storage-server streaming file counters all 1223

CHAPTER 65 **show gtpu-service** 1225
show gtpu-service { name | all } 1225
show gtpu statistics 1226

CHAPTER 66 **show hardware** 1231
show hardware (VPC-DI) 1231
show hardware (VPC-SI) 1233
show hardware card (ASR 5000) 1234
show hardware card (ASR 5500) 1237
show hardware inventory (ASR 5x00) 1241
show hardware version (ASR 5000) 1241
show hardware version (ASR 5500) 1242
show hardware version (VPC-DI) 1243

CHAPTER 67 **show hd-storage-policy** 1245
show hd-storage-policy counters all 1245
show hd-storage-policy statistics all 1245

CHAPTER 68 **show hd raid verbose** 1247
show hd raid verbose 1247

CHAPTER 69 **show henbgw** 1249

show henbgw-access-service all 1249

show henbgw-access-service henb-association full 1250

show henbgw-access-service statistics verbose 1251

show henbgw-network-service all 1259

CHAPTER 70 **show hnbgw** 1261

show hnbgw access-control-db 1261

show hnbgw access-control-db imsi 1262

show hnbgw counters 1262

show hnbgw counters 1263

show hnbgw counters hnbgw-service 1265

show hnbgw counters hnbid 1266

show hnbgw disconnect-reasons 1267

show hnbgw-global 1272

show hnbgw-service 1273

show hnbgw sessions all 1280

show hnbgw sessions full 1281

show hnbgw statistics paging-only 1284

CHAPTER 71 **show hss-peer-service** 1287

show hss-peer-service service name <name> 1287

show hss-peer-service session full 1289

show hss-peer-service statistics all 1291

CHAPTER 72 **show ims-authorization** 1297

show ims-authorization policy-control statistics 1297

show ims-authorization policy-gate status full 1307

show ims-authorization policy-gate counters all 1308

show ims-authorization servers 1309

show ims-authorization service name 1310

show ims-authorization service name p-cscf all 1312

show ims-authorization service statistics 1313

show ims-authorization sessions full all 1318

CHAPTER 73 **show ip** 1323

show ip chunks all-vrf 1323

show ip framed-prefixes 1324

show ip interface 1324

show ip interface gre-keepalive 1325

show ip neighbors vpp 1326

show ip pool address pool-name 1326

show ip pool summary 1327

show ip pool verbose 1328

show ip route 1332

show ip traffic sctp 1333

CHAPTER 74 **show ipsg** 1335

show ipsg service all 1335

show ipsg sessions counters all 1336

show ipsg statistics 1337

CHAPTER 75 **show ipv6** 1341

show ipv6 chunks all-vrf 1341

show ipv6 interface summary 1342

show ipv6 neighbors 1342

show ipv6 neighbors vpp 1343

show ipv6 pool summary 1344

show ipv6 pool verbose 1344

show ipv6 route 1346

CHAPTER 76 **show lawful-intercept** 1347

show lawful-intercept statistics 1347

CHAPTER 77 **show license** 1349

show license all 1349

show license info 1350
show license smart-tags 1351
show license statistics 1351
show license summary 1353

CHAPTER 78 **show linecard** 1355
show linecard table 1355

CHAPTER 79 **show link-aggregation** 1357
show link-aggregation info 1357
show link-aggregation lacp info 1358
show link-aggregation statistics 1358
show link-aggregation table 1359

CHAPTER 80 **show linkmgr** 1361
show linkmgr 1361

CHAPTER 81 **show llc** 1389
show llc statistics 1389

CHAPTER 82 **show lma-service** 1391
show lma-service statistics 1391

CHAPTER 83 **show local-policy** 1403
show local-policy statistics service 1403

CHAPTER 84 **show local-user** 1409
show local-user username name verbose 1409
show local-user statistics verbose 1410
show local-user verbose 1410

CHAPTER 85 **show location-service** 1413
show location-service service all 1413

show location-service statistics all 1414

CHAPTER 86 **show lte-policy 1417**

show lte-policy congestion-action-profile name 1417

show lte-policy cause-code-group name 1418

show lte-policy foreign-plmn-guti-mgmt-db name 1419

show lte-policy ho-restrict-list name 1419

show lte-policy lte-emergency-profile name 1419

show lte-policy tai-mgmt-db name 1420

show lte-policy monitoring-event- profile 1420

show lte-policy paging-map name 1421

show lte-policy paging-profile name 1421

show lte-policy tai-mgmt-db name 1422

CHAPTER 87 **show mag-service 1423**

show mag-service statistics 1423

CHAPTER 88 **show mbms bearer-service 1431**

show mbms bearer-service full all 1431

CHAPTER 89 **show mipfa 1433**

show mipfa full username 1433

show mipfa peers fa-service 1435

CHAPTER 90 **show mipha 1437**

show mipha statistics ha-service 1437

show mipha full username 1442

show mipha peers ha-service 1445

CHAPTER 91 **show mipv6ha 1447**

show mipv6ha-service all 1447

show mipv6ha statistics 1448

CHAPTER 92 **show mme** 1451

show mme-service all 1451

show mme-service db record all 1468

show mme-service db record imsi 1469

show mme-service db statistics 1473

show mme-service enodeb-association full 1474

show mme-service id summary 1475

show mme-service msc-status [mme-service-name name | msc-name name] 1475

show mme-service name <mme_svc_name> 1476

show mme-service name <mme_svc_name> offload statistics 1476

show mme-service session all 1477

show mme-service session counters 1478

show mme-service session full 1482

show mme-service session full all | grep Paging 1488

show mme-service session summary 1495

show mme-service sgw-blockedlist [mme-service-name] [smgr-instance] 1496

show mme-service statistics 1496

show mme-service statistics 5gs-interworking 1554

show mme-service statistics decor 1555

show mme-service statistics decor decor-profile <profile_name> 1558

show mme-service statistics lte-emergency-profile 1561

show mme-service statistics paging-profile profile-name <paging_profile_name> 1562

show mme-service statistics recovered-values 1563

show mme-service statistics tai 1564

show update-bearer-request-stats 1574

CHAPTER 93 **show module** 1575

show module 1575

CHAPTER 94 **show mpls** 1577

show mpls cross-connect 1577

show mpls ftn 1578

show mpls ilm 1578

show mpls ldp bindings 1579
show mpls ldp discovery 1580
show mpls ldp neighbor 1580
show mpls ldp neighbor detail 1580
show mpls nexthop-label-forwarding-entry 1581

CHAPTER 95 **show multicast-sessions** 1583
show multicast-sessions all 1584
show multicast-sessions full all 1585

CHAPTER 96 **show network-overload-protection** 1587
show network-overload-protection mme configuration 1587

CHAPTER 97 **show npu** 1589
show npu tm queue 1589
show npu tm statistics 1589
show npu utilization table 1590
show npumgr vpp vrcc 1590

CHAPTER 98 **show ntp** 1591
show ntp status 1591

CHAPTER 99 **show nw-reachability** 1593
show nw-reachability server all 1593

CHAPTER 100 **show operator-policy** 1595
show operator-policy full name 1595

CHAPTER 101 **show orbem** 1597
show orbem client id 1597
show orbem status 1597
show orbem session table 1599

CHAPTER 102 **show pcc-af** 1601
show pcc-af service all 1601
show pcc-af service statistics 1602

CHAPTER 103 **show pcc-policy** 1603
show pcc-policy service all 1603
show pcc-policy service statistics 1605
show pcc-policy session full all 1613

CHAPTER 104 **show pcc-service** 1617
show pcc-service all 1617
show pcc-service session all 1619
show pcc-service session full 1620
show pcc-service statistics 1622

CHAPTER 105 **show pcc-sp-endpoint** 1627
show pcc-sp-endpoint all 1627

CHAPTER 106 **show pdg-service** 1629
show pdg-service all 1629
show pdg-service statistics 1632

CHAPTER 107 **show pdif-service** 1637
show pdif-service statistics 1637

CHAPTER 108 **show pgw** 1641
show pgw-service all 1641
show pgw-service name 1643
show pgw-service statistics all 1647
show pgw-service statistics all-name 1675

CHAPTER 109 **show pilot-packet statistics** 1677

show pilot-packet statistics 1677
show pilot-packet statistics all 1677

CHAPTER 110 show plugin 1679
show plugin 1679

CHAPTER 111 show port 1681
show port datalink counters (ASR 5000) 1681
show port datalink counters (ASR 5500) 1684
show port datalink counters (VPC-SI, VPC-DI) 1686
show port dinet 1688
show port info 1688
show port npu counters 1697
show port table 1700
show port transceiver (ASR 5500) 1701
show port utilization table 1703

CHAPTER 112 show ppp 1705
show ppp 1705
show ppp full username 1706
show ppp statistics pdsn-service 1709

CHAPTER 113 show prepaid 1715
show prepaid 3gpp2 statistics 1715
show prepaid wimax statistics asngw-service 1716

CHAPTER 114 show process 1717
show process status 1717

CHAPTER 115 show ps-network 1719
show ps-network all status 1719
show ps-network statistics ranap-only 1721
show ps-network statistics sccp-only 1725

show ps-network statistics gtpu-only 1727

CHAPTER 116 show quality-of-service-profile 1729

show quality-of-service-profile full name 1729

CHAPTER 117 show radius 1731

show radius client status 1731

show radius counters all 1731

show radius servers 1740

CHAPTER 118 show rct stats 1743

show rct stats 1743

show rct stats verbose 1744

CHAPTER 119 show resources 1747

show resources cpu 1747

show resources session 1748

CHAPTER 120 show rlf 1751

show rlf-template all 1751

show rlf-template name 1752

show rlf-context-statistics diamproxy verbose 1752

show rlf-memcache-statistics diamproxy 1753

CHAPTER 121 show rohc 1755

show rohc statistics 1755

CHAPTER 122 show rp 1759

show rp 1759

show rp full username 1762

show rp statistics pdsn-service 1767

CHAPTER 123 show s4sgsn 1779

show s4-sgsn statistics all 1779

CHAPTER 124 show saegw 1785

show saegw-service statistics all-name 1785

show saegw-service statistics all 1786

CHAPTER 125 show samog-services 1789

show samog-service statistics 1789

show samog-service name 1814

CHAPTER 126 show sbc 1815

show sbc-service all 1815

show sbc-service cbc-associations all 1817

show sbc-service cbc-associations path-info all 1817

show sbc-service statistics all 1818

CHAPTER 127 show security 1825

show security server talos-intelligence 1825

CHAPTER 128 show session 1827

show session counters historical all 1828

show session disconnect-reasons 1829

show session disconnect-reasons buckets 1829

show session disconnect-reasons verbose 1830

show session progress 1876

show session recovery status verbose 1879

show session subsystem 1880

show session subsystem full 1881

show session subsystem verbose 1881

show session subsystem debug-info 1882

show session subsystem facility a11mgr all 1882

show session subsystem facility aaamgr all 1883

show session subsystem facility aaaproxy all 1890

show session subsystem facility asngwmgr all 1891
show session subsystem facility asnpcmgr all 1892
show session subsystem facility egtpegmgr all 1893
show session subsystem facility egtpinmgr all 1894
show session subsystem facility famgr all 1894
show session subsystem facility gtpcmgr all 1895
show session subsystem facility hamgr all 1896
show session subsystem facility ipsgmgr 1896
show session subsystem facility mmedemux 1897
show session subsystem facility mmemgr all 1898
show session subsystem facility sessmgr all 1906
show session summary 1914
show session trace statistics 1916
show session trace subscriber 1917
show session fp-flow-state-change statistics 1918

CHAPTER 129 **show sgsn-operator-policy** 1919
show sgsn-operator-policy full { all | name } 1919

CHAPTER 130 **show sgsn-service** 1925
sgsn-mode 1925
show sgsn-service all 1925

CHAPTER 131 **show sgs-service** 1929
show sgs-service all 1929
show sgs-service offload-status service-name 1929
show sgs-service statistics all 1930
show sgs-service vlr-status full 1932

CHAPTER 132 **show sgtp** 1937
show sgtp-service ggsn-table 1937
show sgtp-service sgsn-table 1938

CHAPTER 133 **show sgtpc** 1941

show sgtpc statistics 1941

CHAPTER 134 **show sgtpu** 1961

show sgtpu statistics 1961

CHAPTER 135 **show sgw** 1967

show sgw-service all 1967

show sgw-service name 1969

show sgw-service statistics all verbose 1969

show sgw-service statistics all 1984

CHAPTER 136 **show sls-service** 1987

show sls-service all 1987

show sls-service statistics 1989

CHAPTER 137 **show sms statistics** 1993

show sms statistics gprs only verbose 1993

show sms statistics mme-only verbose 2004

show sms statistics name 2010

show sms statistics sgsn-only verbose 2015

show sms statistics verbose 2026

CHAPTER 138 **show smsc-service** 2039

show smsc-service name <smsc_svc_name> 2039

show smsc-service statistics all 2039

show smsc-service statistics summary 2041

CHAPTER 139 **show sndcp-statistics** 2043

show sndcp statistics verbose 2043

CHAPTER 140 **show snmp** 2047

show snmp accesses 2047
show snmp communities 2048
show snmp notifies 2048
show snmp server 2049
show snmp trap history 2050
show snmp trap statistics 2050

CHAPTER 141 show software authenticity 2053
show software authenticity file 2053
show software authenticity keys 2054
show software authenticity running 2054

CHAPTER 142 show srp 2057
show srp audit-statistics 2057
show srp call-loss statistics 2058
show srp checkpoint info 2059
show srp checkpoint statistics 2060
show srp info 2067
show srp monitor 2069
show srp statistics 2070

CHAPTER 143 show ss7-routing-domain 2073
show ss7-routing-domain 2073

CHAPTER 144 show subscribers 2075
show subscribers aaa-configuration 2076
show subscribers access-flows 2077
show subscribers access-flows full 2078
show subscribers access-flows wfl 2080
show subscribers activity all 2081
show subscribers all 2082
show subscribers apn <apn_name> rulename <rule_name> 2083
show subscribers apn <apn_name> without-dynamic-rule 2084
show subscribers apn <apn_name> without-override-control 2085

show subscribers asngw-only all 2086
show subscribers asngw-service 2087
show subscribers callid 2088
show subscribers callid <callid> adc readdress statistics 2088
show subscribers counters username 2088
show subscribers cscf-only full 2091
show subscribers data-rate 2097
show subscribers enodeb-address 2098
show subscribers firewall required 2099
show subscribers full all 2100
show subscribers full username 2109
show subscribers ggsn-only 2116
show subscribers ggsn-only all 2120
show subscribers ggsn-only full 2121
show subscribers gprs-only full 2133
show subscribers hnbgw-only all 2147
show subscribers hnbgw-only full 2148
show subscribers hnbgw-service 2154
show subscribers mme-only full 2155
show subscribers summary pgw only 2157
show subscribers pdif-service 2158
show subscribers pgw-only full all 2158
show subscribers pgw-only summary 2160
show sub pgw-only data-rate 2160
show subscribers policy 2161
show subscribers rulename <rule_name> 2163
show subscribers saegw-only full all 2164
show subscribers samog-only full 2165
show subscribers without-dynamic-rule 2165
show subscribers without-override-control 2167
show subscribers sgsn-only full 2168
show subscribers sgsn-only summary 2177
show subscribers sgsn-only partial qos negotiated 2178
show subscribers sgw-address 2180

show subscribers summary without-dynamic-rule without-override-control rulename <rule_name> 2181
show subscribers tft 2190
show subscribers summary rulename <rule_name> 2191
show subscribers summary without-dynamic-rule 2200
show subscribers summary without-override-control 2209
show subscribers subscription full 2218
show subscribers user-plane-only callid callid_value drop-statistics 2219
show subscribers user-plane-only callid callid_value flows flow-id flow_id 2220
show subscribers user-plane-only callid callid_value flows full 2222
show subscribers wfl all 2224
Common Attributes 2225
Access Types 2225
Access Technologies 2227
Call States 2227
Network Types 2228

CHAPTER 145 **show support** 2229
show support collection 2229
show support collection definitions 2229
show support details 2230
show support details icsr 2230
show support record 2231

CHAPTER 146 **show supplementary-service** 2233
show supplementary-service statistics 2233

CHAPTER 147 **show tacacs** 2235
show tacacs 2235
show tacacs client statistics 2236
show tacacs priv-lvl 2237
show tacacs session statistics 2238
show tacacs summary 2240

CHAPTER 148 **show task** 2241

show task info 2241
show task memory 2242
show task resources card 2243
show task resources facility 2244
show task resources max 2244
show task table 2245

CHAPTER 149 **show tcp-acceleration-profile all** 2247
show tcp-acceleration-profile all 2247

CHAPTER 150 **show temperature** 2249
show temperature 2249

CHAPTER 151 **show threshold** 2251
show threshold 2251

CHAPTER 152 **show uidh-server** 2253
show uidh-server name 2253
show uidh-server statistics 2254

CHAPTER 153 **show url-blockedlisting** 2257
show url-blockedlisting database all 2257
show url-blockedlisting database facility acsmgr instance 2258
show url-blockedlisting url 2258

CHAPTER 154 **show upf** 2259
show upf-load-control-profile 2259
show upf-overload-control-profile 2259

CHAPTER 155 **show user-plane-service** 2261
show user-plane-service statistics drop-counter 2261
show user-plane-service all 2263
show user-plane-service name 2264

show user-plane-service gtpu local-addresses 2266
show user-plane-service gtpu statistics local-address 2266
show user-plane-service sgacl name sgacl-name 2268
show user-plane-service sgt-column dsgt dsgt-value 2268
show user-plane-service sgt-column summary 2268
show user-plane-service s-nssai statistics [all | id] 2268
show user-plane-service statistics all 2269
show user-plane-service statistics name 2272
show user-plane-service statistics rat all 2275
show user-plane-service statistics charging-action [name | all] 2278
show user-plane-service statistics rulebase [name | all] 2279
show user-plane-service statistics sgacl all 2279

CHAPTER 156 **show version** 2281
show version verbose 2281

CHAPTER 157 **show wsg** 2283
show wsg-lookup 2283
show wsg-service all/name 2284
show wsg-service statistics 2284

CHAPTER 158 **show x2gw-service** 2289
show x2gw 2289



About this Guide

Note Control and User Plane Separation (CUPS) represents a significant architectural change in the way StarOS-based products are deployed in the 3G, 4G, and 5G networks. Unless otherwise specified, it should not be assumed that any constructs (including, but not limited to, commands, statistics, attributes, MIB objects, alarms, logs, services) referenced in this document imply functional parity between legacy/non-CUPS and CUPS products. Please contact your Cisco Account or Support representative for any questions about parity between these products.

Note The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

Note The ASR 5000 hardware platform has reached end of life and is not supported in this release. Any references to the ASR 5000 (specific or implied) or its components in this document are coincidental. Full details on the ASR 5000 hardware platform end of life are available at: https://www.cisco.com/c/en/us/products/collateral/wireless/asr-5000-series/eos-eol-notice-c51-735573.html

Note The HA, HSGW, PDSN, and SecGW products have reached end of life and are not supported in this release. Any references to these products (specific or implied) their components or functions including CLI commands and parameters in this document are coincidental and are not supported. Full details on the end of life for these products are available at https://www.cisco.com/c/en/us/products/collateral/wireless/asr-5000-series/eos-eol-notice-c51-740422.html.

This preface describes the *Statistics and Counters Reference* and its document conventions.

- Conventions Used, on page xxxvi

• Supported Documents and Resources, on page xxxvii
• Contacting Customer Support, on page xxxviii

Conventions Used

The following tables describe the conventions used throughout this documentation.

Notice Type	Description
Information Note	Provides information about important features or instructions.
Caution	Alerts you of potential damage to a program, device, or system.
Warning	Alerts you of potential personal injury or fatality. May also alert you of potential electrical hazards.

Typeface Conventions	Description
Text represented as a `screen display`	This typeface represents displays that appear on your terminal screen, for example: `Login:`
Text represented as **commands**	This typeface represents commands that you enter, for example: **show ip access-list** This document always gives the full form of a command in lowercase letters. Commands are not case sensitive.
Text represented as a **command** *variable*	This typeface represents a variable that is part of a command, for example: **show card** *slot_number* *slot_number* is a variable representing the desired chassis slot number.
Text represented as menu or sub-menu names	This typeface represents menus and sub-menus that you access within a software application, for example: Click the **File** menu, then click **New**

Command Syntax Conventions	Description
{ keyword or *variable* **}**	Required keyword options and variables are those components that are required to be entered as part of the command syntax. Required keyword options and variables are surrounded by grouped braces { }. For example: **sctp-max-data-chunks { limit** *max_chunks* **| mtu-limit }** If a keyword or variable is not enclosed in braces or brackets, it is mandatory. For example: **snmp trap link-status**
[keyword or *variable* **]**	Optional keywords or variables, or those that a user may or may not choose to use, are surrounded by brackets.
|	Some commands support multiple options. These are documented within braces or brackets by separating each option with a vertical bar. These options can be used in conjunction with required or optional keywords or variables. For example: **action activate-flow-detection { intitiation | termination }** or **ip address [count** *number_of_packets* **| size** *number_of_bytes* **]**

Supported Documents and Resources

Related Common Documentation

The following common documents are available:

- *AAA Interface Administration Reference*
- *Command Line Interface Reference*
- *GTPP Interface Administration Reference*
- *Installation Guide* (platform dependant)
- *Release Change Reference*
- *SNMP MIB Reference*
- *System Administration Guide* (platform dependant)
- *Thresholding Configuration Guide*

Related Product Documentation

The most up-to-date information for related products is available in the product Release Notes provided with each product release.

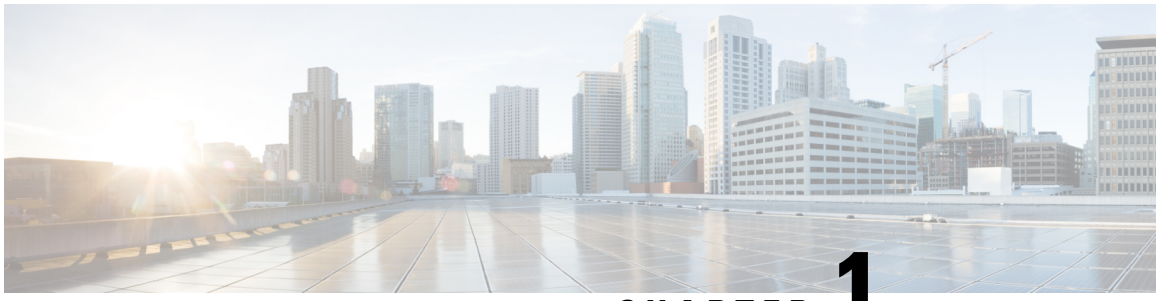
The following related product documents are also available:

- *ADC Administration Guide*
- *CF Administration Guide*
- *ECS Administration Guide*
- *GGSN Administration Guide*
- *IPSec Reference*
- *MME Administration Guide*
- *MURAL Installation and Administration Guide*
- *NAT Administration Guide*
- *PSF Administration Guide*
- *P-GW Administration Guide*
- *SAEGW Administration Guide*
- *SGSN Administration Guide*
- *S-GW Administration Guide*

Contacting Customer Support

Use the information in this section to contact customer support.

Refer to the support area of http://www.cisco.com for up-to-date product documentation or to submit a service request. A valid username and password are required to access this site. Please contact your Cisco sales or service representative for additional information.



CHAPTER 1

Statistics and Counters Overview

Note The ASR 5000 hardware platform has reached end of life and is not supported in this release. Any references to the ASR 5000 (specific or implied) or its components in this document are coincidental. Full details on the ASR 5000 hardware platform end of life are available at: https://www.cisco.com/c/en/us/products/collateral/wireless/asr-5000-series/eos-eol-notice-c51-735573.html

• Introduction, on page 1

Introduction

This document organizes and describes various ASR5x00 non-SNMP-MIB forms of dynamic statistics that are output by CLI **show** commands.

The statistics output by **show** commands usually provide a greater degree of granularity than the bulk statistics because:

- the dynamic content is captured at the time the CLI command is entered,
- the command output represents a single element, whereas bulk statistics are often a combination of values for multiple elements,
- the command output can be fine-tuned using keywords included in the **show** command when it is entered.

The types of output statistics are governed by the CLI **show** commands that generate their display. For example, **show power all cards** displays the current power status for each card in every slot of the chassis.

Some of the **show** command outputs display configuration information for reference purposes. For example, **show gs-service full name** <*service_name*> displays the configuration for the named Gs service.

Important In Release 21.1 and forward, use the **do show** command to run all Exec Mode **show** commands while in Global Configuration Mode. It is not necessary to exit the Config mode to run a **show** command. The pipe character **|** is only available if the command is valid in the Exec mode.

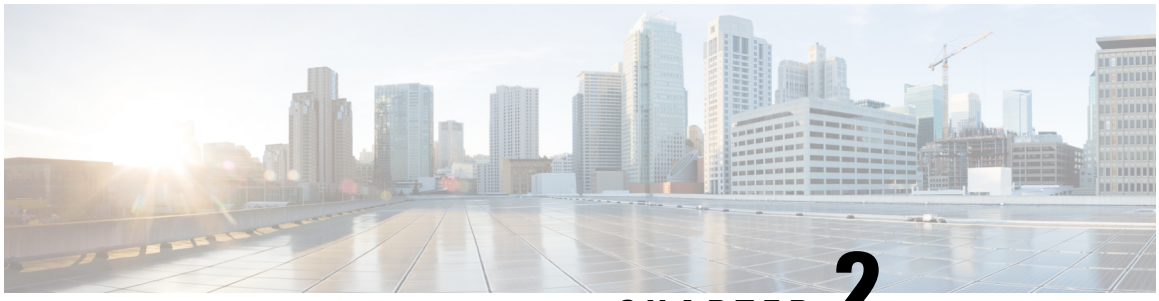
Counter Definitions and Disconnect Reasons

In this release, the counters and descriptions are delivered with the companion package in the ASR 5x00 software build. The companion package includes files named **BulkstatStatistics_documentation**.

The companion package includes two formats for the customers to use.

- The .xls file is an easily readable Excel file that can be used to sort and filter the counter information based on schema or other factors.

The .csv file is machine-readable and includes the same data as the .xls file.



CHAPTER 2

show aaa group name

This chapter includes the **show aaa group name** command output tables.

- show aaa group name, on page 3

show aaa group name

Table 1: show aaa group name Command Output Descriptions

Field	Description
Group name	The AAA server group name.
Context	The context name.
Allow accounting MHS Traffic	Enables reporting MHS data usage in RADIUS accounting messages.
Diameter config:	
Authentication:	
Dictionary	The Diameter dictionary used for authentication. **Important** The prefix "dynamic-load" is appended to the dictionary name if the dictionary is dynamically configured in AAA group.
Endpoint name	The Diameter endpoint used for authentication.
Max-transmissions	The maximum number of transmission attempts for Diameter authentication.
Max-retries	The number of retry attempts for Diameter authentication requests.
Request-timeout	The Diameter authentication request timeout period.
Redirect-host-avp	Indicates whether to use just one returned AVP, or use the first returned AVP as selectin the primary host and the second returned AVP as selecting the secondary host.
Upgrade-dict-avps	Displays the upgrade-dict-avps attribute value if configured in AAA group. If not configured, this field displays the default value.

Field	Description
Strip-leading-digit user-name	Displays whether or not the stripping of leading digit from User-Name AVP is enabled or disabled.
Accounting:	
Dictionary	The Diameter dictionary used for accounting. **Important** The prefix "dynamic-load" is appended to the dictionary name if the dictionary is dynamically configured in AAA group.
Endpoint name	The Diameter endpoint used for accounting.
Max-transmissions	The maximum number of transmission attempts for Diameter accounting.
Max-retries	The number of retry attempts for Diameter accounting requests.
Request-timeout	The Diameter accounting request timeout period.
HD-mode	Displays the HD-mode value if configured in AAA group. If not configured, this field displays the default value.
HD-policy	Displays the HD-storage-policy value if configured in AAA group. If not configured, this field displays the default value.
Upgrade-dict-avps	The Diameter accounting request timeout period.
SDC-Integrity	Indicates whether or not the SDC Integrity feature is enabled. This feature is used to protect the integrity of SDCs on Rf interface. **Important** This feature is customer-specific. For more information, contact your Cisco Account representative.
Radius Config:	
Dictionary	The RADIUS dictionary.
Strip-domain	Indicates whether the domain is stripped from the user name prior to authentication or accounting.
Authenticator-validation	Indicates whether the MD5 authentication of RADIUS user is enabled.
Allow authentication-down	Indicates whether the system allows subscriber sessions when RADIUS authentication is unavailable.
Allow accounting-down	Indicates whether the system allows subscriber sessions when RADIUS accounting is unavailable.
Attributes:	
Nas-identifier	The attribute name by which the system is identified in Access-Request messages.
Nas-ip	The AAA interface IP address(es) used to identify the system.

Field	Description
Nas-ip backup	The IP address of the secondary interface to use in the current context.
Nexthop	The next hop IP address for this NAS IP address.
MPLS-label	Indicates the MPLS label used for traffic from the specified RADIUS client NAS IP address.
VRF	The Virtual Routing and Forwarding (VRF) Context instance associated with this AAA group.
Authentication	
called-station-id	Indicates whether RADIUS authentication attribute for called station id is enabled. The attribute must also be supported in the configured RADIUS dictionary.
calling-station-id	Indicates whether RADIUS authentication attribute for calling station id is enabled. The attribute must also be supported in the configured RADIUS dictionary.
imsi	Indicates whether RADIUS authentication attribute for IMSI is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-pdp-type	Indicates whether RADIUS authentication attribute for 3GPP PDP type is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-cg-address	Indicates whether RADIUS authentication attribute for 3GPP CG address is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-gprs-qos-negotiated-profile	Indicates whether RADIUS authentication attribute for 3GPP GPRS QoS negotiated profile is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-sgsn-address	Indicates whether RADIUS authentication attribute for 3GPP SGSN address is enabled The attribute must also be supported in the configured RADIUS dictionary.
3gpp-ggsn-address	Indicates whether RADIUS authentication attribute for 3GPP GGSN address is enabled The attribute must also be supported in the configured RADIUS dictionary.
3gpp-imsi-mcc-mnc	Indicates whether RADIUS authentication attribute for 3GPP IMSI MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-ggsn-mcc-mnc	Indicates whether RADIUS authentication attribute for 3GPP GGSN MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-nsapi	Indicates whether RADIUS authentication attribute for 3GPP NSAPI is enabled. The attribute must also be supported in the configured RADIUS dictionary.

Field	Description
3gpp-select-mode	Indicates whether RADIUS authentication attribute for 3GPP select mode is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-charging-characteristics	Indicates whether RADIUS authentication attribute for 3GPP charging characteristics is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-sgsn-mcc-mnc	Indicates whether RADIUS authentication attribute for 3GPP SGSN MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-imeisv	Indicates whether RADIUS authentication attribute for 3GPP imeisv is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-rat-type	Indicates whether RADIUS authentication attribute for 3GPP RAT type is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-user-location-info	Indicates whether RADIUS authentication attribute for 3GPP user location information is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-ms-timezone	Indicates whether RADIUS authentication attribute for 3GPP ms timezone is enabled. The attribute must also be supported in the configured RADIUS dictionary.
Accounting	
called-station-id	Indicates whether RADIUS accounting attribute for called station id is enabled. The attribute must also be supported in the configured RADIUS dictionary.
calling-station-id	Indicates whether RADIUS accounting attribute for calling station id is enabled. The attribute must also be supported in the configured RADIUS dictionary.
acct-input-octets	Indicates whether RADIUS accounting attribute for accounting input octets is enabled. The attribute must also be supported in the configured RADIUS dictionary.
acct-input-packets	Indicates whether RADIUS accounting attribute for accounting input packets is enabled. The attribute must also be supported in the configured RADIUS dictionary.
acct-session-time	Indicates whether RADIUS accounting attribute for accounting session time is enabled. The attribute must also be supported in the configured RADIUS dictionary.
acct-output-octets	Indicates whether RADIUS accounting attribute for accounting output octets is enabled. The attribute must also be supported in the configured RADIUS dictionary.

Field	Description
acct-output-packets	Indicates whether RADIUS accounting attribute for accounting output packets is enabled The attribute must also be supported in the configured RADIUS dictionary.
event-timestamp	Indicates whether RADIUS accounting attribute for event timestamp is enabled. The attribute must also be supported in the configured RADIUS dictionary.
imsi	Indicates whether RADIUS accounting attribute for IMSI is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-charging-id	Indicates whether RADIUS accounting attribute for 3GPP charging ID is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-pdp-type	Indicates whether RADIUS accounting attribute for 3GPP PDP type is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-cg-address	Indicates whether RADIUS accounting attribute for 3GPP CG address is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-gprs-qos-negotiated-profile	Indicates whether RADIUS accounting attribute for 3GPP GPRS QoS negotiated profil is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-sgsn-address	Indicates whether RADIUS accounting attribute for 3GPP SGSN address is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-ggsn-address	Indicates whether RADIUS accounting attribute for 3GPP GGSN address is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-imsi-mcc-mnc	Indicates whether RADIUS accounting attribute for 3GPP IMSI MCC MNC is enabled The attribute must also be supported in the configured RADIUS dictionary.
3gpp-ggsn-mcc-mnc	Indicates whether RADIUS accounting attribute for 3GPP GGSN MCC MNC is enabled The attribute must also be supported in the configured RADIUS dictionary.
3gpp-nsapi	Indicates whether RADIUS accounting attribute for 3GPP NSAPI is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-select-mode	Indicates whether RADIUS accounting attribute for 3GPP select mode is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-charging-characteristics	Indicates whether RADIUS accounting attribute for 3GPP charging characteristics is enabled. The attribute must also be supported in the configured RADIUS dictionary.

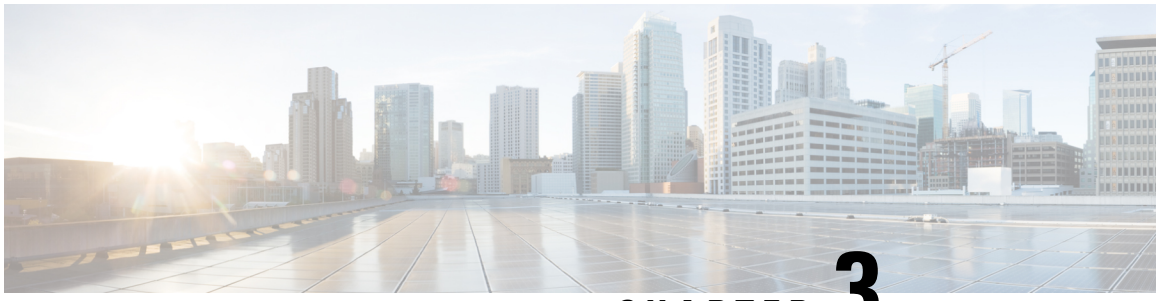
Field	Description
3gpp-sgsn-mcc-mnc	Indicates whether RADIUS accounting attribute for 3GPP SGSN MCC MNC is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-imeisv	Indicates whether RADIUS accounting attribute for 3GPP imeisv is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-rat-type	Indicates whether RADIUS accounting attribute for 3GPP RAT type is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-user-location-info	Indicates whether RADIUS accounting attribute for 3GPP user location information is enabled. The attribute must also be supported in the configured RADIUS dictionary.
3gpp-ms-timezone	Indicates whether RADIUS accounting attribute for 3GPP ms timezone is enabled. The attribute must also be supported in the configured RADIUS dictionary.
Authentication:	
Algorithm	The RADIUS authentication server selection algorithm for the current context.
Deadtime	The time period to wait before changing the state of a RADIUS server from "Down" to "Active", in minutes.
Max-outstanding	The maximum number of messages a AAA manager will queue.
Max-retries	The maximum number of times communication with a AAA server is attempted before it is marked as "Not Responding" and the detect dead server's consecutive failures count is incremented.
Max-transmissions	The maximum number of re-transmissions for RADIUS authentication requests.
Timeout	The time period to wait for a response from the RADIUS server before re-sending the messages, in seconds.
Apn-to-be-included	The APN name included for RADIUS authentication.
Authenticate null-username	Indicates whether authentication of user names that are blank or empty is enabled.
Probe:	
Interval	The time period between two RADIUS authentication probes.
Timeout	The timeout period for HAGR to wait for a response for RADIUS authentication probes.
Max-retries	The maximum number of retries for RADIUS authentication probe response.
Keepalive:	
Interval	The time period between two keepalive access requests.
Timeout	The time period between two keepalive access request retries.

Field	Description
Retries	The number of times the keepalive access request is sent before marking the server as unreachable.
consecutive-response	The number of consecutive authentication responses after which the server is marked as reachable.
Username	The user name used for authentication.
Calling-station-id	The calling station ID used for keepalive authentication.
Password	The password used for authentication.
Allow access-reject	Indicates whether both access-accept and access-reject are considered as success for th keepalive authentication request.
Detect-dead-server:	
Consecutive-failures	The number of consecutive failures, for any AAA manager, before a server's state is changed from "Active" to "Down".
Response-timeout	The time period for any AAA manager to wait for a response to any message before a server's state is changed from "Active" to "Down", in seconds.
Keepalive	Indicates whether the AAA server alive-dead detect mechanism based on sending keepalive authentication messages to all authentication servers is enabled.
Accounting:	
Algorithm	The RADIUS accounting server selection algorithm for the current context.
Deadtime	The time period to wait before changing the state of a RADIUS server from "Down" t "Active", in minutes.
Fire-And-Forget	Displays whether or not the Fire-and-Forget feature is enabled in the AAA Group configuration.
Max-outstanding	The maximum number of messages a AAA manager will queue.
Max-retries	The maximum number of times communication with a AAA server will be attempted before it is marked as "Not Responding" and the detect dead server's consecutive failure count is incremented.
Max-transmissions	The maximum number of re-transmissions for RADIUS accounting requests.
Max-pdu-size	The maximum sized packet data unit which can be accepted/generated, in bytes.
Interim-timeout	The timeout period for sending accounting INTERIM-UPDATE records, in seconds.
Interim-downlink-volume	The downlink volume limit that triggers RADIUS interim accounting, in bytes.
Interim-uplink-volume	The uplink volume limit that triggers RADIUS interim accounting, in bytes.
Interim-total-volume	The total volume limit for RADIUS interim accounting, in bytes.

Field	Description
Timeout	The time period to wait for a response from a RADIUS server before retransmitting a request.
Remote-address	Indicates whether remote IP address lists are configured, and collection of accounting data for the addresses in those lists on a per-subscriber basis is enabled.
Archive	Indicates whether archiving of RADIUS Accounting messages in the system after the accounting message has exhausted retries to all available RADIUS Accounting servers is enabled.
Apn-to-be-included	The APN name included for RADIUS accounting.
R-P originated:	
Trigger active-start	Indicates whether when an Active-Start is received from the PCF and there has been a parameter change, an R-P event occurs.
Trigger active-handoff	Indicates whether when an Active PCF-to-PFC Handoff occurs, a single or two R-P events will occur (one for the Connection Setup, and the second for the Active-Start).
Trigger active-stop	Indicates whether when an Active-Stop is received from the PCF, an R-P event occurs.
Trigger policy	the overall accounting policy for R-P sessions.
Trigger stop-start	Indicates whether a stop/start RADIUS accounting pair is sent to the RADIUS server when an applicable R-P event occurs.
Handoff policy	The overall accounting policy for R-P sessions.
TOD	The time of day a RADIUS event is generated for accounting.
GTP originated:	
Trigger policy	The RADIUS accounting policy for GTP.
MIP HA:	
Policy	The RADIUS accounting policy for Mobile IP HA calls.
Keepalive:	
Interval	The time period between the two keepalive access requests.
Timeout	The time period between each keepalive access request retries.
Retries	The number of times the keepalive access request is sent before marking the server as unreachable.
consecutive-response	The number of consecutive authentication response after which the server is marked as reachable.
Username	The user name used for authentication.
Calling-station-id	The calling station ID used for keepalive authentication.

Field	Description
Framed-ip-address	The framed-ip-address used for keepalive accounting.
Detect-dead-server:	
Consecutive-failures	The number of consecutive failures, for any AAA manager, before a server's state is changed from "Active" to "Down".
Response-timeout	The time period for any AAA manager to wait for a response to any message before a server's state is changed from "Active" to "Down", in seconds.
Keepalive	Indicates whether the AAA server alive-dead detect mechanism based on sending keepalive authentication messages to all authentication servers is enabled.
Charging:	
Auth-algorithm	The RADIUS authentication algorithm.
Acct-algorithm	The RADIUS accounting algorithm.
Deadtime	The time period to wait before changing the state of a RADIUS server from "Down" t "Active", in minutes.
Max-outstanding	The maximum number of messages a AAA manager will queue.
Max-retries	The maximum number of times communication with a AAA server will be attempted before it is marked as "Not Responding" and the detect dead server's consecutive failure count is incremented.
Max-transmissions	The maximum number of re-transmissions for RADIUS requests.
Timeout	The time period to wait for a response from a RADIUS server before retransmitting a request.
Detect-dead-server:	
Consecutive-failures	The number of consecutive failures, for any AAA manager, before a server's state is changed from "Active" to "Down".
Response-timeout	The time period for any AAA manager to wait for a response to any message before a server's state is changed from "Active" to "Down", in seconds.

show aaa group name



CHAPTER 3

show access-policy

This chapter includes the **show access-policy** command output tables.

- show access-policy all, on page 13
- show access-policy full all, on page 13

show access-policy all

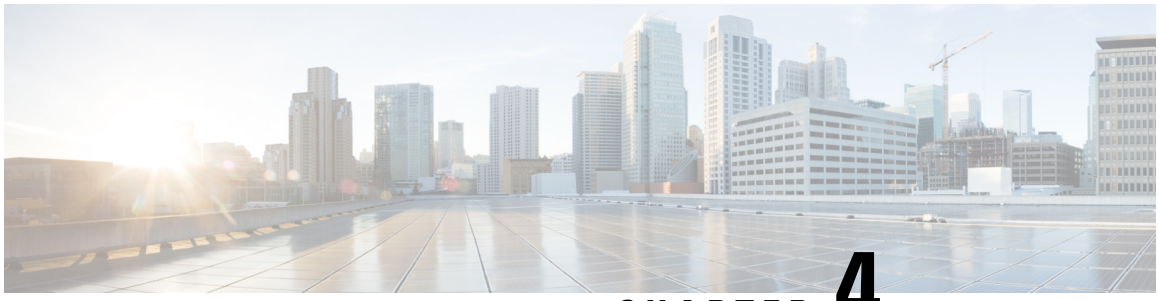
Table 2: show access-policy all Command Output Descriptions

Field	Description
Access Policy Name	Displays the configured access-policy name(s).

show access-policy full all

Table 3: show access-policy full all Command Output Descriptions

Field	Description
Access Policy Name	Displays the configured access-policy name(s). For every configured access-policy, the precedence, access-profile, device type, and RAT type are displayed based on the configuration.



CHAPTER 4

show access-profile

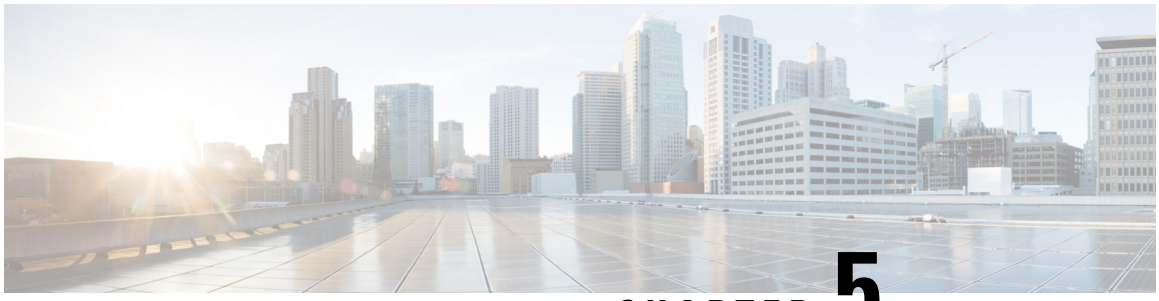
This chapter includes the **show access-profile** command output tables.

- show access-profile full name <profile_name>, on page 15

show access-profile full name <profile_name>

Table 4: show access-profile full name <profile_name> Command Output Descriptions

Field	Description
Access Profile Name	Displays the configured access-profile name.
T3422 Timeout	Displays the configured time for T3422 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile.
T3450 Timeout	Displays the configured time for T3450 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile.
T3460 Timeout	Displays the configured time for T3460 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile.
T3470 Timeout	Displays the configured time for T3470 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile.
T3485 Timeout	Displays the configured time for T3485 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile.
T3486 Timeout	Displays the configured time for T3486 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile.
T3489 Timeout	Displays the configured time for T3489 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile.
T3495 Timeout	Displays the configured time for T3495 timeout in seconds. Displays "Not Configured" if the timer value is not configured in access-profile.
Session Setup Timeout	Displays the configured session setup timeout in seconds. Displays "Not Configured" if the session timeout value is not configured in access-profile.



CHAPTER 5

show active-charging

This chapter includes the **show active-charging** command output tables.

- show activechargingnalyzer statistics name, on page 19
- show active-charging analyzer statistics name cdp, on page 20
- show active-charging analyzer statistics name dns, on page 21
- show active-charging analyzer statistics name h323, on page 22
- show active-charging analyzer statistics name h323 verbose, on page 22
- show active-charging analyzer statistics name http, on page 25
- show active-charging analyzer statistics name icmpv6, on page 27
- show active-charging analyzer statistics name ip verbose, on page 28
- show active-charging analyzer statistics name ipv6, on page 30
- show active-charging analyzer statistics name ipv6 verbose, on page 30
- show active-charging analyzer statistics name mipv6, on page 32
- show active-charging analyzer statistics name p2p protocol-group, on page 32
- show active-charging analyzer statistics name p2p protocol-group verbose, on page 36
- show active-charging analyzer statistics name p2p, on page 87
- show active-charging analyzer statistics name p2p verbose, on page 139
- show active-charging analyzer statistics name pptp, on page 205
- show active-charging analyzer statistics name rtp, on page 205
- show active-charging analyzer statistics name sip, on page 206
- show active-charging analyzer statistics name sip verbose, on page 208
- show active-charging analyzer statistics name tcp, on page 211
- show active-charging analyzer statistics name tcp verbose, on page 212
- show active-charging analyzer statistics name tftp, on page 214
- show active-charging bandwidth-policy name, on page 215
- show active-charging charging-action all, on page 216
- show active-charging charging-action name, on page 219
- show active-charging charging-action statistics name, on page 220
- show active-charging content-filtering category policy-id all, on page 224
- show active-charging content-filtering category statistics rulebase name, on page 224
- show active-charging content-filtering category statistics, on page 226
- show active-charging content-filtering server-group name, on page 229
- show active-charging content-filtering server-group statistics verbose, on page 230
- show active-charging credit-control misc-info max-backpressure, on page 233

- show active-charging credit-control session-states, on page 234
- show active-charging credit-control statistics, on page 235
- show active-charging database uidh, on page 243
- show active-charging dns-learnt-ip-addresses statistics sessmgr instance <instance> verbose, on page 244
- show active-charging edr-format all, on page 245
- show active-charging edr-format statistics, on page 246
- show active-charging edr-udr-file flow-control-counters, on page 246
- show active-charging edr-udr-file statistics, on page 246
- show active-charging firewall statistics, on page 248
- show active-charging firewall statistics nat-realm, on page 250
- show active-charging firewall statistics verbose, on page 250
- show active-charging firewall statistics protocol icmp verbose, on page 257
- show active-charging firewall statistics protocol icmpv6 verbose, on page 258
- show active-charging firewall statistics protocol ip verbose, on page 260
- show active-charging firewall statistics protocol ipv6 verbose, on page 261
- show active-charging firewall statistics protocol udp verbose, on page 263
- show active-charging firewall statistics callid <call_id> verbose, on page 264
- show active-charging firewall statistics domainname <domain_name> verbose, on page 268
- show active-charging firewall statistics username <user_name> verbose, on page 273
- show active-charging firewall track-list attacking-servers, on page 278
- show active-charging fw-and-nat policy name, on page 278
- show active-charging flow-kpi all, on page 283
- show active-charging flows full, on page 284
- show active-charging flows full, on page 287
- show active-charging flows summary, on page 291
- show active-charging flows full debug-info all, on page 292
- show active-charging flows full type p2p, on page 292
- show active-charging flows type cdp, on page 293
- show active-charging flows type p2p, on page 295
- show active-charging flow-mappings all, on page 297
- show active-charging group-of-ruledefs name, on page 298
- show active-charging nat statistics, on page 298
- show active-charging nat statistics unsolicited-pkts-server-list instance <instance_num>, on page 301
- show active-charging p2p-dynamic-rules verbose, on page 301
- show active-charging pcp-service all, on page 301
- show active-charging pcp-service name, on page 302
- show active-charging pcp-service statistics, on page 303
- show active-charging radio-congestion policy all, on page 305
- show active-charging radio-congestion policy statistics, on page 306
- show active-charging readdress-server-list statistics all, on page 307
- show active-charging rulebase name, on page 307
- show active-charging rulebase statistics, on page 314
- show active-charging rulebase statistics name, on page 320
- show active-charging ruledef firewall, on page 330
- show active-charging ruledef statistics, on page 331

- show active-charging ruledef statistics all firewall wide, on page 333
- show active-charging ruledef statistics all charging, on page 334
- show active-charging ruledef statistics all tpo, on page 334
- show active-charging ruledef tpo, on page 334
- show active-charging service all, on page 334
- show active-charging service-scheme statistics, on page 337
- show active-charging sessions all, on page 338
- show active-charging sessions credit-control server-unreachable, on page 338
- show active-charging sessions firewall required, on page 338
- show active-charging sessions full, on page 339
- show active-charging sessions full all, on page 350
- show active-charging sessions summary, on page 363
- show active-charging sessions summary type p2p, on page 379
- show active-charging subscribers full all, on page 393
- show active-charging subsystem all, on page 398
- show active-charging subscribers callid override-control, on page 408
- show active-charging subsystem facility acsmgr instance, on page 408
- show tcp-acceleration statistics sessmgr all, on page 413
- show active-charging tcp-proxy statistics all verbose, on page 417
- show active-charging tcp-proxy statistics socket-migration, on page 422
- show active-charging tethering-detection database sessmgr all, on page 423
- show active-charging tethering-detection statistics, on page 424
- show active-charging timedef all, on page 425
- show active-charging tpo profile statistics name, on page 426
- show active-charging traffic-optimization policy, on page 426
- show active-charging trigger-action all, on page 427
- show active-charging trigger-condition all, on page 428
- show active-charging udr-format all, on page 428
- show active-charging url-blockedlisting statistics, on page 429
- show active-charging url-blockedlisting statistics rulebase name, on page 429
- show active-charging video detailed-statistics, on page 430
- show active-charging video detailed-statistics container mp4, on page 433
- show active-charging video detailed-statistics rat cdma, on page 434
- show active-charging video detailed-statistics ue laptop, on page 437
- show active-charging xheader-format name, on page 441

show activecharginganalyzer statistics name

The output of this command displays the following fields. The fields are common for http, secure-http, p2p, tcp, udp.

Table 5: show active-charging analyzer statistics name Command Output Descriptions

Field	Description
Total VPP FP Packets	Total number of Fast Path packets through VPP.

Field	Description
VPP Fastpath Statistics:	
Total Flows	Total number of flows.
Current Active Flows	Total number of active current flows.
IPv4:	
Uplink Pkts	Total number of IPv4 packets uplinked.
Uplink Bytes	Total number of IPv4 bytes uplinked.
Downlink Pkts	Total number of IPv4 packets downlinked.
Downlink Bytes	Total number of IPv4 bytes downlinked.
IPv6:	
Uplink Pkts	Total number of IPv6 packets uplinked.
Uplink Bytes	Total number of IPv6 bytes uplinked.
Downlink Pkts	Total number of IPv6 packets downlinked.
Downlink Bytes	Total number of IPv6 bytes downlinked.

show active-charging analyzer statistics name cdp

Table 6: show active-charging analyzer statistics name cdp Command Output Descriptions

Field	Description
CDP Summary:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.

show active-charging analyzer statistics name dns

Table 7: show active-charging analyzer statistics name dns Command Output Descriptions

Field	Description
ACS DNS Session Stats:	
Total Uplink Bytes	The total number of DNS bytes detected in uplink direction.
Total Downlink Bytes	The total number of DNS bytes detected in downlink direction.
Total Uplink Pkts	The total number of DNS packets detected in uplink direction.
Total Downlink Pkts	The total number of DNS packets detected in downlink direction.
Unknown OPCODE	The total number of DNS packets with an unknown operational code.
Invalid Pkts	The total number of invalid DNS packets detected.
DNS Over TCP:	
Uplink Bytes	The total number of DNS uplink bytes that were detected over TCP.
Downlink Bytes	The total number of DNS downlink bytes that were detected over TCP.
Uplink Pkts	The total number of DNS uplink packets that were detected over TCP.
Downlink Pkts	The total number of DNS downlink packets that were detected over TCP.
Request:	
A Query Type	The total number of DNS requests received for A query types.
CNAME Query Type	The total number of DNS requests received for CNAME query types.
NS Query Type	The total number of DNS requests received for NS query types.
PTR Query Type	The total number of DNS requests received for PTR query types.
SRV Query Type	The total number of DNS requests received for SRV query types.
Unknown Query Type	The total number of DNS requests received for unknown query types.
AAAA Query Type	The total number of DNS requests received for AAAA query types.
NULL Query Type	The total number of DNS requests received for NULL query types.
TXT Query Type	The total number of DNS requests received for TXT query types.
Response:	
A Query Type	The total number of DNS responses received for A query types.
CNAME Query Type	The total number of DNS responses received for CNAME query types.

Field	Description
NS Query Type	The total number of DNS responses received for NS query types.
PTR Query Type	The total number of DNS responses received for PTR query types.
SRV Query Type	The total number of DNS responses received for SRV query types.
Unknown Query Type	The total number of DNS responses received for unknown query types.
AAAA Query Type	The total number of DNS responses received for AAAA query types.
NULL Query Type	The total number of DNS requests received for NULL query types.
TXT Query Type	The total number of DNS requests received for TXT query types.

show active-charging analyzer statistics name h323

Table 8: show active-charging analyzer statistics name h323 Command Output Descriptions

Field	Description
H323 Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Packets	Total number of packets uplinked.
Total Downlink Packets	Total number of packets downlinked.
Total H323 calls	Total number of H323 calls.
Total RAS messages	Total number of RAS messages.
Total Q931 messages	Total number of Q931 messages.
Total H245 messages	Total number of H245 messages.

show active-charging analyzer statistics name h323 verbose

Table 9: show active-charging analyzer statistics name h323 verbose Command Output Descriptions

Field	Description
H323 Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.

Field	Description
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Packets	Total number of packets uplinked.
Total Downlink Packets	Total number of packets downlinked.
Total H323 calls	Total number of H323 calls.
Total RAS messages	Total number of RAS messages.
Total Q931 messages	Total number of Q931 messages.
Total H245 messages	Total number of H245 messages.
RAS messages	
Uplink	Total number of uplink packets sent from the subscriber for RAS messages.
Downlink	Total number of downlink packets sent from the subscriber for RAS messages.
GatekeeperRequest	The message sent from the H323 endpoint to find a Gatekeeper.
GatekeeperConfirm	The message sent from the Gatekeeper to H323 endpoint which requested for service.
GatekeeperReject	The message sent from the Gatekeeper to H323 endpoint indicating that it must try a different Gatekeeper.
RegistrationRequest	The message sent from the H323 endpoint to register to a particular Gatekeeper.
RegistrationConfirm	The message sent from the Gatekeeper to H323 endpoint indicating that it has been registered.
RegistrationReject	The message sent from the Gatekeeper to H323 endpoint indicating that the registration failed.
UnregistrationRequest	The message sent from the H323 endpoint to unregister from a particular Gatekeeper.
UnregistrationConfirm	The message sent from the Gatekeeper to H323 endpoint indicating that it has been unregistered.
UnregistrationReject	The message sent from the Gatekeeper to H323 endpoint indicating that unregistration failed.
AdmissionRequest	The message sent from the H323 endpoint to a Gatekeeper before accepting or initiating a call.
AdmissionConfirm	The message sent from the Gatekeeper to H323 endpoint indicating that the call is allowed.
AdmissionReject	The message sent from the Gatekeeper to H323 endpoint indicating that the call is not allowed.
LocationRequest	The message sent to the Gatekeeper requesting the transport address of an endpoint.

Field	Description
LocationConfirm	The message sent from the Gatekeeper containing the transport address of an endpoint.
LocationReject	The message sent from the Gatekeeper indicating that the location request is rejected.
DisengageRequest	The message sent from an H323 endpoint to Gatekeeper indicating that the call is getting dropped.
DisengageConfirm	The message confirming the DisengageRequest message from the Gatekeeper.
DisengageReject	The message sent from the Gatekeeper if an endpoint is not registered.
InfoRequest	The message sent from the Gatekeeper to endpoint requesting the status information.
InfoRequestResponse	The message sent from the H323 endpoint to Gatekeeper containing the status information.
RequestInProgress	The message sent by the Gatekeeper or endpoint to indicate to RAS that it cannot respond in normal processing time.
Unclassified	The RAS message that is not classified by the H323 ALG.
Q931 messages	
Uplink	Total number of uplink packets sent from the subscriber for Q931 messages.
Downlink	Total number of downlink packets sent from the subscriber for Q931 messages.
Alerting	The message sent by the called user to indicate that alerting has been initiated.
CallProceeding	The message sent by an H323 endpoint indicating that it has initiated to set up the call.
Setup	The message sent by the calling H323 endpoint to the called H323 endpoint.
Connect	The message sent by the called H323 endpoint to the calling H323 endpoint indicating the acceptance of call.
ReleaseComplete	The message sent by the called H323 endpoint indicating the release of the call.
Facility	The message used to redirect a call or start a new H245 channel.
Progress	The message used to indicate the progress of a call.
Information	The message sent by the called H323 endpoint to provide additional information for a call.
Unclassified	The Q931 message that is not classified by the H323 ALG.
H245 messages	
Uplink	Total number of uplink packets sent from the subscriber for H245 messages.
Downlink	Total number of downlink packets sent from the subscriber for H245 messages.

Field	Description
OpenLogicalChannel	The message sent by an H323 endpoint to open a logical connection between two endpoints.
OpenLogicalChannelAck	The message sent by an H323 endpoint to accept the connection request in an open logical channel.
OpenLogicalChannelReject	The message sent by an H323 endpoint to reject the connection request in an open logical channel.
OpenLogicalChannelConfirm	The message sent by an H323 endpoint indicating that the reverse channel is open.
RequestChannelClose	The message sent by an H323 endpoint to close an existing logical channel between two endpoints.
CloseLogicalChannel	The message sent by an H323 endpoint to close an existing logical channel between two endpoints.
CloseLogicalChannelAck	The message sent by an H323 endpoint to confirm the close of a logical channel.
EndSessionCommand	The message sent by an H323 endpoint to indicate end of H245 session.
Unclassified	The H245 message that is not classified by the H323 ALG.

show active-charging analyzer statistics name http

Table 10: show active-charging analyzer statistics name http Command Output Descriptions

Field	Description
ACS HTTP Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.
Total Accel Pkts	Total number of accelerated HTTP packets.
Uplink Bytes Retrans	The number of uplink bytes that were retransmitted.
Downlink Bytes Retrans	Total number of downlink bytes that were retransmitted.
Uplink Pkts Retrans	Total number of uplink packets that were retransmitted.
Downlink Pkts Retrans	Total number of downlink packets that were retransmitted.
Total Request Succeed	Total number of HTTP requests succeeded.

Field	Description
Total Request Failed	Total number of HTTP requests failed.
GET Requests	Total number of HTTP GET requests.
POST Requests	Total number of HTTP POST requests.
CONNECT Requests	Total number of HTTP CONNECT requests.
PUT requests	Total number of HTTP PUT requests.
HEAD requests	Total number of HTTP HEAD requests.
Websocket Flows	Total number of websocket flows.
Invalid packets	Total number of invalid packets.
Wrong FSM packets	Total number of incorrect FSM packets.
Unknown request method	Total number of unknown HTTP request methods.
Corrupt request packets	Total number of corrupt HTTP request packets.
Corrupt response packets	Total number of corrupt HTTP response packets.
Pipeline overflow requests	Total number of pipeline overflow requests.
Unhandled request packets	Total number of unhandled request packets.
Unhandled response packets	Total number of unhandled response packets.
New requests on closed connection	Total number of new requests on closed connections.
Memory allocation failures	Total number of memory allocation failures.
Accel Errors	Total number of accelerated errors.
Packets after permanent failure	Total number of packets after permanent failure.
Total Number of http Video Identified	Total number of HTTP videos identified.
Number of Flash Video Identified	Total number of Flash videos identified.
Number of Isom (MP4) Video Identified	Total number of Isom (MP4) videos identified.
Number of WMV Video Identified	Total number of WMV videos identified.
Number of MOOV Video Identified	Total number of MOOV videos identified.
Number of AVI Video Identified	Total number of AVI videos identified.
Number of HLS Video Identified	Total number of HLS videos identified.
Number of MSS Video Identified	Total number of MSS videos identified.
Number of MPEG TS Video Identified	Total number of MPEG TS videos identified.

Field	Description
Response Based TRM	
GET	Total number of HTTP GET methods that had response-based TRM applied.
POST	Total number of HTTP POST methods that had response-based TRM applied.
CONNECT	Total number of HTTP CONNECT methods that had response-based TRM applied.
PUT	Total number of HTTP PUT methods that had response-based TRM applied.
HEAD	Total number of HTTP HEAD methods that had response-based TRM applied.
OPTION	Total number of HTTP OPTION methods that had response-based TRM applied.
DELETE	Total number of HTTP DELETE methods that had response-based TRM applied.
TRACE	Total number of HTTP TRACE methods that had response-based TRM applied.
Websocket	Total number of HTTP Websocket methods that had response-based TRM applied.
Response Based Charging	
GET	Total number of HTTP GET methods that had response-based charging applied.
POST	Total number of HTTP POST methods that had response-based charging applied.
CONNECT	Total number of HTTP CONNECT methods that had response-based charging applied.
PUT	Total number of HTTP PUT methods that had response-based charging applied.
HEAD	Total number of HTTP HEAD methods that had response-based charging applied.
OPTION	Total number of HTTP OPTION methods that had response-based charging applied.
DELETE	Total number of HTTP DELETE methods that had response-based charging applied.
TRACE	Total number of HTTP TRACE methods that had response-based charging applied.
Websocket	Total number of HTTP Websocket methods that had response-based charging applied.

show active-charging analyzer statistics name icmpv6

Table 11: show active-charging analyzer statistics name icmpv6 Command Output Descriptions

Field	Description
ACS ICMPv6 Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.

Field	Description
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.
Uplink Bytes Fragmented	Total number of uplink bytes that were fragmented.
Downlink Bytes Fragmented	Total number of downlink bytes that were fragmented.
Uplink Pkts Fragmented	Total number of uplink packets that were fragmented.
Downlink Pkts Fragmented	Total number of downlink packets that were fragmented.
Uplink Bytes Invalid	Total number of invalid uplink bytes.
Downlink Bytes Invalid	Total number of invalid downlink bytes.
Uplink Pkts Invalid	Total number of invalid uplink packets.
Downlink Pkts Invalid	Total number of invalid downlink packets.

show active-charging analyzer statistics name ip verbose

Table 12: show active-charging analyzer statistics name ip verbose Command Output Descriptions

Field	Description
ACS IP Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.
Uplink Bytes Fragmented	Total number of uplink bytes that were fragmented.
Downlink Bytes Fragmented	Total number of downlink bytes that were fragmented.
Uplink Pkts Fragmented	Total number of uplink packets that were fragmented.
Downlink Pkts Fragmented	Total number of downlink packets that were fragmented.
Uplink Bytes Invalid Length	Total number of uplink bytes of invalid length.
Downlink Bytes Invalid Length	Total number of downlink bytes of invalid length.
Uplink Pkts Invalid Length	Total number of uplink packets of invalid length.
Downlink Pkts Invalid Length	Total number of downlink packets of invalid length.

Field	Description
Uplink Bytes Invalid Length (After Reassembly)	Total number of uplink bytes of invalid length after reassembly.
Downlink Bytes Invalid Length (After Reassembly)	Total number of downlink bytes of invalid length after reassembly.
Uplink Pkts Invalid Length (After Reassembly)	Total number of uplink packets of invalid length after reassembly.
Downlink Pkts Invalid Length (After Reassembly)	Total number of downlink packets of invalid length after reassembly.
Uplink Bytes Invalid Version	Total number of uplink bytes of invalid version.
Downlink Bytes Invalid Version	Total number of downlink bytes of invalid version.
Uplink Pkts Invalid Version	Total number of uplink packets of invalid version.
Downlink Pkts Invalid Version	Total number of downlink packets of invalid version.
Uplink Bytes Invalid Checksum	Total number of bytes received in uplink direction with invalid checksum errors.
Downlink Bytes Invalid Checksum	Total number of bytes received in downlink direction with invalid checksum errors.
Uplink Pkts Invalid Checksum	Total number of packets received in uplink direction with invalid checksum errors.
Downlink Pkts Invalid Checksum	Total number of packets received in downlink direction with invalid checksum errors.
Uplink Bytes IP reassembly Timeout	Total number of bytes in uplink traffic dropped due to IP reassembly timeout.
Uplink Pkts IP reassembly Timeout	Total number of packets in uplink traffic dropped due to IP reassembly timeout.
Downlink Bytes IP reassembly Timeout	Total number of bytes in downlink traffic dropped due to IP reassembly timeout.
Downlink Pkts IP reassembly Timeout	Total number of packets in downlink traffic dropped due to IP reassembly timeout.
Uplink Bytes IP reassembly Max. Fragments reached	Total number of times Max fragments was reached in uplinked bytes reassembly.
Uplink Pkts IP reassembly Max. Fragments reached	Total number of times Max fragments was reached in uplinked packets reassembly.
Downlink Bytes IP reassembly Max. Fragments reached	Total number of times Max fragments was reached in downlinked bytes reassembly.
Downlink Pkts IP reassembly Max. Fragments reached	Total number of times Max fragments was reached in downlinked packets reassembly.
Uplink Bytes received after reassembly	Total number of uplink bytes received after reassembly.
Uplink Pkts received after reassembly	Total number of uplink packets received after reassembly.
Downlink Bytes received after reassembly	Total number of downlink bytes received after reassembly.

Field	Description
Downlink Pkts received after reassembly	Total number of downlink packets received after reassembly.

show active-charging analyzer statistics name ipv6

Table 13: show active-charging analyzer statistics name ipv6 Command Output Descriptions

Field	Description
ACS IPv6 Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.
Uplink Bytes Fragmented	Total number of uplink bytes that were fragmented.
Downlink Bytes Fragmented	Total number of downlink bytes that were fragmented.
Uplink Pkts Fragmented	Total number of uplink packets that were fragmented.
Downlink Pkts Fragmented	Total number of downlink packets that were fragmented.
Uplink Bytes Invalid	Total number of invalid uplink bytes.
Downlink Bytes Invalid	Total number of invalid downlink bytes.
Uplink Pkts Invalid	Total number of invalid uplink packets.
Downlink Pkts Invalid	Total number of invalid downlink packets.

show active-charging analyzer statistics name ipv6 verbose

Table 14: show active-charging analyzer statistics name ipv6 verbose Command Output Descriptions

Field	Description
ACS IPv6 Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.

Field	Description
Total Downlink Pkts	Total number of packets downlinked.
Uplink Bytes Fragmented	Total number of uplink bytes that were fragmented.
Downlink Bytes Fragmented	Total number of downlink bytes that were fragmented.
Uplink Pkts Fragmented	Total number of uplink packets that were fragmented.
Downlink Pkts Fragmented	Total number of downlink packets that were fragmented.
Uplink Bytes Invalid Length	Total number of uplink bytes of invalid length.
Downlink Bytes Invalid Length	Total number of downlink bytes of invalid length.
Uplink Pkts Invalid Length	Total number of uplink packets of invalid length.
Downlink Pkts Invalid Length	Total number of downlink packets of invalid length.
Uplink Bytes Invalid Length (After Reassembly)	Total number of uplink bytes of invalid length after reassembly.
Downlink Bytes Invalid Length (After Reassembly)	Total number of downlink bytes of invalid length after reassembly.
Uplink Pkts Invalid Length (After Reassembly)	Total number of uplink packets of invalid length after reassembly.
Downlink Pkts Invalid Length (After Reassembly)	Total number of downlink packets of invalid length after reassembly.
Uplink Bytes IP reassembly Timeout	Total number of bytes in uplink traffic dropped due to IP reassembly timeout.
Uplink Pkts IP reassembly Timeout	Total number of packets in uplink traffic dropped due to IP reassembly timeout.
Downlink Bytes IP reassembly Timeout	Total number of bytes in downlink traffic dropped due to IP reassembly timeout.
Downlink Pkts IP reassembly Timeout	Total number of packets in downlink traffic dropped due to IP reassembly timeout.
Uplink Bytes IP reassembly Max. Fragments reached	Total number of times Max fragments was reached in uplinked bytes reassembly.
Uplink Pkts IP reassembly Max. Fragments reached	Total number of times Max fragments was reached in uplinked packets reassembly.
Downlink Bytes IP reassembly Max. Fragments reached	Total number of times Max fragments was reached in downlinked bytes reassembly.
Downlink Pkts IP reassembly Max. Fragments reached	Total number of times Max fragments was reached in downlinked packets reassembly.

show active-charging analyzer statistics name mipv6

Table 15: show active-charging analyzer statistics name mipv6 Command Output Descriptions

Field	Description
ACS MIPv6 Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Uplink Pkts	Total number of packets uplinked.
Total PBU Intercepted	Total number of Proxy Binding Update (PBU) messages intercepted.
Total PBU Modified	Total number of modified Proxy Binding Update (PBU) messages.
Total PBU Discarded	Total number of discarded Proxy Binding Update (PBU) messages.

show active-charging analyzer statistics name p2p protocol-group

Table 16: show active-charging analyzer statistics name p2p protocol-group Command Output Descriptions

Field	Description
ACS P2P Stats:	
Generic	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Anonymous - access	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-mail	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-news	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Internet-privacy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Filesharing	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-anon-filesharing	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Remote-control	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-gaming	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-videoconf	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Untagged	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

show active-charging analyzer statistics name p2p protocol-group verbose

Table 17: show active-charging analyzer statistics name p2p protocol-group verbose Command Output Descriptions

Field	Description
ACS P2P Stats:	
Generic-non-p2p	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Generic	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Anonymous-access-tor	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Anonymous-access-yourfreetunnel	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Anonymous-access-jap	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Anonymous-access-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business-openft	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business-actsync	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business-kontiki	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Business-blackberry	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business-citrix	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business-webex	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business-gotomeeting	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business-adobeconnect	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business-Cisco-jabber	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Business-total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-skype	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-msn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-yahoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-jabber	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-qq	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-gadugadu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-oscar	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-popo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-irc	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-iskoot	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Communicator-fring	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-gtalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-nimbuzz	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-paltalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-meebo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-truphone	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-teamspeak	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-facetime	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-viber	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-imo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-tango	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Communicator-scydo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-whatsapp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-mypeople	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-implus	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-ebuddy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-ficall	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-mig33	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-goober	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-kakaotalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-nateontalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-naverline	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-wechat	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-voipdiscount	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-vopium	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-plingm	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-magicjack	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-smartvoip	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Communicator-rynga	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-icall	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-actionvoip	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-jumblo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-talkatone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-behavioral-voip	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-imessage	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-sudaphone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-blackdialer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-vtok **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-heytell **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-voxer **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-Lync	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-behavioral-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-didi	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-hike-messenger	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-kik-messenger	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-upc-phone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Communicator-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-wuala	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-icloud	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-amazoncloud	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-skydrive **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-dropbox **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-bitcasa **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-clubbox **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-Bittorent-sync	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-mozy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-opendrive	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-windows-azure	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cloud-idrive	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Cloud-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-mail-gmail	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-mail-mapi	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-mail-yahoomail	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-mail-outlook	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-mail-telegram	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-mail-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-news-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-store-apple-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-store-blackberry-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-store-itunes	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-store-googleplay	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-store-nokia-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-store-samsung-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-store-windows-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
E-store-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-hamachivpn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-vpnx	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-vtun	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-isakmp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-netmotion	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-openvpn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-tunnelvoice	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-comodounite	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-ultrasurf	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-cyberghost	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-siri	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-softether	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Internet-privacy-hotspotvpn **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Internet-privacy-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Filesharing-ddlink	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Filesharing-aimini	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Filesharing-ultrabac	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Filesharing-upload	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Filesharing-download	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Filesharing-flickr **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Filesharing-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-steam	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-halflife2	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-wofwarcraft	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-xbox	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-battlefld	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-qqgame	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-quake	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Gaming-warcft3	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-armagettron	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-clubpenguin	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-crossfire	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-dofus	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-fiesta	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-florensia	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-guildwars	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-maplestory	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-ps3	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-rfacto	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-splashfighter	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-wii	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-wofkungfu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-callofduty	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-twitch	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gaming-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Maps-igo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Maps-mapfactor	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Maps-navigon	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Maps-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-anon-filesharing-winny	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-anon-filesharing-mute	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-anon-filesharing-freenet	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-anon-filesharing-stealthnet	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-anon-filesharing-antsp2p	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-anon-filesharing-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-bittorrent	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
P2P-filesharing-edonkey	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-gnutella	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-fasttrack	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-manolito	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-pando	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-filetopia	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-soulseek	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-applejuice	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-ares	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-directconnect	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-imesh	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-winmx	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-thunder	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-off	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-xdcc	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-mojo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-thunderhs	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-behavioral-p2p	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-rodi **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
P2P-filesharing-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Remote-control-skinny	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Remote-control-rdp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Remote-control-teamviewer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Remote-control-pcanywhere	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Remote-control-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-gaming-secondlife	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-gaming-gamekit	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-gaming-friendster	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-gaming-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-facebook	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-myspace	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-twitter	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-instagram	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-pinterest	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-linkedin	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-poco	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-snapchat	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-googleplus	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-hyves	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-tumblr **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-badoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-vine	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-foursquare	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-path	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Social-nw-generic-weibo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-tagged	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-xing	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-generic-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-videoconf-oovoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Social-nw-videoconf-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-iax	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-mgcp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-ssdp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-stun	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-usenet	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-flash	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-msrp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-rdt	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-spdy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-google	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-silverlight	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Standard-ssl	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Standard-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-orb	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-slingbox	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-ppstream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-qqlive	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-feidian	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-zattoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-sopcast	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-pplive	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-tvants	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Streaming-tvuplayer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-uusee	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-iptv	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-pandora	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-icecast	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-shoutcast	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-funshion	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-octoshape	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-rmstream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-veohtv	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-wmstream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-ogg	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-quicktime	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-spotify	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-netflix	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-iplayer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-avi	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Streaming-soribada	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-kugou	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-ustream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-svtplay	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-kuro **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Streaming-youtube **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-baidumovie **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-monkey3	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-Hls	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-Youku	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Streaming-hulu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-google-music	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-rhapsody	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-hbogo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-iheartradio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-radio-paradise	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-beatport	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-soundcloud	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-amazonmusic	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-slingtv	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-vessel	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-vudu	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-go90	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-Espn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-Crackle	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-Hbonow	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Streaming-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Untagged-operamini	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Untagged-truecaller	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Untagged-applemaps	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Untagged-waze	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Untagged-apple-push	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Untagged-google-push	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Untagged-speedtest	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Untagged-slacker-radio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Untagged-Total	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

show active-charging analyzer statistics name p2p

Table 18: show active-charging analyzer statistics name p2p Command Output Descriptions

Field	Description
ACS P2P Stats:	
Skype	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Bittorrent	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Edonkey	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Msn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Yahoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Orb	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gnutella	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Jabber	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Slingbox	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Winny	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Fasttrack	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Manolito	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Pando	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Filetopia	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Soulseek	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ppstream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Qq	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Qqlive	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mute	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gadugadu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Feidian	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Applejuice	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Zattoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Skinny	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Sopcast	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ares	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Directconnect	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Imesh	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Pplive	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Oscar	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Popo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Irc	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Steam	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ddlink	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Halflife2	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hamachivpn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tvants	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tvuplayer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Uusee	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vpnx	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Vtun	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Winmx	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wofwarcraft	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Xbox	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iskoot	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Fring	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Oovoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gtalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Freenet	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Aimini	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Battlefld	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Openft	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Qqgame	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Quake	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Secondlife	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Actsync	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Nimbuzz	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Iax	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Paltalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Warcft3	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rdp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iptv	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Pandora	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Icecast	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kontiki	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Meebo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Shoutcast	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Truphone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Thunder	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Armagettron	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Blackberry	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Citrix	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Clubpenguin	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Crossfire	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Dofus	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Fiesta	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Florensia	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Funshion	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Guildwars	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Isakmp	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Maplestory	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mgcp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Octoshape	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Off	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ps3	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Rmstream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rfactor	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Splashfighter	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ssdp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Stealthnet	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Stun	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Teamspeak	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tor	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Veohtv	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wii	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wmstream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Wofkungfu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Xdcc	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Yourfreetunnel	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facebook	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gamekit	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facetime	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gmail	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Itunes	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Myspace	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Teamviewer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Twitter	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Viber	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Antsp2p	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Imo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Netmotion	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ogg	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Openvpn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Quicktime	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Spotify	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tango	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ultrabac	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Usenet	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tunnelvoice	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Scydo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Whatsapp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Flash	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mojo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Pcanywhere	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Mypeople	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Webex	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Netflix	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Implus	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ebuddy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Msrp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ficall	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gotomeeting	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mig33	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Comodounite	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Goober	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iplayer	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Operamini	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rdt	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kakaotalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Nateontalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Naverline	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Callofduty	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Thunderhs	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Avi	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wuala	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wechat	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Soribada	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Icloud	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Googleplay	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kugou	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Instagram	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Voipdiscount	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Vopium	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Plingm	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Pinterest	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Magicjack	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Spdy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Amazoncloud	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Smartvoip	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rynga	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Icall	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Actionvoip	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Jumblo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Talkatone	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mapi	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-p2p	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-voip	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-upload	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-download	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Imessage	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Linkedin	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Google	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Poco	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ultrasurf	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Snapchat	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Truecaller	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cyberghost	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Googleplus	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Adobeconnect	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ustream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Siri	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Softether	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Sudaphone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Svtplay	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hyves	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Silverlight	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Blackdialer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rodi **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Skydrive **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vtok **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Flickr **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kuro **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Dropbox **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Heytell **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Bitcasa **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Clubbox **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tumblr **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Youtube **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Voxer **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hotspotvpn **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Applemaps	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Badoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facebook audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Facebook unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facebook streaming-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Foursquare	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Jap	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Monkey3	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Outlook	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vine	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Yahoomail	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Bbm	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Bbm unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Bbm audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Box	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Chikka	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Imgur	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Oist	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Oist unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Regram	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Regram unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vchat	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Bittorrent-sync	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cisco-jabber unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cisco-jabber audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cisco-jabber video	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cisco-jabber	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hls	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Lync unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Lync audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Lync video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Lync file-transfer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Path	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Waze	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Youku	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Apple-store	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Blackberry-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hulu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Igo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mapfactor	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mozy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Navigon	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Nokia-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Opendrive	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Samsung-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Weibo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Windows-azure	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Windows-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Apple-push	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Didi	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Friendster	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Google-music	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Google-push	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hike-messenger	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Idrive	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kik-messenger	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tagged	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Telegram	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Xing	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rhapsody	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Speedtest	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Twitch	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hbogo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iheartradio	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Slacker-radio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Upc-phone-unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Upc-phone-audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Upc-phone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Radio-Paradise	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Amazonmusic	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ssl	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Slingtv	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vessel	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vudu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Go90	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Espn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Crackle	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hbonow	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Beatport / Soundcloud / 8tracks/ Quic / Tunein-radio / Periscope / Amazonvideo / Showtime / Vevo / Mlb / Starz / Tmo-tv / Hgtv / Nbc-sports / Univision / Dish-anywhere / Fox-sports / Newsy / Fandor	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

show active-charging analyzer statistics name p2p verbose

Table 19: show active-charging analyzer statistics name p2p verbose Command Output Descriptions

Field	Description
Non-P2P	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Skype-non-voice **Important** The following counters are available only for 10.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Skype-voice **Important** The following counters are available only for 10.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Skype-non-voice **Important** The following counters are available only for release 11.0.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.

Field	Description
Skype-others **Important** The following counters are available only for 12.0 and later releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Skype-audio **Important** The following counters are available only for 11.0 and later releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Bittorrent	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Edonkey	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Msn-non-voice **Important** These counters are available only for 10.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.

Field	Description
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Msn-voice **Important** These counters are available only for 10.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Msn-video **Important** These counters are available only for 11.0 and later releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Msn-non-a/v **Important** These counters are available only for release 11.0.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Msn-others **Important** These counters are available only for release 12.0 and later releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.

Field	Description
Downlink Pkts:	The total number of packets downlinked.
Msn-audio **Important** These counters are available only for 11.0 and later releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Yahoo-non-voice **Important** These counters are available only for 10.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Yahoo-voice **Important** These counters are available only for 10.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Yahoo-non-audio **Important** The following counters are available only for release 11.0.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.

Field	Description
Yahoo-video **Important** These counters are available only for 12.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Yahoo-others **Important** These counters are available only for 12.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Yahoo-audio **Important** The following counters are available only for 11.0 and later releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Orb	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Gnutella	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.

Field	Description
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Jabber	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Slingbox	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Winny	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Fasttrack	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Manolito	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Pando	

Field	Description
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Filetopia	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Soulseek	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Ppstream	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Qq	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Qq unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Qq audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Qq video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Qqlive	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Mute	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Gadugadu	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Feidian	
Uplink Bytes:	The total number of bytes uplinked.

Field	Description
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Applejuice	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Zattoo	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Skinny	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Sopcast	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Ares	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.

Field	Description
Directconnect	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Imesh	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Pplive	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Oscar **Important** These counters are available only for 10.0 and earlier releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Oscar-non-voice **Important** These counters are available only for 10.0 and earlier releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Oscar-voice **Important** These counters are available only for 10.0 and earlier releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Oscar-non-audio **Important** The following counters are available only for 11.0 and later releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Oscar-video **Important** These counters are available only for 12.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Oscar-others **Important** These counters are available only for 12.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.

Field	Description
Oscar-audio **Important** The following counters are available only for 11.0 and later releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Popo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Irc	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Steam	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ddlink	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Halflife2	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hamachivpn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tvants	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tvuplayer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Uusee	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vpnx	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Vtun	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Winmx	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wofwarcraft	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Xbox	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iskoot	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Fring	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Oovoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gtalk-non-voice **Important** The following counters are available only for 10.0 and earlier releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gtalk-voice **Important** The following counters are available only for 10.0 and earlier releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gtalk-non-audio **Important** The following counters are available only for 11.0 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Gtalk-video **Important** These counters are available only for 12.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Gtalk-others **Important** These counters are available only for 12.0 and earlier releases.	
Uplink Bytes:	The total number of bytes uplinked.
Downlink Bytes:	The total number of bytes downlinked.
Uplink Pkts:	The total number of packets uplinked.
Downlink Pkts:	The total number of packets downlinked.
Gtalk-audio **Important** The following counters are available only for 11.0 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Freenet	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Aimini	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Battlefld	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Openft	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Qqgame	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Quake	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Secondlife	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Actsync	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Nimbuzz	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iax	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Paltalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Warcft3	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rdp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Iptv	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Uplink Bytes	The total number of bytes uplinked.
Pandora unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Pandora ads	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Pandora	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Icecast	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kontiki	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Meebo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Shoutcast	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Truphone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Thunder	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Armagettron	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Blackberry	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Citrix	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Clubpenguin	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Crossfire	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Dofus	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Fiesta	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Florensia	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Funshion	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Guildwars	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Isakmp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Maplestory	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mgcp	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Octoshape	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Off	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ps3	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rmstream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rfactor	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Splashfighter	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ssdp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Stealthnet	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Stun	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Teamspeak	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tor	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Veohtv	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wii	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wmstream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wofkungfu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Xdcc	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Yourfreetunnel	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facebook	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gamekit	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facetime	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facetime unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facetime audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facetime video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gmail	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Itunes	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Myspace	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Teamviewer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Twitter	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Twitter streaming-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Viber	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Viber unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Viber audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Antsp2p	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Imo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Netmotion	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ogg	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Openvpn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Quicktime	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Spotify	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tango	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ultrabac	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Usenet	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tunnelvoice	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Scydo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Whatsapp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
MyPeople	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
RDT	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Flash	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mojo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Pcanywhere	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Webex	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Netflix	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Implus	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ebuddy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Msrp	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ficall	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Gotomeeting	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mig33	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Comodounite	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Goober	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iplayer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Operamini	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kakaotalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kakaotalk Audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kakaotalk Unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Nateontalk	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Naverline	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Callofduty	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Thunderhs	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Avi	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wuala	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Wechat	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Soribada	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Icloud	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Googleplay	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kugoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Instagram	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Voipdiscount	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Voipdiscount unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Voipdiscount audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vopium	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vopium unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vopium audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Plingm	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Plingm unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Plingm audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Pinterest	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Magicjack	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Magicjack unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Magicjack audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Spdy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Amazoncloud	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Smartvoip	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Smartvoip unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Smartvoip audio	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rynga	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rynga unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rynga audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Icall	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Icall unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Icall audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Icall video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Actionvoip	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Actionvoip unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Actionvoip audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Jumblo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Jumblo unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Jumblo audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Talkatone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Talkatone unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Talkatone audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mapi	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-p2p	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-voip	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-upload	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-download	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Imessage	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Linkedin	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Google	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Poco	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ultrasurf	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Snapchat	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Truecaller	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cyberghost	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Googleplus	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Adobeconnect	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Ustream	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Siri	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Softether	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Sudaphone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Svtplay	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hyves	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Silverlight	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Blackdialer-unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Blackdialer-audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rodi **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Skydrive **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vtok-unclassified **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Vtok-audio **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vtok-video **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Flickr **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kuro **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Dropbox **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Heytell **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Bitcasa **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Clubbox **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Tumblr **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Youtube **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Voxer **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hotspotvpn **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Baidumovie **Important** The statistics for this protocol is supported from ADC plugin 1.5 and later releases.	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Applemaps	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Badoo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facebook audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Facebook unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Foursquare	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Jap	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Monkey3	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Outlook	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vine	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Yahoomail	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Bbm	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Bbm unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Bbm audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Box	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Chikka	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Imgur	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Oist	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Oist unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Regram	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Regram unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vchat	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Bittorrent-sync	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cisco-jabber unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cisco-jabber audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cisco-jabber video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Cisco-jabber	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hls	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Lync unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Lync audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Lync video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Lync file-transfer	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Path	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Waze	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Youku	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Behavioral-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Apple-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Blackberry-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hulu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Igo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mapfactor	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Mozy	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Navigon	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Nokia-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Opendrive	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Samsung-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Weibo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Windows-azure	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Windows-store	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Apple-push	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Didi	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Friendster	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Google-music	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Google-push	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hike-messenger	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Idrive	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Kik-messenger	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Tagged	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Telegram	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Xing	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Rhapsody	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Speedtest	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Twitch	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hbogo	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iheartradio unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iheartradio ads	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Iheartradio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.

Field	Description
Downlink Pkts	The total number of packets downlinked.
Slacker-radio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Upc-phone-unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Upc-phone-audio	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Upc-phone	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Radio-Paradise	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Amazonmusic	
Uplink Bytes	The total number of bytes uplinked.

Field	Description
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Slingtv	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vessel	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vudu unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vudu streaming-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Vudu	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

Field	Description
Go90 unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Go90 streaming-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Go90	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Espn unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Espn streaming-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Espn	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.

Field	Description
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Crackle unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Crackle streaming-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Crackle	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hbonow unclassified	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hbonow streaming-video	
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.
Hbonow	

Field	Description
Uplink Bytes	The total number of bytes uplinked.
Downlink Bytes	The total number of bytes downlinked.
Uplink Pkts	The total number of packets uplinked.
Downlink Pkts	The total number of packets downlinked.

show active-charging analyzer statistics name pptp

Table 20: show active-charging analyzer statistics name pptp Command Output Descriptions

Field	Description
ACS PPTP Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.
Total GRE Sessions	Total number of GRE sessions.
Invalid PPTP Pkts	Total number of invalid PPTP packets.
Unknown PPTP Pkts	Total number of unknown PPTP packets.
ACS PPTP-GRE Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.

show active-charging analyzer statistics name rtp

Table 21: show active-charging analyzer statistics name rtp Command Output Descriptions

Field	Description
ACS RTP Session Stats:	

Field	Description
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.
Total Accel Pkts	Total number of accelerated RTP packets.

show active-charging analyzer statistics name sip

Table 22: show active-charging analyzer statistics name sip Command Output Descriptions

Field	Description
SIP Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.
Uplink Valid Bytes	Total number of valid bytes uplinked.
Downlink Valid Bytes	Total number of valid bytes downlinked.
Uplink Valid Pkts	Total number of valid packets uplinked.
Downlink Valid Pkts	Total number of valid packets downlinked.
Uplink Retry Bytes	Total number of retry bytes uplinked.
Downlink Retry Bytes	Total number of retry bytes downlinked.
Uplink Retry Pkts	Total number of retry packets uplinked.
Downlink Retry Pkts	Total number of retry packets downlinked.
Uplink Error Bytes	Total number of error bytes uplinked.
Downlink Error Bytes	Total number of error bytes downlinked.
Uplink Error Pkts	Total number of error packets uplinked.
Downlink Error Pkts	Total number of error packets downlinked.
SIP Calls	Total number of SIP calls.

Field	Description
SIP Advanced Session Stats	
Total Uplink Bytes	Total uplink bytes processed by SIP ALG.
Total Downlink Bytes	Total downlink bytes processed by SIP ALG.
Total Uplink Packets	Total uplink packets processed by SIP ALG.
Total Downlink Packets	Total downlink packets processed by SIP ALG.
Total SIP Calls	Total number of active SIP calls processed by SIP ALG.
Current SIP Calls	Current number of active SIP calls processed by SIP ALG.
Total SIP UDP Calls	Total number of SIP UDP calls processed by SIP ALG.
Current SIP UDP Calls	Current number of SIP UDP calls processed by SIP ALG.
Total SIP TCP Calls	Total number of SIP TCP calls processed by SIP ALG.
Current SIP TCP Calls	Current number of SIP TCP calls processed by SIP ALG.
SIP Request	Displays the following SIP Requests. • Register: Total REGISTER requests. • Invite: Total INVITE requests. • Ack: Total ACK requests. • Bye: Total BYE requests. • Info: Total INFO requests. • Prack: Total PRACK requests. • Refer: Total REFER requests. • Cancel: Total CANCEL requests. • Update: Total UPDATE requests. • Message: Total MESSAGE requests. • Options: Total OPTIONS requests. • Publish: Total PUBLISH requests. • Subscribe: Total SUBSCRIBE requests. • Notify: Total NOTIFY requests.
Total Received	Total number of SIP requests received by SIP ALG.
Total Transmitted	Total number of SIP requests transmitted by SIP ALG.
Retransmitted	Total number of SIP requests retransmitted by SIP ALG.

Field	Description
SIP Response	Displays the following SIP Responses. • 1XX: Total 1xx responses. • 2XX: Total 2xx responses. • 3XX: Total 3xx responses. • 4XX: Total 4xx responses. • 5XX: Total 5xx responses. • 6XX: Total 6xx responses.
Total Received	Total number of SIP responses received by SIP ALG.
Total Transmitted	Total number of SIP responses transmitted by SIP ALG.
Retransmitted	Total number of SIP responses retransmitted by SIP ALG.

show active-charging analyzer statistics name sip verbose

Table 23: show active-charging analyzer statistics name sip verbose Command Output Descriptions

Field	Description
ACS SIP Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Pkts	Total number of packets uplinked.
Total Downlink Pkts	Total number of packets downlinked.
Uplink Valid Pkts	Total number of valid packets uplinked.
Downlink Valid Pkts	Total number of valid packets downlinked.
Uplink Retry Pkts	Total number of retry packets uplinked.
Downlink Retry Pkts	Total number of retry packets downlinked.
Uplink Error Pkts	Total number of error packets uplinked.
Downlink Error Pkts	Total number of error packets downlinked.
Total SIP Calls	Total number of SIP calls.
Total SIP TCP Flows	Total number of SIP TCP flows.

Field	Description
Current SIP TCP Flows	Current number of SIP TCP flows.
Total SIP UDP Flows	Total number of SIP UDP flows.
Current SIP UDP Flows	Current number of SIP UDP flows.
SIP Request	Displays the following SIP Requests. • INVITE Requests • ACK Requests • REGISTER Requests • BYE Requests • CANCEL Requests • PRACK Requests • MESSAGE Requests • OPTIONS Requests • SUBSCRIBE Requests • REFER Requests • UPDATE Requests • INFO Requests • PUBLISH Requests • NOTIFY Requests
Total	Total number of SIP requests received by ECS SIP analyzer.
Retransmitted	Total number of SIP requests retransmitted by ECS SIP analyzer.
SIP Response	Displays the following SIP Responses. • 1xx • 2xx • 3xx • 4xx • 5xx • 6xx
Total	Total number of SIP responses received by ECS SIP analyzer.
Retransmitted	Total number of SIP responses retransmitted by ECS SIP analyzer.

Field	Description
SIP Advanced Session Stats	
Total Uplink Bytes	Total uplink bytes processed by SIP ALG.
Total Downlink Bytes	Total downlink bytes processed by SIP ALG.
Total Uplink Packets	Total uplink packets processed by SIP ALG.
Total Downlink Packets	Total downlink packets processed by SIP ALG.
Total SIP Calls	Total number of active SIP calls processed by SIP ALG.
Current SIP Calls	Current number of active SIP calls processed by SIP ALG.
Total SIP UDP Calls	Total number of SIP UDP calls processed by SIP ALG.
Current SIP UDP Calls	Current number of SIP UDP calls processed by SIP ALG.
Total SIP TCP Calls	Total number of SIP TCP calls processed by SIP ALG.
Current SIP TCP Calls	Current number of SIP TCP calls processed by SIP ALG.
SIP Request	Displays the following SIP Requests. • Register: Total REGISTER requests. • Invite: Total INVITE requests. • Ack: Total ACK requests. • Bye: Total BYE requests. • Info: Total INFO requests. • Prack: Total PRACK requests. • Refer: Total REFER requests. • Cancel: Total CANCEL requests. • Update: Total UPDATE requests. • Message: Total MESSAGE requests. • Options: Total OPTIONS requests. • Publish: Total PUBLISH requests. • Subscribe: Total SUBSCRIBE requests. • Notify: Total NOTIFY requests.
Total Received	Total number of SIP requests received by SIP ALG.
Total Transmitted	Total number of SIP requests transmitted by SIP ALG.
Retransmitted	Total number of SIP requests retransmitted by SIP ALG.

Field	Description
SIP Response	Displays the following SIP Responses. • 1XX: Total 1xx responses. • 2XX: Total 2xx responses. • 3XX: Total 3xx responses. • 4XX: Total 4xx responses. • 5XX: Total 5xx responses. • 6XX: Total 6xx responses.
Total Received	Total number of SIP responses received by SIP ALG.
Total Transmitted	Total number of SIP responses transmitted by SIP ALG.
Retransmitted	Total number of SIP responses retransmitted by SIP ALG.

show active-charging analyzer statistics name tcp

Table 24: show active-charging analyzer statistics name tcp Command Output Descriptions

Field	Description
Uplink In Sequence RST Pkts	The total number of uplink in-sequence RST packets received.
Downlink In Sequence RST Pkts	The total number of downlink in-sequence RST packets received.
Uplink Out of Order RST Pkts	The total number of uplink OOS RST packets received.
Downlink Out of Order RST Pkts	The total number of downlink OOS RST packets received.
Uplink Out of Window RST Pkts	The total number of uplinks Out of Window (OOW) RST packets received.
Downlink Out of Window RST Pkts	The total number of downlink OOW RST packets received.
Uplink Challenge-Ack RST Pkts	The total number of uplink challenge-ack packets received
Downlink challenge-ack RST Pkts	The total number of downlink challenge-ack packets received.
Uplink challenge-ack RST Pkts Timeout	The total number of uplink challenge-ack packets not received within 2msl time.
Downlink challenge-ack RST Pkts Timeout	The total number of downlink challenge-ack packets not received within 2msl time.

show active-charging analyzer statistics name tcp verbose

Table 25: show active-charging analyzer statistics name tcp verbose Command Output Descriptions

Field	Description
ACS TCP Session Stats:	
Total Uplink Bytes	The total number of bytes uplinked.
Total Downlink Bytes	The total number of bytes downlinked.
Total Uplink Pkts	The total number of packets uplinked.
Total Downlink Pkts	The total number of packets downlinked.
Uplink Bytes Retrans	The number of uplink bytes that were retransmitted.
Downlink Bytes Retrans	The number of downlink bytes that were retransmitted.
Uplink Pkts Retrans	The number of uplink packets that were retransmitted.
Downlink Pkts Retrans	The number of downlink packets that were retransmitted.
Uplink Zero len ACKs	The number of TCP zero length ACK packets uplinked.
Downlink Zero len ACKs	The number of TCP zero length ACK packets downlinked.
Total Non-Syn Flows	The number of total TCP flows without SYN.
Current Non-Syn Flows	The number of current TCP flows without SYN.
Uplink Out of Order Pkts Successfully Analyzed	The number of uplink out of order packets that were successfully analyzed.
Downlink Out of Order Pkts Successfully Analyzed	The number of downlink out of order packets that were successfully analyzed.
Uplink Out of Order Pkts Failure	The number of uplink out of order packets that failed.
Downlink Out of Order Pkts Failure	The number of downlink out of order packets that failed.
Uplink Out of Order Pkts Retransmitted	The number of uplink out of order packets that retransmitted.
Downlink Out of Order Pkts Retransmitted	The number of downlink out of order packets that retransmitted.
Downlink Window Size updated Pkts	The number of downlink packets whose packet window size was updated.
Uplink Out of Order Pkts Buffered	The number of uplink out of order packets buffered to validate the override of transmit-immediately configuration until x-header insertion is performed.
Downlink Out of Order Pkts Buffered	The number of downlink out of order packets buffered to validate the override of transmit-immediately configuration until x-header insertion is performed.

Field	Description
Uplink Bytes Invalid Length	The number of uplink bytes of invalid length.
Downlink Bytes Invalid Length	The number of downlink bytes of invalid length.
Uplink Pkts Invalid Length	The number of uplink packets of invalid length.
Downlink Pkts Invalid Length	The number of downlink packets of invalid length.
Uplink Bytes Out of Sequence	The number of uplink bytes out of sequence.
Downlink Bytes Out of Sequence	The number of downlink bytes out of sequence.
Uplink Pkts Out of Sequence	The number of uplink packets that were out of sequence.
Downlink Pkts Out of Sequence	The number of downlink packets that were out of sequence.
Uplink Bytes Invalid Close Wait	The total number of bytes received in uplink direction while system is in invalid wait state to close connection.
Downlink Bytes Invalid Close Wait	The total number of bytes received in downlink direction while system is in invalid wait state to close connection.
Uplink Pkts Invalid Close Wait	The total number of packets received in uplink direction while system is in invalid wait state to close connection.
Downlink Pkts Invalid Close Wait	The total number of bytes received in downlink direction while system is in invalid wait state to close connection.
Uplink Bytes Invalid Close State	The total number of bytes received in uplink direction while connection is in invalid closed state.
Downlink Bytes Invalid Close State	The total number of bytes received in downlink direction while connection is in invalid closed state.
Uplink Pkts Invalid Close State	The total number of packets received in uplink direction while connection is in invalid closed state.
Downlink Pkts Invalid Close State	Total number of packets received in downlink direction while connection is in invalid closed state.
Uplink Bytes Out of Order Timeout Failure	The total number of bytes received in uplink direction while timeout duration to wait for out of order packets is exhausted.
Downlink Bytes Out of Order Timeout Failure	The total number of bytes received in downlink direction while timeout duration to wait for out of order packets is exhausted.
Uplink Pkts Out of Order Timeout Failure	The total number of packets received in uplink direction while timeout duration to wait for out of order packets is exhausted.
Downlink Pkts Out of Order Timeout Failure	The total number of bytes received in downlink direction while timeout duration to wait for out of order packets is exhausted.
Uplink Bytes Out of Order Failure in Allocation	The total number of bytes received in uplink direction while allocation of out of order packet is failed.

Field	Description
Downlink Bytes Out of Order Failure in Allocation	The total number of bytes received in downlink direction while allocation of out of order packet is failed.
Uplink Pkts Out of Order Failure in Allocation	The total number of packets received in uplink direction while allocation of out of order packet is failed.
Downlink Pkts Out of Order Failure in Allocation	The total number of packets received in downlink direction while allocation of out of order packet is failed.
Uplink Pkts Invalid Window Size	The total number of packets received in uplink direction with invalid window size for buffer.
Uplink Bytes Invalid Window Size	The total number of bytes received in uplink direction with invalid window size for buffer.
Downlink Pkts Invalid Window Size	The total number of packets received in downlink direction with invalid window size for buffer.
Downlink Bytes Invalid Window Size	Total number of bytes received in downlink direction with invalid window size for buffer.
Uplink Pkts Invalid Checksum	The total number of packets received in uplink direction with invalid checksum errors.
Uplink Bytes Invalid Checksum	The total number of bytes received in uplink direction with invalid checksum errors.
Downlink Pkts Invalid Checksum	The total number of packets received in downlink direction with invalid checksum errors.
Downlink Bytes Invalid Checksum	The total number of bytes received in downlink direction with invalid checksum errors.

show active-charging analyzer statistics name tftp

Table 26: show active-charging analyzer statistics name tftp Command Output Descriptions

Field	Description
ACS TFTP Session Stats:	
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total Uplink Packets	Total number of packets uplinked.
Total Downlink Packets	Total number of packets downlinked.
Total Read Sessions	Total number of read sessions.

Field	Description
Total Write Sessions	Total number of write sessions.
Total Invalid Control Packets	Total number of invalid control packets.
Total Invalid Data Packets	Total number of invalid data packets.
Total Packets with Unknown Request Type	Total number of packets with unknown request type.

show active-charging bandwidth-policy name

Table 27: show active-charging bandwidth-policy name Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Bandwidth Policy Name	Name of the bandwidth policy.
Flow Limit-for-Bandwidth ID and Group-ID Associations:	
Flow Limit-for-Bandwidth ID	The ACS flow limit-for-bandwidth ID.
Group-ID	The ACS Bandwidth Policy Group ID.
Total number of bw-ids configured in Bandwidth-Policy <policy>	The total number of bandwidth IDs configured in the specified bandwidth policy.
Group-Limits for Group-ID	The group limits set for the group ID.
Rates & Actions	Lists the following rates and actions: • Peak Data Rate • Peak Burst Size • Violate Action • Committed Data Rate • Committed Burst Size • Exceed Action

Field	Description
Uplink	For bandwidth control in uplink direction indicates: • Peak data rate in bits per second • Peak burst size in bytes • Violate action configured: discard/lower-ip-precedence • Committed data rate in bits per second • Committed burst size in bytes • Exceed action configured: discard/lower-ip-precedence
Downlink	For bandwidth control in downlink direction indicates: • Peak data rate in bits per second • Peak burst size in bytes • Violate action configured: discard/lower-ip-precedence • Committed data rate in bits per second • Committed burst size in bytes • Exceed action configured: discard/lower-ip-precedence
Total number of group-limits configured in Bandwidth-Policy <policy>	The total number of group limits configured in the specified bandwidth policy.
Total bandwidth-policies found	The total number of bandwidth policies matching the specified criteria.

show active-charging charging-action all

Table 28: show active-charging charging-action all Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Charging Action Name	Name of the charging action. There may be several charging actions configured per charging service.
Content ID	The content ID to use in the generated billing records as the Rating-Group Attribute Value Pair (AVP) for this charging action.
Service ID	Service identifier value configured in the Charging Action mode.
PCO	Specifies the PCO value.

Field	Description
EDRs	Indicates whether Event Detail Record (EDR) billing action for packets matching this charging action is enabled, and the EDR format. **Important** This field is available only in 12.1 and earlier releases.
Charging EDRs	Indicates whether EDR billing action for packets matching this charging action is enabled, and the charging EDR format name. **Important** This field is available only in 12.2 and later releases.
Reporting EDRs	Indicates whether EDR billing action for packets matching this charging action is enabled, and the reporting EDR format name. **Important** This field is available only in 12.2 and later releases.
EGCDRs	Indicates whether eG-CDRs for billing of the packets matching with this charging action is enabled.
UDRs	Indicates whether UDR generation is enabled.
Flow Idle Timeout	Displays the idle-timeout for flows inspected by ECS.
Limit For Flow Type	Indicates whether Limit For Flow Type is enabled/disabled.
Limit For Uplink Bandwidth	Indicates whether Limit For Uplink Bandwidth is enabled/disabled.
Limit For Downlink Bandwidth	Indicates whether Limit For Downlink Bandwidth is enabled/disabled.
Throttle-Suppress Timeout	Displays the configured timeout value in seconds or displays "n/a" if not configured.
QoS Renegotiate Traffic-Class	Indicates whether QoS Renegotiate Traffic-Class is enabled/disabled.
QoS Class Identifier	Indicates whether QoS Class Identifier is configured.
IP Type of Service	Indicates whether IP Type of Service is configured.
Flow-Mapping Idle Timeout	Indicates the flow-mapping timeout value, in seconds.
DNS Proxy Bypass	Indicates whether DNS Proxy Bypass is enabled/disabled. If enabled, the DNS packets bypass interception at the session manager when readdressing for flow occurs, and go through ECS-based DNS redirection.
Count Retransmissions	Indicates whether Count Retransmissions is enabled.
Content Filtering	Indicates whether Content Filtering is enabled.
Type of Service	Displays the service type (PDSN, GGSN, etc.)
Count Retries	Indicates if the ECS service is counting retransmitted packets per subscriber.

Field	Description
GCDRs	Indicates if G-CDRs are enabled or disabled.
Discard	Specifies if the packets that match the flow should be discarded.
Credit Control	Specifies if credit control is being used in this charging action
Xheader-Insert	Indicates the x-header format name.
Message Type	Indicates the message type - Request or Response.
DNS Tethering Hostnames Cache	Indicates whether caching from DNS flows for DNS-based tethering detection is enabled or disabled.
Flow Action	
Redirect URL	Indicates whether the redirection of URL for packets that matches a ruledef is enabled/disabled. If enabled, redirects the HTTP packets matched to this Ruledef to the specified URL.
Clear Quota Retry Timer	Indicates whether Clear Quota Retry Timer is enabled/disabled. If enabled, resets the Credit Control Application quota retry timer for specific subscriber upon redirection.
Conditional Redirect	Indicates whether Conditional Redirect end token action is enabled/disabled. If enabled, conditionally redirects the HTTP packets matched to a configured user-agent to a specified URL.
Discard	Indicates whether discard action is enabled/disabled. If enabled, discards the packet associated with the charging action.
Terminate-Flow	Indicates whether terminate flow action is enabled/disabled. If enabled, terminates the TCP connection gracefully between the subscriber and external server and sends a TCP FIN to the subscriber and a TCP RST to the server. If the flow does not use TCP, this option simply discard the packets. This option is used for flows that use TCP only.
PCO-Custom1 Value	Indicates the configured PCO value. Displays n/a if this value is not configured.
PCO-Custom1-10 value	Indicates the action value for multiple operator-specific PCOs.The value can range from 1 to 10.
Rulebase Change	Indicates whether the rulebase change action is enabled/disabled. If enabled, displays the name of the rulebase the call should be changed to when the charging action is applied.
Billing Action	
Event Data Record	Indicates whether EDRs are enabled/disabled.
GGSN charging Data Record	Indicates whether GGSN CDRs are enabled/disabled.

Field	Description
User Data Record	Indicates whether UDRs are enabled/disabled.
Radius Accounting Record	Indicates whether RADIUS accounting records is enabled/disabled.
Charge Volume	Indicates the charge volume for packet-length (payload).
Predefined Rule Deactivation	Indicates whether the predefined rule/Group of ruledefs deactivation is enabled/disabled.
Total charging action(s) found	The number of charging actions that matched the criteria.
Readdressing	Indicates whether CAE re-addressing on the Mobile Video Gateway is enabled or disabled. **Important** In release 20.0, MVG is not supported. For more information, contact your Cisco account representative.
Percentage Rate Reduction	If enabled, indicates the configured bit rate reduction for mobile video as a percentage of the input bit rate. **Important** In release 20.0, MVG is not supported. For more information, contact your Cisco account representative.
TFT updates to UE	Indicates if the selective TFT suppression feature is enabled or disabled for all bearers including default and dedicated bearers.

show active-charging charging-action name

Table 29: show active-charging charging-action name Command Output Description

Field	Description
Encryption Type	Indicates the encryption algorithm used, which is either rc4md5 or aes-256-gcm
Salt	Indicates if the salt flag is turned on or off.
Key	Indicates the key that is used for encryption of xheader fields. **Note** The supported length for rc4md5 is 8 to 15 string size and for aes256gcm, the su length is 32 string size, which is equal to 256 bits.

show active-charging charging-action statistics name

Table 30: show active-charging charging-action statistics name Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Charging Action Name	Name of the charging action. There are be several charging actions per charging service.
Uplink Pkts Retrans	Total number of uplink packets that were retransmitted.
Downlink Pkts Retrans	Total number of downlink packets that were retransmitted.
Uplink Bytes Retrans	Total number of uplink bytes that were retransmitted.
Downlink Bytes Retrans	Total number of downlink bytes that were retransmitted.
Upl Pkts Readdressed	Total number of readdressed uplink packets.
Dnl Pkts Readdressed	Total number of readdressed downlink packets.
Upl Bytes Readdressed	Total number of readdressed uplink bytes.
Dnl Bytes Readdressed	Total number of readdressed downlink bytes.
PP Upl Pkts Readdressed	Total number of post-processed uplink packets readdressed.
PP Dnl Pkts Readdressed	Total number of post-processed downlink packets readdressed.
PP Upl Bytes Readdressed	Total number of post-processed uplink bytes readdressed.
PP Dnl Bytes Readdressed	Total number of post-processed downlink bytes readdressed.
Bytes Charged Yet Packet Dropped	Total number of bytes charged although packet is dropped. For example, a concatenated HTTP GET packet contains one complete GET request and part of another GET request (partial). The partial packet gets completed in the next HTTP packet but is eventually dropped for some reason. In this case, the partial bytes of the GET request are charged in the earlier packet, however, the packet as a whole is dropped.
Predef-Rules Deactivated	Total number of times predefined rules/Group of ruledefs is deactivated via charging action.
Throttle-Suppress Stats:	
Uplink Bytes	Total number of uplink bytes for which bandwidth limiting is suppressed.
Downlink Bytes	Total number of downlink bytes for which bandwidth limiting is suppressed.
Readdressing Failures Statistics (Packets):	
Non SYN Flow	Total number of readdressing packets with a non SYN flow failure.

Field	Description
Duplicate Key	Total number of readdressing packets with a duplicate key failure.
Dropped Pkts	Total number of packets discarded on readdressing failure. If the **discard-on-failure** option is not enabled using the **flow action readdress** command, this value will be zero.
XHeader Information:	
For Request	
XHeader Bytes Injected	Total number of x-header bytes injected for Request messages.
XHeader Pkts Injected	Total number of x-header packets injected for Request messages.
XHeader Bytes Removed	Total number of x-header bytes removed for Request messages as a result of the anti-spoofing feature configuration.
XHeader Pkts Removed	Total number of x-header packets removed for Request messages as a result of the anti spoofing feature configuration.
IP Frags consumed by XHeader	Total number of IP fragments consumed by x-header enrichment for Request messages.
For Response	
XHeader Bytes Injected	Total number of x-header bytes injected for Response messages.
XHeader Pkts Injected	Total number of x-header packets injected for Response messages.
XHeader Bytes Removed	Total number of x-header bytes removed for Response messages as a result of the anti-spoofing feature configuration.
XHeader Pkts Removed	Total number of x-header packets removed for Response messages as a result of the anti-spoofing feature configuration.
IP Frags consumed by XHeader	Total number of IP fragments consumed by x-header enrichment for Response messages.
For Local Response	
XHeader Bytes Injected	Total number of x-header bytes injected for local Response messages.
XHeader Pkts Injected	Total number of x-header packets injected for local Response messages.
NCQoS Discarded Packets:	
Rule Bound elsewhere	Total number of rules bound elsewhere.
Rule Binding pending	Total number of rule binding pending.
Unbound Rule hit	Total number of unbound rule hits.
Statistic	Statistic type.
flow-action	Total number of matching flows/sessions/packets for the statistic.

Field	Description
pp-flow-action	Total number of matching flows/sessions/packets for the statistic.
flow-limit	Total number of matching flows/sessions/packets for the statistic.
bandwidth-limit	Total number of matching flows/sessions/packets for the statistic.
Total Charging Action(s) matched	Total number of charging actions matching the criteria.
CAE-Readdressing:	
Requests CAE-Readdressed	Total number of request readdressing done.
Responses CAE-Readdressed	Total number of response readdressing done.
Requests having xheader inserted	Total number of HTTP requests with x-headers inserted.
Total CAE-Readdressed Uplink Bytes	Total number of uplink bytes readdressed.
Total CAE-Readdressed Uplink Packets	Total number of uplink packets readdressed.
Total CAE-Readdressed Downlink Bytes	Total number of downlink bytes readdressed.
Total CAE-Readdressed Downlink Packets	Total number of downlink packets readdressed.
Total Charging action hit - Req. Readdr.	Total number of charging action hits based on HTTP request.
Total Charging action hit - Resp. Readdr	Total number of charging action hits based on HTTP response.
Proxy Disable Success	Total number of flows with proxy disabled.
Flows connected to CAE	Total number of flows connected to the CAE.
CAE Readdressing Error Conditions	
Total connect failed to CAE	Total number of connections failed to the CAE.
Req. Readdr. - pipelined case	Total number of pipelined requests skipped from doing readdressing.
Resp. Readdr. - pipelined case	Total number of pipelined response skipped from doing readdressing.
Req. Readdr. - Socket Mig. failed	Total number of TCP socket migration failure during request readdressing.
Skipped Resp. Readdr. - partial resp hdr	Total number of response readdressing skipped due to partial response.
Resp. Readdr. - Socket Mig. failed	Total number of TCP socket migration failure during response readdressing.
Total CAE load balancer failed	Total number of load balancer failures to find the video server (CAE) for readdressing.

Field	Description
Total MVG xheader insertion failed	Total number of MVG x-header insertion failures. **Important** In release 20.0, MVG is not supported. For more information, contact your Cisco account representative.
Proxy Disable Failed	Total number of times the proxy disable function failed.
Strip URL:	
Successful Token stripped	Total number of tokens stripped successfully.
Total strip URL failure	Total number of URL token stripping failures.
Failure - Missing config	Total number of failures due to missing configuration.
Failure - Existing flow bid	Total number of failures due to existing flow action bid.
Failure - Token matching failed	Total number of failures due to token match fail.
Failure - Empty packet	Total number of failures due to empty packet.
Failure - Req end not found	Total number of failures due to request end not found.
Failure - Subset of big token	Total number of failures due to subset of big token.
URL-Readdressing:	
Requests URL-Readdressed	Total number of URL re-addressed requests.
Total Charging action hit - Req. Readdr.	Total number of charging action hits based on request re-addressing.
Proxy Disable Success	Total number of flows the proxy disabled successfully.
Flows connected to URL Server	Total number of flows connected to URL server.
URL Readdressing Error Conditions:	
Total connect failed to URL Server	Total number of failed connections to the URL server.
URL Readdress - pipelined case	Total number of pipelined requests skipped during URL re-addressing.
URL Readdress - Socket Mig. failed	Total number of TCP socket migration failure during URL re-addressing.
Proxy Disable Failed	Total number of times the proxy disabled function failed.

show active-charging content-filtering category policy-id all

Table 31: show active-charging content-filtering category policy-id all Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Content Filtering Policy	The Content Filtering Policy ID.
Content Filtering Categories	
Category	Category of the content rated.
Priority	Priority of the CF category in the CF Policy.
Action	Action taken for the indicated result of CF analysis.
Content Insert	The content string inserted in place of message returned from prohibited or restricted site or content server.
Redirect	The URL to redirect subscribers.
Reply Code	The reply code specified for www-reply-code-and-terminate-flow action.
EDR	The EDR file format name to generate separate CF EDRs based on action and content category.
Failure Action	The failure end condition if rating cannot be performed.
Discarded-Flow-Content-ID	The content ID for the discarded flows. If not configured, this field is not displayed.

show active-charging content-filtering category statistics rulebase name

Table 32: show active-charging content-filtering category statistics rulebase name Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service in which category-based content filtering application is configured.
Rulebase Name	Name of rulebase for category-based content filtering application.
Content Filtering Statistics	
Flows discarded	Total number of flows discarded in content filtering application.

Field	Description
Flows redirected	Total number of flows redirected in content filtering application.
Flows allowed	Total number of flows allowed in content filtering application.
Flows terminated	Total number of flows terminated in content filtering application.
Flows discarded with content insertion	Total number of flows discarded and information content inserted in header of flow in content filtering application.
Total Flows blocked	Total number of flows blocked in content filtering application.
Total Number of dynamic DB lookups	Total number of lookups in dynamic database for Category-based Content Filtering application. This counter is not available in 9.0 and later releases.
Total number of static DB lookups	Total number of lookups in static URL database for category based content filtering application.
Total number of successful Cache lookups	The total number of successful lookups in cache memory for URLs. **Note** From Release 21.4, this field is excluded from the output in support of the Talos Security Intelligence Database Support for URL Classification feature.
Total number of unknown URLs	Total number of flows/requests with unknown URL.
Actions For Rating Attempts Not Completed	
Flows discarded	Total number of flows discarded in content filtering application.
Flows redirected	Total number of flows redirected in content filtering application.
Flows allowed	Total number of flows allowed in content filtering application.
Flows terminated	Total number of flows terminated in content filtering application.
Flows discarded with content insertion	Total number of flows discarded and information content inserted in header of flow in content filtering application.
Total Flows blocked	Total number of flows blocked in content filtering application.

Field	Description
Time taken for rating	A URL is classified (rated) as belonging to a distinct category (search, portal, etc.). This column displays the time taken to rate the URL in ms, in time slots of 100 ms, up to 1000 ms, and above 1000 ms. **Note** From Release 21.4, the following changes are made to the statistics of this field in support of the Talos Security Intelligence Database Support for URL Classification feature: • The **> 50ms** value is excluded from the output. • The following sub-fields are added to the "Time taken for rating" field: • 50-100ms • 100-200ms • 200-300ms • 300ms
Number of URLs	Indicates the number of URLs rated in each time slot.
Number of URLs (SRDB)	Indicates the number of URLs rated in a specific time slot from static rating database (SRDB).
Number of URLs (Cache)	Indicates the number of URLs rated in a specific time slot from the cached list of URLs in memory.
Attempts not completed	Indicates the number of URL rating attempts not completed.
Total rulebases matched	Total number of rulebases that matched the criteria.

show active-charging content-filtering category statistics

Table 33: show active-charging content-filtering category statistics Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service in which category-based content filtering application is configured.
Cumulative Content Filtering Statistics:	
Flows discarded	Total number of flows discarded.
Flows redirected	Total number of flows redirected.
Flows allowed	Total number of flows allowed.
Flows terminated	Total number of flows terminated.

Field	Description
Flows discarded with content insertion	Total number of flows discarded and content inserted in header of flow.
Total Flows blocked	Total number of flows blocked.
Total Number of dynamic DB lookups	Total number of lookups in dynamic database. This counter is not available in 9.0 and later releases.
Total number of static DB lookups	Total number of lookups in static URL database.
Total number of successful Cache lookups	Total number of successful URL lookups in cache memory. **Note** From Release 21.4, this field is excluded from the output in support of the Talos Security Intelligence Database Support for URL Classification feature.
Total number of unknown URLs	Total number of flows/requests with unknown URL.
Failure Action (Rating Attempts Not Completed):	
Flows discarded	Total number of flows discarded due to failure action.
Flows redirected	Total number of flows redirected due to failure action.
Flows allowed	Total number of flows allowed due to failure action.
Flows terminated	Total number of flows terminated due to failure action.
Flows discarded with content insertion	Total number of flows discarded and information content inserted in header of flow due to failure action.
Total Flows blocked	Total number of flows blocked due to failure action.

Time taken for rating	A URL is classified (rated) as belonging to a distinct category (search, portal, etc.). This column displays the time taken to rate the URL in ms, in time slots of 100 ms, up to 1000 ms, and above 1000 ms.
	Note
	From Release 21.4, the following changes are made to the statistics of this field in support of the Talos Security Intelligence Database Support for URL Classification feature:
	• The > **50ms** value is excluded from the output.
	• The following sub-fields are added to the “Time taken for rating” field:
	  • 50-100ms
	  • 100-200ms
	  • 200-300ms
	  • 300ms

Field	Description
Number of URLs	Total number of URLs rated in each time slot.
Attempts not completed	Total number of URL rating attempts not completed.
Cumulative Dynamic Content Filtering Statistics	
Dynamic Flows discarded	Total number of dynamic flows discarded.
Dynamic Flows redirected	Total number of dynamic flows redirected.
Dynamic Flows allowed	Total number of dynamic flows allowed.
Dynamic Flows terminated	Total number of dynamic flows terminated.
Dynamic Flows discarded with content insertion	Total number of dynamic flows discarded and content inserted in header of flow.
Total Dynamic Flows blocked	Total number of dynamic flows blocked.
Total Number of dynamic lookups	Total number of dynamic lookups.
Total number of unknown URLs	Total number of flows/requests with unknown URLs.
Response codes not in range 2xx	Number of responses that were not sent for dynamic rating as the response was not in the 2xx range.
Dynamic Failure Action (Rating Attempts Not Completed):	
Flows discarded	Total number of flows discarded due to failure action.
Flows redirected	Total number of flows redirected due to failure action.
Flows allowed	Total number of flows allowed due to failure action.
Flows terminated	Total number of flows terminated due to failure action.
Flows discarded with content insertion	Total number of flows discarded and information content inserted in header of flow due to failure action.
Total Flows blocked	Total number of flows blocked due to failure action.
Time taken for Dynamic rating	A URL is classified (rated) as belonging to a distinct category (search, portal, etc.). This column displays the time taken to rate the URL in ms, in time slots of 100 ms, up to 1000 ms, and above 1000 ms.
Number of URLs	Total number of URLs rated in each time slot.
Attempts not completed	Total number of URL rating attempts not completed.
Number of Packets Hit per Category	Indicates the specific category and the number of packets hit per category. If during runtime, an x-category was added, the x-category is also displayed.

Field	Description
Number of Packets Blocked per Category	Indicates the specific category and the number of packets blocked per category. If during runtime, an x-category was added, the x-category is also displayed.
Total Responses Inspected	Indicates the number of responses eligible for dynamic rating (i.e. rated as UNKNOW / DYNAM by static rating when dynamic rating is enabled)
Responses Buffered	Indicates the number of responses actually buffered.
Total Dynamic Lookups	Indicates the total number of dynamic lookups of URLs.
Lookups Completed	Indicates the total number of lookups completed.
Responses Too Big	Indicates the size of response more than the maximum value allowed (256KB).
Out of Rating Buffer	Indicates the out of rating buffer limit.
Min Response Size	Indicates the size of the smallest response inspected.
Max Response Size	Indicates the size of the largest response inspected.
Session QLimit Exceeded	Indicates the number of times we exceeded queue limit for a session (i.e. limit on number of packets that can be queued).
Max Pkt per Session	Indicates the maximum number of packets buffered for a single session.
Current Active Sessions	Indicates the current number of responses subjected to dynamic CF.
Max Active Sessions	Indicates the maximum number of responses subjected to dynamic CF simultaneously.

show active-charging content-filtering server-group name

Table 34: show active-charging content-filtering server-group name Command Output Descriptions

Field	Description
Content Filtering Group	Name of the Content Filtering Server Group (CFSG).
Context	The context in which the CFSG is configured.
Origin Address	IP address of the origin endpoint or ICAP client.
Response Timeout	The response-timeout duration configured to wait for response.
Connection Retry Timeout	The connection retry timeout duration configured to check the TCP connection status between ICAP sever and client.
Dictionary	The dictionary used for encoding requests to the server(s).
Timeout Action	The action configured for connection timeout.
Deny Message	The text string message that is returned to the subscriber in a deny response.

Field	Description
URl-extraction	The ICAP URL extraction mode: • after-parsing: Percent-encoded hex characters in URLs sent from the ACF client to the ICAP server are converted to corresponding ASCII characters and sent. • raw: The URLs contain percent-encoded hex characters as is.
Content Filtering Group Connections	The total number of CF server group connections open.
Priority	Displays the priority of the CF server for which statistics has to be displayed.
ICAP Address (Port)	Displays the IP address and port number of ICAP server within CF Server Group.
Max Outstanding	The total number of unanswered outstanding messages to this ICAP server.
ACSMgr Instance	Number of ACS Manager instance.
Connection State	Status of ACS Manager instance for CF server group connection.
Total content filtering groups matching specified criteria	The total number of CFSG matching the criteria.

show active-charging content-filtering server-group statistics verbose

Table 35: show active-charging content-filtering server-group statistics verbose Command Output Descriptions

Field	Description
Content Filtering Group	Name of the Content Filtering Server Group (CFSG).
Connection Statistics	
Current Open Connections	Total number of open connections.
Connection DHOST requests	Total number of DHOST requests.
Successful Connections	Total number of successful connections.
Connections DHOST remove	Total number of connections removed from DHOST.
Connection SHUTDOWN req	Total number of requests for SHUTDOWN.
ACF Unreachable(read)	Total number of attempts for Active Content Filter server (ICAP server) to read.
ACF Unreachable(write)	Total number of attempts for Active Content Filter server (ICAP server) to write.
Reconnect attempts	Total number of reconnect attempts for ACF server (ICAP server).

Field	Description
Connection Timeout	Total number of connections timeout after reconnect attempts for ACF server (ICAP server).
Connection Failure Statistics	
Connection DHOST errors	Total number of DHOST errors in connection.
Connection CONNECT error	Total number of CONNECT errors in connection.
Socket open errors	Total number of errors due to SOCKET open in connection.
Connection bind errors	Total number of BIND errors in connection.
Connection setvr errors	Total number of SETVER errors in connection.
Connection NONBLOCK errors	Total number of NONBLOCK errors in connection.
Connection SHUTDOWN errors	Total number of SHUTDOWN errors in connection.
Incomplete 3-way handshaking	Total number of errors due to incomplete 3-way handshaking in TCP connection.
ACF Statistics	
ACF Requests Created	Total number of requests created for ACF.
Response Timeout	Total number of response timeout for requests to ACF.
Write request success	Total number of successful WRITE requests.
Write request failed	Total number of failed WRITE requests.
Read response success	Total number of successful READ response.
Read response failed	Total number of failed READ response.
HTTP Permit	Total number of HTTP URLs permitted from ACF.
WAP Permit	Total number of WAP URLs permitted from ACF.
HTTP Deny	Total number of HTTP URLs denied from ACF.
WAP Deny	Total number of WAP URLs denied from ACF.
HTTP Redirect	Total number of HTTP URLs redirected from ACF.
WAP Redirect	Total number of WAP URLs redirected from ACF.
RTSP Permit	Total number of RTSP URLs permitted from ACF.
RTSP Deny	Total number of RTSP URLs denied from ACF.
RTSP Redirect	Total number of RTSP URLs redirected from ACF.
Client Errors(4xx)	Total number of client ICAP response errors.

Field	Description
Server Errors(5xx)	Total number of server ICAP response errors.
Invalid ACTION	Total number of invalid ACTION message from ACF.
Redirect URL not defined	Total number of errors due to undefined redirect URL.
Buffer List Empty	Total number of errors due to empty buffer list.
Failure Action (communication failure with server-group):	
Permit	Total number of connections permitted after connection failure.
Content Insertion	Total number of connections with content inserted after connection failure.
Discard	Total number of connections discarded after connection failure.
Terminate Flow	Total number of connections terminated after connection failure.
Redirect URL	Total number of connections redirected after connection failure.
Total action taken	Total number of actions taken after connection failure.
Num pkts dropped for DENY	Total number of packets dropped after denying the connection due to failure in connection.
Num pkts dropped for REDIRECT	Total number of packets dropped after redirecting the connection due to failure in connection.
Num pkts dropped for DENY Timeout action	Total number of packets dropped after denying the connection due to timeout action.
Num pkts dropped for REDIRECT Timeout action	Total number of packets dropped after redirecting the connection due to timeout action.
Failure Action (communication with server-group not attempted):	ICAP stats indicating failure (like memory allocation failure, server connection error, etc) on ICAP before a request is sent to the ICAP server.
Permit	Total number of connections permitted after connection failure.
Content Insertion	Total number of connections with content inserted after connection failure.
Discard	Total number of connections discarded after connection failure.
Terminate Flow	Total number of connections terminated after connection failure.
Redirect URL	Total number of connections redirected after connection failure.
ACF Req Error Statistics	Statistics related to ACF request errors.
Host field Null	Total number of HTTP GET requests which has the host field NULL.
URL Invalid	Total number of nonblank URLs with strlen != 0 but URL having " ", \t, \n characters only.

Field	Description
Host same as ICAP server:port	Total number of HTTP GET requests with host same as the configured ICAP server port.
ACF Resp Parse Statistics	Statistics related to ACF response parsing.
Parse ACF resp success	Total number of successful ACF parse response.
Parse ACF resp ver err	Total number of successful ACF parse response version error.
Misc Statistics	Miscellaneous statistics.
Total pkts sent	Total number of packets sent through ICAP connection.
Invalid ACF group config	Total number of errors due to invalid CF Server Group (Active Content Filter server groups) configuration.
Invalid bind address	Total number of errors due to invalid binding address configuration.
Invalid ICAP address	Total number of errors due to invalid ICAP server addresses.
ICAP queue length statistics	
SessionMgr ID	Session Manager ID.
ICAP queue length	Queue size of outstanding ICAP requests per Session Manager.
Histogram of ICAP Server's Response time	
Response Time(ms)	Response time slots, in milliseconds.
No Of Responses	Number of responses per time slot.

show active-charging credit-control misc-info max-backpressure

Table 36: show active-charging credit-control misc-info max-backpressure Command Output Descriptions

Field	Description
Instance	The session manager instance number.
Max-backpressure	The maximum number of sessions that are in backpressured (unable to send message due to message queue being full) state for all active or specific session manager instance(s).
Time	The timestamp at which the maximum backpressure happened.
Current-Backpressured	Number of sessions that are currently in backpressured state.

Field	Description
Monitoring-time	The timestamp from when the backpressure monitoring is happening. This field helps to know when the last time reset is applied.

show active-charging credit-control session-states

Table 37: show active-charging credit-control session-states Command Output Descriptions

Field	Description
Charging	Number of sessions/categories in charging state.
NoCharge	Number of sessions/categories in free-of-charge (received 4011 at MSCC level) state.
Blacklist Service Denied	Number of sessions/categories in Service-Denied (received 4010 at MSCC level) state.
In releases prior to StarOS 21.26: Blacklist Rating Failed From StarOS 21.26 and later releases: Blockedlist Rating Failed	Number of sessions/categories in Rating-Failed (received 5031 at MSCC level) state.
In releases prior to StarOS 21.26: Blacklist Auth Rejected From StarOS 21.26 and later releases: Blockedlist Auth Rejected	Number of sessions/categories in Auth-Rejected (received 5003 or 5012 at MSCC level) state.
Blacklist Limit Reached From StarOS 21.26 and later releases: Bockedlist Limit Reached	Number of sessions/categories in Limit-Reached (received 4012 at MSCC level) state.
Blacklist Final Unit From StarOS 21.26 and later releases: Blockedlist Final Unit	Number of sessions/categories in FUI-Terminated state at MSCC level.
In releases prior to StarOS 21.26: Blacklist Other From StarOS 21.26 and later releases: Blockedlist Other	Number of sessions/categories in Blockedlisted state after recovery.
Pending Initial Request	Number of sessions pending for Initial Credit-Control Answer from the server.

Field	Description
Pending Update Request	Number of sessions pending for Update Credit-Control Answer from the server.
Pending Terminate Request	Number of sessions pending for Terminate Credit-Control Answer from the server.
Pending Event Request	Number of sessions pending for Credit-Control Answer Event message from the server.
Backpressured	Number of sessions/categories in backpressured (unable to send message due to message queue being full) state.
Assume-Positive	Number of sessions currently in Assume Positive state. **Important** This statistic is customer-specific. For more information, please contact your local Cisco account representative.

show active-charging credit-control statistics

Table 38: show active-charging credit-control statistics Command Output Descriptions

Field	Description
Active Charging Service	Name of the Active Charging Service.
Credit Control Group	Name of the credit control group. This field is displayed only if there are credit control group(s) configured.
CC Session Stats	
Total Current Sessions	Total number of credit control sessions active.
Total ECS Adds	Total number of ECS sessions added to credit control application.
Total CC Starts	Total number of credit control sessions started.
Total Session Updates	Total number of credit control sessions updated.
Total Terminated	Total number of credit control sessions terminated.
CC Session Failovers	Total number of credit control sessions failed.
CC Message Stats	
Total Messages Received	Total number of credit control messages received.
Total Messages Sent	Total number of credit control messages sent.

Field	Description
Total CC Requests	Total number of Credit Control Request (CCR) messages that went out from system to the credit control server. The CCR can be Initial/Update or Terminate.
Total CC Answers	Total number of Credit Control Answer (CCA) messages that came into system from credit control server.
CCR-Initial	Total number of Initial Credit Control Request (CCR-Initial) messages that went out from system to the credit control server.
CCA-Initial	Total number of Initial Credit Control Answer (CCA-Initial) messages that came into system from Diameter Server.
CCA-Initial Accept	Total number of CCA-Initial-Accept (Initial Credit Control Answer sent and accepted) messages that came into system from Credit Control Server.
CCA-Initial Reject	Total number of CCA-Initial-Reject (Initial Credit Control Answer sent and rejected.) messages that came into system from credit control server.
CCA-Initial Timeouts	Total number of CCA-Initial-Timeouts (Initial Credit Control Answer sent and timed out) messages that came into system from credit control server.
CCR-Update	Total number of CCR-Updates (Credit Control Request with Update) messages that went out from system to the credit control server.
CCA-Update	Total number of CCA-Update (Credit Control Answer for update) messages that came into system from credit control server.
CCA-Update Timeouts	Total number of CCA-Update Timeouts (Credit Control Answer for update sent and timed out) messages that came into system from credit control server.
CCR-Final	Total number of CCR-Final (Credit Control Request with Final) messages that went out from system to the credit control server.
CCA-Final	Total number of CCA-Final (Credit Control Answer for final update sent) messages that came into system from credit control server.
CCA-Final Timeouts	Total number of CCA-Final Timeouts (Credit Control Answer for final update sent and time-out) messages that came into system from credit control server.
CCR-Event	Total number of CCR-Event (Credit Control Request with Event) messages that went out from system to the credit control server.
CCA-Event	Total number of CCA-Event (Credit Control Answer for Event update sent) messages that came into system from credit control server.
CCA-Event Timeouts	Total number of times the tx-timer expired waiting for a CCA-Event message from the server.
ASR	Total number of Abort-Session Request messages came into system from credit control server.

Field	Description
ASA	Total number of Abort-Session Accept messages sent from system to credit control server. This message will be followed by a CCR-Terminate to terminate the session.
RAR	Total number of ReAuth Request messages that came into system from Diameter Server.
RAA	Total number of ReAuth Accept messages sent from system to Credit Control server. This message is followed by a CCR-Update to update the Credit Control server about the session.
CCA Dropped	Total number of Credit Control Answer (CCA) messages dropped by system.
CC Message Error Stats	
Diameter Protocol Errs	Total number of message errors due to Diameter protocol errors.
Transient Failures	Total number of errors that fall within the transient failures category are used to inform a peer that the request could not be satisfied at the time it was received, but may be able to satisfy the request in the future. The Result-Code data field contains 4xxx for Transient Failures.
Permanent Failures	Total number of errors that fall within the permanent failures category are used to inform the peer that the request failed, and should not be attempted again. The Result-Code data field contains 5xxx for Permanent Failures.
Bad Answers	Total number of message errors due to invalid responses.
Unknown Session Reqs	Total number of message errors due to invalid session requests.
Unknown Command Code	Total number of message errors due to invalid/unknown command code (ASR, RAR).
Request Timeouts	Total number of message errors due to request timeout.
Parse Errors	Total number of message errors due to parsing errors.
Unknown Rating Group	Total number of message errors due to invalid/unknown rating groups. Rating group is used to identify a particular type of traffic.
Unknown Rulebase	Total number of message errors due to invalid/unknown rulebase applied.
Unk Failure Handling	Total number of message errors due to invalid/unknown reasons.
Backpressure Stats	
CCR-I Messages	This counter gives the number of times backpressure got hit while creating a CCR-I message.

Field	Description
CCR-U Messages	This counter gives the number of times backpressure got hit while creating a CCR-U message.
CCR-T Messages	This counter gives the number of times backpressure got hit while creating a CCR-T message.
CCR-E Messages	This counter gives the number of times backpressure got hit while creating a CCR-E message.
CC Update Reporting Reason Stats	
Threshold	For each of the rating group, the credit control server send a threshold (this is also configurable in a system) after which a update needs to be sent. For example, a subscriber quota of 1000 bytes with 900 as threshold is sent to credit control application. When 900 bytes have consumed by the system, an update message is sent for quota. This counter gives the number of updates sent because of threshold.
QHT	Total number of credit control updates sent due to expiry of Quota Hold Timer (QHT).
Final	Total number of credit control updates sent due to expiry of final unit of quota.
Quota Exhausted	Total number of credit control updates sent due to subscriber quota getting exhausted.
Validity Time	Total number of credit control updates sent because of the session validity time expired.
Other Quota	Total number of credit control updates sent due to request for additional quota for subscriber.
Rating Condition Change	Total number of credit control updates sent due to change in RAT/QOS/SGSN/CELLID/LAC.
Forced Reauthorization	Total number of credit control updates sent due to RAR.
TITSU Time	This counter is incremented when the RADIUS online access-request is triggered because the Time Interval after TariffSwitchUpdate expired.
CC Termination Cause Stats	
Diameter Logout	Total number of Credit Control Application session(s) terminated due to subscriber logout.
Service Not Provided	Total number of Credit Control Application session(s) terminated as service was not available.
Bad Answer	Total number of Credit Control Application session(s) terminated due to invalid/unknown response received.

Field	Description

Administrative	The total number of sessions disconnected due to any of the following reasons:
	• Sessions disconnected when the Administrator issues the **clear subscribers all** CLI command.
	• Sessions disconnected by ECS due to any of the following reasons:
	  • Bearer does not contain active rules—when the last bearer has no rules left as part of some PCRF trigger.
	  • Charging-action has the **flow action** parameter configured as **terminate-session**.
	• Sessions disconnected by the Diameter Credit Control Application (DCCA) due to any of the following reasons:
	  • Result code 4010 or 4012 is received at the command level, and for CCR-Initial and CCR-Update Credit Control Failure Handling (CCFH) is configured as Terminate or Retry-and-Terminate.
	  • Result code 5003 or 5030 is received at the command level.
	  • Abort-Session-Request message is received.

Link Broken	Total number of Credit Control Application session(s) terminated due to broken/down link.
Auth Expired	Total number of Credit Control Application session(s) terminated due to authorization of subscriber expired.
User Moved	Total number of Credit Control Application session(s) terminated as subscriber moved out of service area.
Session Timeout	Total number of Credit Control Application session(s) terminated due to timeout.
CCBad Answer Stats	
Auth-Application-Id	Indicates the absence or unexpected value in Auth-Application-Id AVP.
Session-Id	Indicates the absence or unexpected value in Session-Id AVP.
CC-Request-Number	Indicates the absence or unexpected value in CC-Request-Number AVP.
CC-Request-Type	Indicates the absence or unexpected value in CC-Request-Type AVP.
Origin-Host	Indicates the absence of Origin-Host AVP.
Origin-Realm	Indicates the absence of Origin-Realm AVP.
Parse-Message-Errors	Indicates the total number of parse errors in the message.
Parse-Mscc-Errors	Indicates the total number of parse errors in MSCC AVP.

Field	Description
Misc	Indicates the total number of other miscellaneous errors.
CC Traffic Category Stats	
Category Creates	The total traffic categories created.
Category Deletes	The total traffic categories deleted.
Category Lookups	The total traffic categories available.
Hits	The total traffic categories triggered.
Misses	The total traffic categories triggered and missed.
Trigger Events	The total traffic categories triggered.
Final Unit Consumed	The total units consumed by subscriber during session.
MSCC GSU Null Grant	The total number of GSUs with zero grant (null quota).
MSCC FUI Redirect	The total number of HTPP redirections (FUIs with redirect and redirect address received).
Category Success	The total number of successful traffic category sessions.
Rating Failed	The total Rating Groups failed during session.
Service Denied	The total number of services denied during session.
Limit Reached	The total number of events when subscriber reached quota limit.
Auth Rejected	The total number of authorization rejected.
Other Errors	The total number of miscellaneous/unknown errors not specified by system.
CCA Initial Message Stats	
Result Code 2001	This counter shows how many CCA-I messages have been received with a Diameter Result-Code=2001 at command level.
Result Code 5003	This counter shows how many CCA-I messages have been received with a Diameter Result-Code=5003 at command level.
Result Code 4011	This counter shows how many CCA-I messages have been received with a Diameter Result-Code=4011 at command level.
Result Code 4012	This counter shows how many CCA-I messages have been received with a Diameter Result-Code=4012 at command level.
Result Code 5031	This counter shows how many CCA-I messages have been received with a Diameter Result-Code=5031 at command level.
CCA Update Message Stats	

Field	Description
Result Code 2001	This counter counts how many CCA-U messages have been received with a Diameter Result-Code=2001 at command level.
Result Code 5003	This counter counts how many CCA-U messages have been received with a Diameter Result-Code=5003 at command level.
Result Code 4011	This counter counts how many CCA-U messages have been received with a Diameter Result-Code=4011 at command level.
Result Code 4012	This counter counts how many CCA-U messages have been received with a Diameter Result-Code=4012 at command level.
Result Code 5031	This counter counts how many CCA-U messages have been received with a Diameter Result-Code=5031 at command level.
CCA Event Message Stats	
Result Code 2001	This counter counts how many CCA-Event messages have been received with a Diameter Result-Code=2001 at command level.
Other Result Codes	This counter counts how many CCA-Event messages have been received with a Diameter Result-Code other than 2001 at command level.
Failure Handling Stats	
Action-Terminated	This counter counts how many times the DCCA failure handling with action terminate has been invoked in each measurement interval.
Action-Continue	This counter counts how many times the DCCA failure handling with action continue has been invoked in each measurement interval.
Offline Active Sessions	This counter counts the current number of active data sessions that are converted from online to offline charging due to DCCA failure handling actions.
CCA Result Code 2xxx Stats	
Result Code 2xxx	This counter counts how many CCA messages have been received with a Diameter Result-Code in the range of 2000 to 2999 at command level.
Result Code 2001	This counter counts how many CCA messages have been received with a Diameter Result-Code=2001 at command level.
Result Code 2002	This counter counts how many CCA messages have been received with a Diameter Result-Code=2002 at command level.
CCA Result Code 4xxx Stats	
Result Code 4001	This counter counts how many CCA messages have been received with a Diameter Result-Code=4001 at command level.
Result Code 4002	This counter counts how many CCA messages have been received with a Diameter Result-Code=4002 at command level.

Field	Description
Result Code-4010	This counter counts how many CCA messages have been received with a Diameter Result-Code=4010 at command level.
Result Code 4011	This counter counts how many CCA messages have been received with a Diameter Result-Code=4011 at command level.
Result Code 4012	This counter counts how many CCA messages have been received with a Diameter Result-Code=4012 at command level.
CCA Result Code 5xxx Stats	
Result Code 5001	This counter counts how many CCA messages have been received with a Diameter Result-Code=5001 at command level.
Result Code 5002	This counter counts how many CCA messages have been received with a Diameter Result-Code=5002 at command level.
Result Code 5003	This counter counts how many CCA messages have been received with a Diameter Result-Code=5003 at command level.
Result Code 5004	This counter counts how many CCA messages have been received with a Diameter Result-Code=5004 at command level.
Result Code 5005	This counter counts how many CCA messages have been received with a Diameter Result-Code=5005 at command level.
Result Code 5006	This counter counts how many CCA messages have been received with a Diameter Result-Code=5006 at command level.
Result Code 5031	This counter counts how many CCA messages have been received with a Diameter Result-Code=5031 at command level.
All Other Result Codes	This counter counts how many CCA messages have been received with all other Diameter Result-Codes.
CCA Initial Experimental Result Code Stats	
Exp Result Code 5199	This counter indicates the number of times the Experimental-Result-Code "DIAMETER_NEWER_SESSION_DETECTED (5199)" is received in the Credit Control response message. This result code is introduced in Release 19 to maintain session uniqueness and avoid stale message processing. **Important** Maintaining Session Uniqueness is a customer-specific feature. For more information, contact your Cisco account representative.
OCS Unreachable Stats	
Tx-Expiry	This counter indicates how many server-unreachable actions are triggered after tx-expiry.

Field	Description
Response-TimeOut	This counter indicates how many server-unreachable actions are triggered after Response-Timeout.
Connection-Failure	This counter indicates how many server-unreachable behaviours are triggered after the server connection failure.
Action-Continue	This counter indicates how many times the DCCA failure handling with action continue has been invoked in each measurement interval after attaining Server-Unreachable State.
Action-Terminated	This counter indicates how many times the DCCA failure handling with action terminate has been invoked in each measurement interval after attaining Server-Unreachable State.
Server Retries	This counter indicates the total number of times the retries to the Diameter server were attempted.
Assumed-Positive Sessions **Important** This statistic is customer-specific. For more information, please contact your local Cisco account representative.	
Current	This counter indicates the current number of sessions in Assume Positive state. **Important** This is a customer-specific field.
Cumulative	This counter indicates the cumulative sessions in Assume Positive state. **Important** This is a customer-specific field.
HDD Stats	
CCR-T	This counter indicates the total number of records written to Hard Disk Drive (HDD) per Credit-Control group.

show active-charging database uidh

Table 39: show active-charging database uidh Command Output Descriptions

Field	Description
UIDH Databases	Specifies the UIDH Database.
URL-Host Database	Specifies the UIDH URL Host Database
Source File	Species the databases source file

Field	Description
Database Status	Specifies the status of the database
Version	Specifies the database version.
Number of entries in DB	Specifies the name of database entries.
Last Upgrade Status	Specifies when the database was last upgraded.

show active-charging dns-learnt-ip-addresses statistics sessmgr instance <instance> verbose

Table 40: show active-charging dns-learnt-ip-addresses statistics sessmgr instance <instance> verbose Command Output Descriptions

Field	Description
Sessmgr Instance	The Session Manager instance number.
Pattern	The domain name pattern. **Important** In releases prior to 14.0, this field displays information about all configured patterns even though the pattern has not learnt any IP address. In 14.0 and later releases, this field displays only the patterns for which at least one IPv4/IPv6 address and CNAMES are learnt. That is, the DNS Snooping pools are displayed only if there are learnt IP for the pool.
Rulebase	The ACS rulebase name. **Important** In releases prior to 14.0, this field displays the name of all configured rulebases even though the pattern has not learnt any IP address. In 14.0 and later releases, this field displays only the rulebase name for the patterns for which at least one IPv4/IPv6 address and CNAMES are learnt. That is, the DNS Snooping pools are displayed only if there are learnt IP for the pool.
List of CNAMES	The list of canonical names.
Destination Context	Name of the destination context.
Total-ipv4-entries	Total number of new IPv4 addresses received (learnt).
Ipv4-Entries-flushed	Total number IPv4 entries with TTL expired (flushed).
Ipv4-TTL-replaced	Total number of IPv4 entries with TTL value replaced with new value.
Ipv4-Overflows	Total number of IPv4 overflows. Ipv4-Overflows will start incrementing when maximum limit of 51200 across system is reached OR limit of 200 per pattern is reached.

Field	Description
Total-ipv6-entries	Total number of new IPv6 addresses received (learnt).
Ipv6-Entries-flushed	Total number IPv6 entries with TTL expired (flushed).
Ipv6-TTL-replaced	Total number of IPv6 entries with TTL value replaced with new value.
Ipv6-Overflows	Total number of IPv6 overflows. Ipv6-Overflows will start incrementing when maximum limit of 25600 across system is reached OR limit of 100 per pattern is reached.
Ipv4 Address TTL (in secs)	The list of learnt IPv4 addresses, and the TTL, in seconds.
Ipv6 Address TTL (in secs)	The list of learnt IPv6 addresses, and the TTL, in seconds.
Summary	
Total learnt ipv4 entries	A summary of the total number of new IPv4 addresses received (learnt). **Important** This field is available only in StarOS 12.2 and in StarOS 14.0 and later releases.
Total learnt ipv6 entries	A summary of the total number of new IPv6 addresses received (learnt). **Important** This field is available only in StarOS 12.2 and in StarOS 14.0 and later releases.

show active-charging edr-format all

Table 41: show active-charging edr-format all Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
EDR Format Name	Name of the configured EDR format.
Attribute	Attribute information configured in specific EDR format.
Total edr-format(s) found	The total number of configured existing EDR formats.

show active-charging edr-format statistics

Table 42: show active-charging edr-format statistics Command Output Descriptions

Field	Description
Total edr-formats	The total number of EDR formats configured.
Total edrs generated	The total number of EDRs generated.
Total edrs truncated	The total number of EDRs truncated.
Total NAT bind records generated	The total number of Network Address Translation (NAT) bind records generated. The field is only displayed, if configured, in 8.3 and later releases.

show active-charging edr-udr-file flow-control-counters

Table 43: show active-charging edr-udr-file flow-control-counters Command Output Descriptions

Field	Description
Num of Times Flow Control initiated	Total number of times the flow control initiated.
Num of Outstanding Messages	Total number outstanding messages for flow control.
Num of unsent Messages	Total number unsent messages for flow control.
Num of CDR records Discarded due to flow control	Total number of charging detail records (CDRs) discarded due to flow control action.
Last flow control occurrence	Date and time of the last occurrence of flow control action.

show active-charging edr-udr-file statistics

Table 44: show active-charging edr-udr-file statistics Command Output Descriptions

Field	Description
EDR-UDR file Statistics	
CDRMOD Instance Id	The CDRMOD instance identifier.
Overall Statistics	
Files rotated	Total number of EDR and UDR files rotated.
Files rotated due to volume limit	Total number of EDR and UDR files rotated due to volume limit.

Field	Description
Files rotated due to time limit	Total number of EDR and UDR files rotated due to time limit.
Files rotated due to records limit	Total number of files rotated because of record limits.
File rotation failures	Total number of times rotation failed for EDR and UDR file.
Files deleted	Total number of EDR and UDR files deleted.
Records deleted	Total number of records deleted.
Records received	Total number of records received.
Files received	Total number of EDR and UDR files received by service.
Current open files	Total number of EDR and UDR files open.
Time of last file deletion	Date and time of last EDR/UDR file deleted.
EDR Specific Statistics	
EDR files rotated	Total number of EDR files rotated.
EDR files rotated due to volume limit	Total number of EDR files rotated due to volume limit.
EDR files rotated due to time limit	Total number of EDR files rotated due to time limit.
EDR files rotated due to records limit	Total number of EDR files rotated due to records limit
EDR file rotation failures	Total number of rotation failed for EDR file.
EDR files deleted	Total number of EDR files deleted.
EDR records deleted	Total number of EDR records deleted.
EDR records received	Total number of EDR records received.
Current open EDR files	Total number of EDR files open.
Time of last EDR file deletion	Date and time of last EDR file deleted.
UDR Specific Statistics	
UDR files rotated	Total number of UDR files rotated.
UDR files rotated due to volume limit	Total number of UDR files rotated due to volume limit.
UDR files rotated due to time limit	Total number of UDR files rotated due to time limit.
UDR files rotated due to records limit	Total number of UDR files rotated due to records limit.
UDR files rotation failures	Total number of rotation failed for UDR file.

Field	Description
UDR files deleted	Total number of UDR files deleted.
UDR records deleted	Total number of UDR records deleted.
UDR records received	Total number of UDR records received.
Current open UDR files	Total number of UDR files open.
Time of last UDR file deletion	Date and time of last UDR file deletion.
EDR-UDR PUSH Statistics	
Overall Statistics **Primary Server Statistics** **Secondary Server Statistics**	
Successful File Transfers	Total number of successful file transfers.
Failed File Transfers	Total number of failed file transfers.
Num of times PUSH initiated	Total number of times an EDR/UDR push attempt was initiated.
Num of times PUSH Failed	Total number of times an EDR/UDR push attempt failed.
Num of times PUSH cancelled due to HD failure	Total number of times EDR/UDR push was cancelled due to hard disk failures.
Num of periodic PUSH	Total number of periodic push.
Num of manual PUSH	Total number of manual push.
Current status of PUSH	Current status of push: Running/Not Running
Last completed PUSH time	The date and time the last push completed.

show active-charging firewall statistics

Table 45: show active-charging firewall statistics Command Output Descriptions

Field	Description
Firewall Statistics for context	Name of the context.
Data Stats:	
Total Packets Received	Total number of packets received by Stateful Firewall.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.

Field	Description
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets Injected	Total number of packets injected by Stateful Firewall.
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of uplink packets dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of uplink bytes dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of downlink packets dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of downlink bytes dropped by Stateful Firewall.
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.
Total NAT Flows Processed by Firewall	Total number of NAT flows processed by Stateful Firewall.
Total NAT44 Flows Processed by Firewall	Total number of NAT44 flows processed by Stateful Firewall.
Total NAT64 Flows Processed by Firewall	Total number of NAT64 flows processed by Stateful Firewall.
Total Bypass-NAT Flows Processed by Firewall	Total number of Bypass-NAT flows processed by Stateful Firewall.
Total Bypass-NAT44 Flows Processed by Firewall	Total number of Bypass-NAT44 flows processed by Stateful Firewall.
Total Bypass-NAT64 Flows Processed by Firewall	Total number of Bypass-NAT64 flows processed by Stateful Firewall.
Current Flows Processed by Firewall	Current number of flows processed by Stateful Firewall.
Current NAT Flows Processed by Firewall	Current number of NAT flows processed by Stateful Firewall.
Current NAT44 Flows Processed by Firewall	Current number of NAT44 flows processed by Stateful Firewall.
Current NAT64 Flows Processed by Firewall	Current number of NAT64 flows processed by Stateful Firewall.
Current Bypass-NAT Flows Processed by Firewall	Current number of Bypass-NAT flows processed by Stateful Firewall.
Current Bypass-NAT44 Flows Processed by Firewall	Current number of Bypass-NAT44 flows processed by Stateful Firewall.

Field	Description
Current Bypass-NAT64 Flows Processed by Firewall	Current number of Bypass-NAT64 flows processed by Stateful Firewall.

show active-charging firewall statistics nat-realm

Table 46: show active-charging firewall statistics nat-realm Command Output Descriptions

Field	Description
Firewall Statistics for NAT-realm	The NAT realm name for which the statistics are displayed.
Data Stats:	
Total Packets Received	Total number of packets received by the NAT realm.
Total Bytes Received	Total number of bytes received by the NAT realm.
Total Packets Sent	Total number of packets sent by the NAT realm.
Total Bytes Sent	Total number of bytes sent by the NAT realm.
Total Packets Injected	Total number of packets injected by the NAT realm.
Total Bytes Injected	Total number of bytes injected by the NAT realm.
Uplink Packets Dropped	Total number of uplink packets dropped by the NAT realm.
Uplink Bytes Dropped	Total number of uplink bytes dropped by the NAT realm.
Downlink Packets Dropped	Total number of downlink packets dropped by the NAT realm.
Downlink Bytes Dropped	Total number of downlink bytes dropped by the NAT realm.
Total Malformed Packets	Total number of malformed packets detected by the NAT realm.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by the NAT realm.
Total Flows Processed by NAT-realm	Total number of flows processed by the NAT realm.

show active-charging firewall statistics verbose

Table 47: show active-charging firewall statistics verbose Command Output Descriptions

Field	Description
Firewall Statistics for Context	Name of the context.
IP Stats:	

Field	Description
Land Attacks	Total number of Land attacks detected by Stateful Firewall.
Jolt Attacks	Total number of Jolt attacks detected by Stateful Firewall.
Teardrop Attacks	Total number of Teardrop attacks detected by Stateful Firewall.
Zero Length IP Option	Total number of Zero-length IP option attacks detected by Stateful Firewall.
IP Source-router Attacks	Total number of IP Source-router attacks detected by Stateful Firewall.
Packets with IP-Unaligned-Timestamp	Total number of packets with IP unaligned timestamps detected by Stateful Firewall.
Packets with Short IP Header Length	Total number of packets with short IP header length detected by Stateful Firewall.
Packets Dropped due to IP Checksum Errors	Total number of packets dropped due to IP Checksum error.
Downlink Dropped Bytes on IP Reassembly Failure	Total number of downlink bytes dropped on IP Reassembly failure.
Uplink Dropped Bytes on IP Reassembly Failure	Total number of uplink bytes dropped on IP Reassembly failure.
TCP Stats:	
Data Packets Received After RST/FIN	Total number of data packets received after receiving RST (reset) request by Stateful Firewall.
Invalid SEQ Number Received with RST	Total number of invalid sequence-number received with RST (reset) request by Stateful Firewall.
Data without Connection Established	Total number of data packets received before the establishment of connection by Stateful Firewall.
Invalid TCP Connection Requests	Total number of invalid TCP connection requests received by Stateful Firewall.
Invalid TCP pre-connection Requests	Total number of invalid TCP pre-connection requests received by Stateful Firewall.
Invalid ACK Value (Cookie Enabled)	Total number of invalid ACK values (to enable cookies) received by Stateful Firewall.
Invalid TCP Packet Length	Total number of TCP packets with invalid length received by Stateful Firewall.
Packets with Short TCP Header Length	Total number of TCP packets with invalid/short header length received by Stateful Firewall.
Packets Dropped due to TCP Checksum Errors	Total number of packets dropped due to TCP Checksum error.
Packets with SEQ/ACK Out-of-range	Total number of packets with out of range SEQ/ACK.
TCP Null Scan Attacks	Total number of TCP Null Scan attacks detected by Stateful Firewall.
Post Connection SYN	Total number of Post Connection SYN attacks detected by Stateful Firewall.

Field	Description
Unable to Send SYN Packet	Total number of attempts detected by Stateful Firewall when node failed to send SYN packets.
Send Final ACK to Target Failed	Total number of attempts detected by Stateful Firewall when node failed to send Final ACK packet to target node.
Invalid TCP Packet: SYN-ACK Expected	Total number of invalid TCP packets received by Stateful Firewall in place of SYN+ACK packets.
No TCP Flags Set	Total number of TCP packets received with no flags set.
All TCP Flags Set	Total number of TCP flags received with all flags set.
Invalid TCP Packets	Total number of invalid TCP packets including all type of errors and attacks received by Stateful Firewall.
Flows Closed by RST before 3-Way Handshake	Total number flows closed by RST (reset) message before the 3-way handshaking.
Flows Timed-out in SYN_RCVD1 State	Total number of flows timed out in SYN_RCVD1 state.
Flows Timed-out in SYN_RCVD2 State	Total number of flows timed out in SYN_RCVD2 state.
Flows Terminated due to WinNuke Attack	Total number of flows terminated due to WinNuke attacks by Stateful Firewall.
TCP-SYN Flood Attacks	Total number of TCP-SYN Flood attacks detected by Stateful Firewall.
Packets Dropped on TCP-SYN Flood Attack	Total number of packets dropped by Stateful Firewall in TCP-SYN Flood attacks.
FTP-Bounce Attacks	Total number of FTP-Bounce attacks detected by Stateful Firewall.
Mime-Flood Attacks	Total number of Mime-Flood attacks detected by Stateful Firewall.
Proxy Handshakes Completed	Total number of times proxy handshake was completed.
Packets Dropped due to source port zero	Total number of packets dropped due to source port zero error.
SYN Packets Dropped due to ECE/CWR Set	Total number of SYN packets dropped due to ECE/CWR Flags Set.
Packets Dropped on TCP-SYN IP-Sweep Attack (DL/UL)	Total number of packets dropped due to TCP-SYN IP sweep attacks in downlink and uplink direction.
UDP Stats:	
Invalid UDP Echo Response	Total number of invalid UDP echo responses.
Invalid UDP Packet Length	Total number of invalid UDP packet length.
Packets Dropped due to UDP Checksum Errors	Total number of packets dropped due to UDP Checksum errors.
Packets with Short UDP Header Length	Total number of packets with short UDP header length.

Field	Description
Packets Dropped on UDP Flood Attack	Total number of packets dropped by Stateful Firewall in UDP flood attacks.
Packets Dropped due to exceeding ICMP dest unreachable threshold	Total number of packets dropped due to exceeding ICMP destination unreachable threshold.
Packets Dropped on UDP IP-Sweep Attack (DL/UL)	Total number of packets dropped due to UDP IP sweep attacks in downlink and uplink direction.
ICMP Stats:	
Invalid ICMP Response	Total number of invalid ICMP responses.
ICMP Reply Error	Total number of ICMP reply errors.
Invalid ICMP Type Packet	Total number of invalid ICMP type packets.
ICMP Error Message Replay Attacks	Total number of ICMP error message replay attacks detected by Stateful Firewall.
ICMP Packets with Duplicate Sequence Number	Total number of ICMP packets with duplicate sequence numbers.
Packets with Short ICMP Header Length	Total number of packets with short ICMP header length.
Invalid ICMP Packet Length	Total number of packets with invalid ICMP packet length.
Packets Dropped on ICMP Flood Attack	Total number of packets dropped by Stateful Firewall in ICMP flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.
Packets Dropped due to ICMP Checksum Errors	Total number of packets dropped due to ICMP Checksum error.
ICMP Packets With Destination Unreachable Message	Total number of ICMP packets with destination unreachable message.
ICMP Echo Packets Dropped due to ID Zero	Total number of ICMP echo packets dropped due to zero ID.
Packets Dropped on ICMP IP-Sweep Attack (DL/UL)	Total number of packets dropped due to ICMP IP sweep attacks in downlink and uplink direction.
ICMPv6 Stats:	
Invalid ICMPv6 Response	Total number of invalid ICMPv6 responses.
ICMPv6 Reply Error	Total number of ICMPv6 reply errors.
Invalid ICMPv6 Type Packet	Total number of invalid ICMPv6 type packets.
ICMPv6 Error Message Replay Attacks	Total number of ICMPv6 error message replay attacks detected by Stateful Firewall.
ICMPv6 Packets with Duplicate Sequence Number	Total number of ICMPv6 packets with duplicate sequence numbers.

Field	Description
Packets with Short ICMPv6 Header Length	Total number of packets with short ICMPv6 header length.
Invalid ICMPv6 Packet Length	Total number of packets with invalid ICMPv6 packet length.
Packets Dropped on ICMPv6 Flood Attack	Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.
Packets Dropped due to ICMPv6 Checksum Errors	Total number of packets dropped due to ICMPv6 Checksum error.
ICMPv6 Packets With Destination Unreachable Message	Total number of ICMPv6 packets with destination unreachable message.
ICMPv6 Echo Packets Dropped due to ID Zero	Total number of ICMPv6 echo packets dropped due to zero ID.
IPv6 Stats:	
Land Attacks	Total number of land attacks detected by Stateful Firewall.
Jolt Attacks	Total number of jolt attacks detected by Stateful Firewall.
Teardrop Attacks	Total number of teardrop attacks detected by Stateful Firewall.
Invalid IP Option Length	Total number of packets with invalid IP option length.
IPv6 Source-router Attacks	Total number of IPv6 source-router attacks detected by Stateful Firewall.
Packets with Short IPv6 Header Length	Total number of packets with short IPv6 header length detected by Stateful Firewall.
Packets with Nested Fragmentation Header	Total number of packets with nested fragmentation header.
Packets with Unspecified IPv6 Address	Total number of packets with unspecified IPv6 address.
Packets with invalid Payload Length	Total number of packets with invalid payload length.
Packets with more than threshold Extension Headers	Total number of packets with more than threshold extension headers.
Packets with invalid Hop By Hop Extension Header	Total number of packets with invalid hop by hop extension header.
Packets with ICMPv4 in IPv6 Header	Total number of packets with ICMPv4 in IPv6 header.
Packets with invalid Destination Extension Header	Total number of packets with invalid destination extension header.
Downlink Dropped Bytes on IPv6 Reassembly Failure	Total number of downlink bytes dropped on IPv6 Reassembly failure.
Uplink Dropped Bytes on IPv6 Reassembly Failure	Total number of uplink bytes dropped on IPv6 Reassembly failure.

Field	Description
General Stats:	
Packets without Any Data Received	Total number of packets received without any data.
No Matching Uplink Ruledef	Total number of uplink packets with no matching ruledef.
No Matching Downlink Ruledef	Total number of downlink packets with no matching ruledef.
Deny Ruledef Matched	Total number of times deny ruledef was matched.
Packets Dropped due to No Ruledef in Rulebase	Total number of packets dropped due to no ruledef in rulebase. **Important** This field is deprecated in release 15.0 and later releases.
Packets Dropped due to Miscellaneous Errors	Total number of packets dropped due to miscellaneous errors.
Flows Timed-out	Total number of flows that timed out.
Flows Not Established from External Network	Total number of flows from external networks that were not established.
Max Flows Limit Reached	Total number of times the maximum flows limit was reached.
ALG statistics:	
Packets dropped by SIP ALG	Total number of packets dropped by SIP ALG.
Packets injected by SIP ALG	Total number of packets injected by SIP ALG.
NAT Packet Dropped Statistics:	
Packets dropped due to NAT no available IP/port	Total number of packets dropped due to non-availability of NAT IP/port.
Packets dropped due to NAT binding allocation failure	Total number of packets dropped due to NAT binding allocation failure.
Packets dropped due to NAT Translation failed on unsupported ICMP code	Total number of packets dropped due to NAT Translation failed on unsupported ICMP code.
Packets dropped due to NAT Translation failed on invalid Param Problem	Total number of packets dropped due to NAT Translation failed on invalid param problem.
Packets dropped due to IPv6 routing header with non-zero segments left	Total number of packets dropped due to IPv6 routing header with non-zero segments left.
Packets dropped due to Unsupported Embedded IPv4 Address	Total number of packets dropped due to unsupported embedded IPv4 address.
Packets dropped due to Destination IPv6 Prefix Mismatch	Total number of packets due to IPv6 prefix mismatch for a given destination.

Field	Description
Packets dropped due to MAX port chunks reached	Total number of packets dropped due to reaching the maximum number of port chunks usage limit.
Packets dropped due to non-availability of port chunks	Total number of packets dropped due to non-availability of port chunks.
Data Stats:	
Total Packets Received	Total number of packets received in uplink and downlink flows.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets (NAT64 Translation)	Total number of packets reduced by NAT64 translation.
Total Bytes Reduced (NAT64 Translation)	Total number of bytes reduced by NAT64 translation.
Total Packets Injected	Total number of packets injected by Stateful Firewall.
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of packets in uplink flow dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of bytes in uplink flow dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of packets in downlink flow dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of bytes in downlink flow dropped by Stateful Firewall.
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.
Total NAT Flows Processed by Firewall	Total number of NAT flows processed by Stateful Firewall.
Total NAT44 Flows Processed by Firewall	Total number of NAT44 flows processed by Stateful Firewall.
Total NAT64 Flows Processed by Firewall	Total number of NAT64 flows processed by Stateful Firewall.
Total Bypass-NAT Flows Processed by Firewall	Total number of Bypass-NAT flows processed by Stateful Firewall.
Total Bypass-NAT44 Flows Processed by Firewall	Total number of Bypass-NAT44 flows processed by Stateful Firewall.
Total Bypass-NAT64 Flows Processed by Firewall	Total number of Bypass-NAT64 flows processed by Stateful Firewall.
Current Flows Processed by Firewall	Current number of flows processed by Stateful Firewall.

Field	Description
Current NAT Flows Processed by Firewall	Current number of NAT flows processed by Stateful Firewall.
Current NAT44 Flows Processed by Firewall	Current number of NAT44 flows processed by Stateful Firewall.
Current NAT64 Flows Processed by Firewall	Current number of NAT64 flows processed by Stateful Firewall.
Current Bypass-NAT Flows Processed by Firewall	Current number of Bypass-NAT flows processed by Stateful Firewall.
Current Bypass-NAT44 Flows Processed by Firewall	Current number of Bypass-NAT44 flows processed by Stateful Firewall.
Current Bypass-NAT64 Flows Processed by Firewall	Current number of Bypass-NAT64 flows processed by Stateful Firewall.

show active-charging firewall statistics protocol icmp verbose

Table 48: show active-charging firewall statistics protocol icmp verbose Command Output Descriptions

Field	Description
Firewall Statistics for Protocol: ICMP	
ICMP Stats	
Invalid ICMP Response	Total number of invalid ICMP responses.
ICMP Reply Error	Total number of ICMP reply errors.
Invalid ICMP Type Packet	Total number of invalid ICMP type packets.
ICMP Error Message Replay Attacks	Total number of ICMP error message replay attacks detected by Stateful Firewall.
ICMP Packets with Duplicate Sequence Number	Total number of ICMP packets with duplicate sequence numbers.
Packets with Short ICMP Header Length	Total number of packets with short ICMP header length.
Invalid ICMP Packet Length	Total number of packets with invalid ICMP packet length.
Packets Dropped on ICMP Flood Attack	Total number of packets dropped by Stateful Firewall in ICMP flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.
Packets Dropped due to ICMP Checksum Errors	Total number of packets dropped due to ICMP Checksum error.

Field	Description
ICMP Packets With Destination Unreachable Message	Total number of ICMP packets with destination unreachable message.
ICMP Echo Packets Dropped due to ID Zero	Total number of ICMP echo packets dropped due to zero ID.
Data Stats	
Total Packets Received	Total number of packets received in uplink and downlink flows.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets Injected	Total number of packets injected by Stateful Firewall.
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of packets in uplink flow dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of bytes in uplink flow dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of packets in downlink flow dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of bytes in downlink flow dropped by Stateful Firewall.
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.
Total NAT Flows Processed by Firewall	Total number of NAT flows processed by Stateful Firewall.

show active-charging firewall statistics protocol icmpv6 verbose

Table 49: show active-charging firewall statistics protocol icmpv6 verbose Command Output Descriptions

Field	Description
Firewall Statistics for Protocol: ICMPv6	
ICMPv6 Stats	
Invalid ICMPv6 Response	Total number of invalid ICMPv6 responses.

Field	Description
ICMPv6 Reply Error	Total number of ICMPv6 reply errors.
Invalid ICMPv6 Type Packet	Total number of invalid ICMPv6 type packets.
ICMPv6 Error Message Replay Attacks	Total number of ICMPv6 error message replay attacks detected by Stateful Firewall.
ICMPv6 Packets with Duplicate Sequence Number	Total number of ICMPv6 packets with duplicate sequence numbers.
Packets with Short ICMPv6 Header Length	Total number of packets with short ICMPv6 header length.
Invalid ICMPv6 Packet Length	Total number of packets with invalid ICMPv6 packet length.
Packets Dropped on ICMPv6 Flood Attack	Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.
Packets Dropped due to ICMPv6 Checksum Errors	Total number of packets dropped due to ICMPv6 Checksum error.
ICMPv6 Packets With Destination Unreachable Message	Total number of ICMPv6 packets with destination unreachable message.
ICMPv6 Echo Packets Dropped due to ID Zero	Total number of ICMPv6 echo packets dropped due to zero ID.
Data Stats	
Total Packets Received	Total number of packets received in uplink and downlink flows.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets Injected	Total number of packets injected by Stateful Firewall.
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of packets in uplink flow dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of bytes in uplink flow dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of packets in downlink flow dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of bytes in downlink flow dropped by Stateful Firewall.
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.

Field	Description
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.
Total NAT Flows Processed by Firewall	Total number of NAT flows processed by Stateful Firewall.

show active-charging firewall statistics protocol ip verbose

Table 50: show active-charging firewall statistics protocol ip verbose Command Output Descriptions

Field	Description
Firewall Statistics for Protocol IP in Context	Name of the context.
IP Stats:	
Land Attacks	Total number of Land attacks detected.
Jolt Attacks	Total number of Jolt attacks detected.
Teardrop Attacks	Total number of Teardrop attacks detected.
Zero Length IP Option	Total number of Zero-length IP Option attacks detected.
IP Source-router Attacks	Total number of IP Source-router attacks detected.
Packets with IP-Unaligned-Timestamp	Total number of packets with IP-Unaligned-Timestamp.
Packets with Short IP Header Length	Total number of packets with short IP header length.
Packets Dropped due to IP Checksum Errors	Total number of packets dropped due to checksum errors.
Downlink Dropped Bytes on IP Reassembly Failure	Total number of bytes dropped in downlink flow on IP Reassembly failure.
Uplink Dropped Bytes on IP Reassembly Failure	Total number of bytes dropped in uplink flow on IP Reassembly failure.
Data Stats:	
Total Packets Received	Total number of packets received by Stateful Firewall.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets Injected	Total number of packets injected by Stateful Firewall.

Field	Description
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of uplink packets dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of uplink bytes dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of downlink packets dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of downlink bytes dropped by Stateful Firewall.
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.

show active-charging firewall statistics protocol ipv6 verbose

Table 51: show active-charging firewall statistics protocol ipv6 verbose Command Output Descriptions

Field	Description
Firewall Statistics for Protocol: IPv6	
IPv6 Stats	
Land Attacks	Total number of land attacks detected by Stateful Firewall.
Jolt Attacks	Total number of jolt attacks detected by Stateful Firewall.
Teardrop Attacks	Total number of teardrop attacks detected by Stateful Firewall.
Invalid IP Option Length	Total number of packets with invalid IP option length.
IPv6 Source-router Attacks	Total number of IPv6 source-router attacks detected by Stateful Firewall.
Packets with Short IPv6 Header Length	Total number of packets with short IPv6 header length.
Packets with Nested Fragmentation Header	Total number of packets with nested fragmentation header.
Packets with Unspecified IPv6 Address	Total number of packets with unspecified IPv6 address.
Packets with invalid Payload Length	Total number of packets with invalid payload length.
Packets with more than threshold Extension Headers	Total number of packets with more than threshold extension headers.

Field	Description
Packets with invalid Hop By Hop Extension Header	Total number of packets with invalid hop by hop extension header.
Packets with ICMPv4 in IPv6 Header	Total number of packets with ICMPv4 in IPv6 header.
Packets with invalid Destination Extension Header	Total number of packets with invalid destination extension header.
Downlink Dropped Bytes on IPv6 Reassembly Failure	Total number of downlink bytes dropped due to reassembly failure.
Uplink Dropped Bytes on IPv6 Reassembly Failure	Total number of uplink bytes dropped due to reassembly failure.
Data Stats	
Total Packets Received	Total number of packets received in uplink and downlink flows.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets Injected	Total number of packets injected by Stateful Firewall.
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of packets in uplink flow dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of bytes in uplink flow dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of packets in downlink flow dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of bytes in downlink flow dropped by Stateful Firewall.
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.
Total NAT Flows Processed by Firewall	Total number of NAT flows processed by Stateful Firewall.

show active-charging firewall statistics protocol udp verbose

Table 52: show active-charging firewall statistics protocol udp verbose Command Output Descriptions

Field	Description
Firewall Statistics for Protocol: UDP	
UDP Stats	
Invalid UDP Echo Response	Total number of invalid UDP echo responses.
Invalid UDP Packet Length	Total number of invalid UDP packet length.
Packets Dropped due to UDP Checksum Errors	Total number of packets dropped due to UDP Checksum errors.
Packets with Short UDP Header Length	Total number of packets with short UDP header length.
Packets Dropped on UDP Flood Attack	Total number of packets dropped by Stateful Firewall in UDP flood attacks.
Packets Dropped due to exceeding ICMP dest unreachable threshold	Total number of packets dropped due to exceeding ICMP destination unreachable threshold.
Data Stats	
Total Packets Received	Total number of packets received in uplink and downlink flows.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets Injected	Total number of packets injected by Stateful Firewall.
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of packets in uplink flow dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of bytes in uplink flow dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of packets in downlink flow dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of bytes in downlink flow dropped by Stateful Firewall.
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.

show active-charging firewall statistics callid <call_id> verbose

Table 53: show active-charging firewall statistics callid <call_id> verbose Command Output Descriptions

Field	Description
Firewall Statistics for Callid: <call_id>	
IP Stats:	
Land Attacks	Total number of Land attacks detected by Stateful Firewall.
Jolt Attacks	Total number of Jolt attacks detected by Stateful Firewall.
Teardrop Attacks	Total number of Teardrop attacks detected by Stateful Firewall.
Invalid IP Option Length	Total number of Invalid IP Option Length attacks detected by Stateful Firewall.
IP Source-router Attacks	Total number of IP Source-router attacks detected by Stateful Firewall.
Packets with IP-Unaligned-Timestamp	Total number of packets with IP unaligned timestamps detected by Stateful Firewall.
Packets with Short IP Header Length	Total number of packets with short IP header length detected by Stateful Firewall.
Packets Dropped due to IP Checksum Errors	Total number of packets dropped due to IP Checksum error.
Downlink Dropped Bytes on IP Reassembly Failure	Total number of downlink bytes dropped on IP Reassembly failure.
Uplink Dropped Bytes on IP Reassembly Failure	Total number of uplink bytes dropped on IP Reassembly failure.
TCP Stats:	
Data Packets Received After RST/FIN	Total number of data packets received after receiving RST (reset) request by Stateful Firewall.
Invalid SEQ Number Received with RST	Total number of invalid sequence-number received with RST (reset) request by Stateful Firewall.
Data without Connection Established	Total number of data packets received before the establishment of connection by Stateful Firewall.
Invalid TCP Connection Requests	Total number of invalid TCP connection requests received by Stateful Firewall.
Invalid TCP pre-connection Requests	Total number of invalid TCP pre-connection requests received by Stateful Firewall.
Invalid ACK Value (Cookie Enabled)	Total number of invalid ACK values (to enable cookies) received by Stateful Firewall.
Invalid TCP Packet Length	Total number of TCP packets with invalid length received by Stateful Firewall.

Field	Description
Packets with Short TCP Header Length	Total number of TCP packets with invalid/short header length received by Stateful Firewall.
Packets Dropped due to TCP Checksum Errors	Total number of packets dropped due to TCP Checksum error.
Packets with SEQ/ACK Out-of-range	Total number of packets with out of range SEQ/ACK.
TCP Null Scan Attacks	Total number of TCP Null Scan attacks detected by Stateful Firewall.
Post Connection SYN	Total number of Post Connection SYN attacks detected by Stateful Firewall.
Unable to Send SYN Packet	Total number of attempts detected by Stateful Firewall when node failed to send SYN packets.
Send Final ACK to Target Failed	Total number of attempts detected by Stateful Firewall when node failed to send Final ACK packet to target node.
Invalid TCP Packet: SYN-ACK Expected	Total number of invalid TCP packets received by Stateful Firewall in place of SYN+ACK packets.
No TCP Flags Set	Total number of TCP packets received with no flags set.
All TCP Flags Set	Total number of TCP flags received with all flags set.
Invalid TCP Packets	Total number of invalid TCP packets including all type of errors and attacks received by Stateful Firewall.
Flows Closed by RST before 3-Way Handshake	Total number flows closed by RST (reset) message before the 3-way handshaking.
Flows Timed-out in SYN_RCVD1 State	Total number of flows timed out in SYN_RCVD1 state.
Flows Timed-out in SYN_RCVD2 State	Total number of flows timed out in SYN_RCVD2 state.
Flows Terminated due to WinNuke Attack	Total number of flows terminated due to WinNuke attacks by Stateful Firewall.
TCP-SYN Flood Attacks	Total number of TCP-SYN Flood attacks detected by Stateful Firewall.
Packets Dropped on TCP-SYN Flood Attack	Total number of packets dropped by Stateful Firewall in TCP-SYN Flood attacks.
FTP-Bounce Attacks	Total number of FTP-Bounce attacks detected by Stateful Firewall.
Mime-Flood Attacks	Total number of Mime-Flood attacks detected by Stateful Firewall.
Proxy Handshakes Completed	Total number of times proxy handshake was completed.
Packets Dropped during Proxy Handshake	Total number of packets dropped during proxy handshake.

Field	Description
UDP Stats:	
Invalid UDP Echo Response	Total number of invalid UDP echo responses.
Invalid UDP Packet Length	Total number of invalid UDP packet length.
Packets Dropped due to UDP Checksum Errors	Total number of packets dropped due to UDP Checksum errors.
Packets with Short UDP Header Length	Total number of packets with short UDP header length.
Packets Dropped on UDP Flood Attack	Total number of packets dropped by Stateful Firewall in UDP flood attacks.
Packets Dropped due to exceeding ICMP dest unreachable threshold	Total number of packets dropped due to exceeding ICMP destination unreachable threshold.
ICMP Stats:	
Invalid ICMP Response	Total number of invalid ICMP responses.
ICMP Reply Error	Total number of ICMP reply errors.
Invalid ICMP Type Packet	Total number of invalid ICMP type packets.
ICMP Error Message Replay Attacks	Total number of ICMP error message replay attacks detected by Stateful Firewall.
ICMP Packets with Duplicate Sequence Number	Total number of ICMP packets with duplicate sequence numbers.
Packets with Short ICMP Header Length	Total number of packets with short ICMP header length.
Invalid ICMP Packet Length	Total number of packets with invalid ICMP packet length.
Packets Dropped on ICMP Flood Attack	Total number of packets dropped by Stateful Firewall in ICMP flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.
Packets Dropped due to ICMP Checksum Errors	Total number of packets dropped due to ICMP Checksum errors.
ICMP Packets With Destination Unreachable Message	Total number of ICMP packets with Destination Unreachable Message.
ICMP Echo Packets Dropped due to ID Zero	Total number of ICMP echo packets dropped due to zero ID.
ICMPv6 Stats:	
Invalid ICMPv6 Response	Total number of invalid ICMPv6 responses.

Field	Description
ICMPv6 Reply Error	Total number of ICMPv6 reply errors.
Invalid ICMPv6 Type Packet	Total number of invalid ICMPv6 type packets.
ICMPv6 Error Message Replay Attacks	Total number of ICMPv6 error message replay attacks detected by Stateful Firewall.
ICMPv6 Packets with Duplicate Sequence Number	Total number of ICMPv6 packets with duplicate sequence numbers.
Packets with Short ICMPv6 Header Length	Total number of packets with short ICMPv6 header length.
Invalid ICMPv6 Packet Length	Total number of packets with invalid ICMPv6 packet length.
Packets Dropped on ICMPv6 Flood Attack	Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.
Packets Dropped due to ICMPv6 Checksum Errors	Total number of packets dropped due to ICMPv6 Checksum errors.
ICMPv6 Packets With Destination Unreachable Message	Total number of ICMPv6 packets with Destination Unreachable Message.
ICMPv6 Echo Packets Dropped due to ID Zero	Total number of ICMPv6 echo packets dropped due to zero ID.
General Stats:	
Packets without Any Data Received	Total number of packets received without any data.
No Matching Uplink Ruledef	Total number of uplink packets with no matching ruledef.
No Matching Downlink Ruledef	Total number of downlink packets with no matching ruledef.
Deny Ruledef Matched	Total number of times deny ruledef was matched.
Packets Dropped due to No Ruledef in Rulebase	Total number of packets dropped due to no ruledef in rulebase. **Important** This field is deprecated in release 15.0 and later releases.
Packets Dropped due to Miscellaneous Errors	Total number of packets dropped due to miscellaneous errors.
Flows Timed-out	Total number of flows that timed out.
Flows Not Established from External Network	Total number of flows from external networks that were not established.
Max Flows Limit Reached	Total number of times the maximum flows limit was reached.

Field	Description
IP Retransmitted Packets Dropped	Total number of IP retransmitted packets dropped.
Data Stats:	
Total Packets Received	Total number of packets received in uplink and downlink flows.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets Injected	Total number of packets injected by Stateful Firewall.
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of packets in uplink flow dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of bytes in uplink flow dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of packets in downlink flow dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of bytes in downlink flow dropped by Stateful Firewall.
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.

show active-charging firewall statistics domainname <domain_name> verbose

Table 54: show active-charging firewall statistics domainname <domain_name> verbose Command Output Descriptions

Field	Description
Firewall Statistics for 2 Sessions with Domain-name: <domain_name>	
IP Stats:	
Land Attacks	Total number of Land attacks detected by Stateful Firewall.
Jolt Attacks	Total number of Jolt attacks detected by Stateful Firewall.
Teardrop Attacks	Total number of Teardrop attacks detected by Stateful Firewall.
Invalid IP Option Length	Total number of Invalid IP Option Length attacks detected by Stateful Firewall.
IP Source-router Attacks	Total number of IP Source-router attacks detected by Stateful Firewall.

Field	Description
Packets with IP-Unaligned-Timestamp	Total number of packets with IP unaligned timestamps detected by Stateful Firewall.
Packets with Short IP Header Length	Total number of packets with short IP header length detected by Stateful Firewall.
Packets Dropped due to IP Checksum Errors	Total number of packets dropped due to IP Checksum error.
Downlink Dropped Bytes on IP Reassembly Failure	Total number of downlink bytes dropped on IP Reassembly failure.
Uplink Dropped Bytes on IP Reassembly Failure	Total number of uplink bytes dropped on IP Reassembly failure.
TCP Stats:	
Data Packets Received After RST/FIN	Total number of data packets received after receiving RST (reset) request by Stateful Firewall.
Invalid SEQ Number Received with RST	Total number of invalid sequence-number received with RST (reset) request by Stateful Firewall.
Data without Connection Established	Total number of data packets received before the establishment of connection by Stateful Firewall.
Invalid TCP Connection Requests	Total number of invalid TCP connection requests received by Stateful Firewall.
Invalid TCP pre-connection Requests	Total number of invalid TCP pre-connection requests received by Stateful Firewall.
Invalid ACK Value (Cookie Enabled)	Total number of invalid ACK values (to enable cookies) received by Stateful Firewall.
Invalid TCP Packet Length	Total number of TCP packets with invalid length received by Stateful Firewall.
Packets with Short TCP Header Length	Total number of TCP packets with invalid/short header length received by Stateful Firewall.
Packets Dropped due to TCP Checksum Errors	Total number of packets dropped due to TCP Checksum error.
Packets with SEQ/ACK Out-of-range	Total number of packets with out of range SEQ/ACK.
TCP Null Scan Attacks	Total number of TCP Null Scan attacks detected by Stateful Firewall.
Post Connection SYN	Total number of Post Connection SYN attacks detected by Stateful Firewall.
Unable to Send SYN Packet	Total number of attempts detected by Stateful Firewall when node failed to send SYN packets.
Send Final ACK to Target Failed	Total number of attempts detected by Stateful Firewall when node failed to send Final ACK packet to target node.
Invalid TCP Packet: SYN-ACK Expected	Total number of invalid TCP packets received by Stateful Firewall in place of SYN+ACK packets.
No TCP Flags Set	Total number of TCP packets received with no flags set.

Field	Description
All TCP Flags Set	Total number of TCP flags received with all flags set.
Invalid TCP Packets	Total number of invalid TCP packets including all type of errors and attacks received by Stateful Firewall.
Flows Closed by RST before 3-Way Handshake	Total number flows closed by RST (reset) message before the 3-way handshaking.
Flows Timed-out in SYN_RCVD1 State	Total number of flows timed out in SYN_RCVD1 state.
Flows Timed-out in SYN_RCVD2 State	Total number of flows timed out in SYN_RCVD2 state.
Flows Terminated due to WinNuke Attack	Total number of flows terminated due to WinNuke attacks by Stateful Firewall.
TCP-SYN Flood Attacks	Total number of TCP-SYN Flood attacks detected by Stateful Firewall.
Packets Dropped on TCP-SYN Flood Attack	Total number of packets dropped by Stateful Firewall in TCP-SYN Flood attacks.
FTP-Bounce Attacks	Total number of FTP-Bounce attacks detected by Stateful Firewall.
Mime-Flood Attacks	Total number of Mime-Flood attacks detected by Stateful Firewall.
Proxy Handshakes Completed	Total number of times proxy handshake was completed.
Packets Dropped during Proxy Handshake	Total number of packets dropped during proxy handshake.
UDP Stats:	
Invalid UDP Echo Response	Total number of invalid UDP echo responses.
Invalid UDP Packet Length	Total number of invalid UDP packet length.
Packets Dropped due to UDP Checksum Errors	Total number of packets dropped due to UDP Checksum errors.
Packets with Short UDP Header Length	Total number of packets with short UDP header length.
Packets Dropped on UDP Flood Attack	Total number of packets dropped by Stateful Firewall in UDP flood attacks.
Packets Dropped due to exceeding ICMP dest unreachable threshold	Total number of packets dropped due to exceeding ICMP destination unreachable threshold.
ICMP Stats:	
Invalid ICMP Response	Total number of invalid ICMP responses.
ICMP Reply Error	Total number of ICMP reply errors.

Field	Description
Invalid ICMP Type Packet	Total number of invalid ICMP type packets.
ICMP Error Message Replay Attacks	Total number of ICMP error message replay attacks detected by Stateful Firewall.
ICMP Packets with Duplicate Sequence Number	Total number of ICMP packets with duplicate sequence numbers.
Packets with Short ICMP Header Length	Total number of packets with short ICMP header length.
Invalid ICMP Packet Length	Total number of packets with invalid ICMP packet length.
Packets Dropped on ICMP Flood Attack	Total number of packets dropped by Stateful Firewall in ICMP flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.
Packets Dropped due to ICMP Checksum Errors	Total number of packets dropped due to ICMP Checksum errors.
ICMP Packets With Destination Unreachable Message	Total number of ICMP packets with Destination Unreachable Message.
ICMP Echo Packets Dropped due to ID Zero	Total number of ICMP echo packets dropped due to zero ID.
ICMPv6 Stats:	
Invalid ICMPv6 Response	Total number of invalid ICMPv6 responses.
ICMPv6 Reply Error	Total number of ICMPv6 reply errors.
Invalid ICMPv6 Type Packet	Total number of invalid ICMPv6 type packets.
ICMPv6 Error Message Replay Attacks	Total number of ICMPv6 error message replay attacks detected by Stateful Firewall.
ICMPv6 Packets with Duplicate Sequence Number	Total number of ICMPv6 packets with duplicate sequence numbers.
Packets with Short ICMPv6 Header Length	Total number of packets with short ICMPv6 header length.
Invalid ICMPv6 Packet Length	Total number of packets with invalid ICMPv6 packet length.
Packets Dropped on ICMPv6 Flood Attack	Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.
Packets Dropped due to ICMPv6 Checksum Errors	Total number of packets dropped due to ICMPv6 Checksum errors.

Field	Description
ICMPv6 Packets With Destination Unreachable Message	Total number of ICMPv6 packets with Destination Unreachable Message.
ICMPv6 Echo Packets Dropped due to ID Zero	Total number of ICMPv6 echo packets dropped due to zero ID.
General Stats:	
Packets without Any Data Received	Total number of packets received without any data.
No Matching Uplink Ruledef	Total number of uplink packets with no matching ruledef.
No Matching Downlink Ruledef	Total number of downlink packets with no matching ruledef.
Deny Ruledef Matched	Total number of times deny ruledef was matched.
Packets Dropped due to No Ruledef in Rulebase	Total number of packets dropped due to no ruledef in rulebase. **Important** This field is deprecated in release 15.0 and later releases.
Packets Dropped due to Miscellaneous Errors	Total number of packets dropped due to miscellaneous errors.
Flows Timed-out	Total number of flows that timed out.
Flows Not Established from External Network	Total number of flows from external networks that were not established.
Max Flows Limit Reached	Total number of times the maximum flows limit was reached.
IP Retransmitted Packets Dropped	Total number of IP retransmitted packets dropped.
Data Stats:	
Total Packets Received	Total number of packets received in uplink and downlink flows.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets Injected	Total number of packets injected by Stateful Firewall.
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of packets in uplink flow dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of bytes in uplink flow dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of packets in downlink flow dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of bytes in downlink flow dropped by Stateful Firewall.

Field	Description
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.

show active-charging firewall statistics username <user_name> verbose

Table 55: show active-charging firewall statistics username <user_name> verbose Command Output Descriptions

Field	Description
Firewall Statistics for Username: <user_name>	
IP Stats:	
Land Attacks	Total number of Land attacks detected by Stateful Firewall.
Jolt Attacks	Total number of Jolt attacks detected by Stateful Firewall.
Teardrop Attacks	Total number of Teardrop attacks detected by Stateful Firewall.
Invalid IP Option Length	Total number of Invalid IP Option Length attacks detected by Stateful Firewall.
IP Source-router Attacks	Total number of IP Source-router attacks detected by Stateful Firewall.
Packets with IP-Unaligned-Timestamp	Total number of packets with IP unaligned timestamps detected by Stateful Firewall.
Packets with Short IP Header Length	Total number of packets with short IP header length detected by Stateful Firewall.
Packets Dropped due to IP Checksum Errors	Total number of packets dropped due to IP Checksum error.
Downlink Dropped Bytes on IP Reassembly Failure	Total number of downlink bytes dropped on IP Reassembly failure.
Uplink Dropped Bytes on IP Reassembly Failure	Total number of uplink bytes dropped on IP Reassembly failure.
TCP Stats:	
Data Packets Received After RST/FIN	Total number of data packets received after receiving RST (reset) request by Stateful Firewall.
Invalid SEQ Number Received with RST	Total number of invalid sequence-number received with RST (reset) request by Stateful Firewall.

Field	Description
Data without Connection Established	Total number of data packets received before the establishment of connection by Stateful Firewall.
Invalid TCP Connection Requests	Total number of invalid TCP connection requests received by Stateful Firewall.
Invalid TCP pre-connection Requests	Total number of invalid TCP pre-connection requests received by Stateful Firewall.
Invalid ACK Value (Cookie Enabled)	Total number of invalid ACK values (to enable cookies) received by Stateful Firewall.
Invalid TCP Packet Length	Total number of TCP packets with invalid length received by Stateful Firewall.
Packets with Short TCP Header Length	Total number of TCP packets with invalid/short header length received by Stateful Firewall.
Packets Dropped due to TCP Checksum Errors	Total number of packets dropped due to TCP Checksum error.
Packets with SEQ/ACK Out-of-range	Total number of packets with out of range SEQ/ACK.
TCP Null Scan Attacks	Total number of TCP Null Scan attacks detected by Stateful Firewall.
Post Connection SYN	Total number of Post Connection SYN attacks detected by Stateful Firewall.
Unable to Send SYN Packet	Total number of attempts detected by Stateful Firewall when node failed to send SYN packets.
Send Final ACK to Target Failed	Total number of attempts detected by Stateful Firewall when node failed to send Final ACK packet to target node.
Invalid TCP Packet: SYN-ACK Expected	Total number of invalid TCP packets received by Stateful Firewall in place of SYN+ACK packets.
No TCP Flags Set	Total number of TCP packets received with no flags set.
All TCP Flags Set	Total number of TCP flags received with all flags set.
Invalid TCP Packets	Total number of invalid TCP packets including all type of errors and attacks received by Stateful Firewall.
Flows Closed by RST before 3-Way Handshake	Total number flows closed by RST (reset) message before the 3-way handshaking.
Flows Timed-out in SYN_RCVD1 State	Total number of flows timed out in SYN_RCVD1 state.
Flows Timed-out in SYN_RCVD2 State	Total number of flows timed out in SYN_RCVD2 state.
Flows Terminated due to WinNuke Attack	Total number of flows terminated due to WinNuke attacks by Stateful Firewall.
TCP-SYN Flood Attacks	Total number of TCP-SYN Flood attacks detected by Stateful Firewall.

Field	Description
Packets Dropped on TCP-SYN Flood Attack	Total number of packets dropped by Stateful Firewall in TCP-SYN Flood attacks.
FTP-Bounce Attacks	Total number of FTP-Bounce attacks detected by Stateful Firewall.
Mime-Flood Attacks	Total number of Mime-Flood attacks detected by Stateful Firewall.
Proxy Handshakes Completed	Total number of times proxy handshake was completed.
Packets Dropped during Proxy Handshake	Total number of packets dropped during proxy handshake.
UDP Stats:	
Invalid UDP Echo Response	Total number of invalid UDP echo responses.
Invalid UDP Packet Length	Total number of invalid UDP packet length.
Packets Dropped due to UDP Checksum Errors	Total number of packets dropped due to UDP Checksum errors.
Packets with Short UDP Header Length	Total number of packets with short UDP header length.
Packets Dropped on UDP Flood Attack	Total number of packets dropped by Stateful Firewall in UDP flood attacks.
Packets Dropped due to exceeding ICMP dest unreachable threshold	Total number of packets dropped due to exceeding ICMP destination unreachable threshold.
ICMP Stats:	
Invalid ICMP Response	Total number of invalid ICMP responses.
ICMP Reply Error	Total number of ICMP reply errors.
Invalid ICMP Type Packet	Total number of invalid ICMP type packets.
ICMP Error Message Replay Attacks	Total number of ICMP error message replay attacks detected by Stateful Firewall.
ICMP Packets with Duplicate Sequence Number	Total number of ICMP packets with duplicate sequence numbers.
Packets with Short ICMP Header Length	Total number of packets with short ICMP header length.
Invalid ICMP Packet Length	Total number of packets with invalid ICMP packet length.
Packets Dropped on ICMP Flood Attack	Total number of packets dropped by Stateful Firewall in ICMP flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.

Field	Description
Packets Dropped due to ICMP Checksum Errors	Total number of packets dropped due to ICMP Checksum errors.
ICMP Packets With Destination Unreachable Message	Total number of ICMP packets with Destination Unreachable Message.
ICMP Echo Packets Dropped due to ID Zero	Total number of ICMP echo packets dropped due to zero ID.
ICMPv6 Stats:	
Invalid ICMPv6 Response	Total number of invalid ICMPv6 responses.
ICMPv6 Reply Error	Total number of ICMPv6 reply errors.
Invalid ICMPv6 Type Packet	Total number of invalid ICMPv6 type packets.
ICMPv6 Error Message Replay Attacks	Total number of ICMPv6 error message replay attacks detected by Stateful Firewall.
ICMPv6 Packets with Duplicate Sequence Number	Total number of ICMPv6 packets with duplicate sequence numbers.
Packets with Short ICMP Header Length	Total number of packets with short ICMP header length.
Invalid ICMPv6 Packet Length	Total number of packets with invalid ICMPv6 packet length.
Packets Dropped on ICMPv6 Flood Attack	Total number of packets dropped by Stateful Firewall in ICMPv6 flood attacks.
Ping Of Death Attacks	Total number of Ping-of-Death attacks detected by Stateful Firewall.
Packets Dropped due to ICMPv6 Checksum Errors	Total number of packets dropped due to ICMPv6 Checksum errors.
ICMPv6 Packets With Destination Unreachable Message	Total number of ICMPv6 packets with Destination Unreachable Message.
ICMPv6 Echo Packets Dropped due to ID Zero	Total number of ICMPv6 echo packets dropped due to zero ID.
General Stats:	
Packets without Any Data Received	Total number of packets received without any data.
No Matching Uplink Ruledef	Total number of uplink packets with no matching ruledef.
No Matching Downlink Ruledef	Total number of downlink packets with no matching ruledef.
Deny Ruledef Matched	Total number of times deny ruledef was matched.

Field	Description
Packets Dropped due to No Ruledef in Rulebase	Total number of packets dropped due to no ruledef in rulebase. **Important** This field is deprecated in release 15.0 and later releases.
Packets Dropped due to Miscellaneous Errors	Total number of packets dropped due to miscellaneous errors.
Flows Timed-out	Total number of flows that timed out.
Flows Not Established from External Network	Total number of flows from external networks that were not established.
Max Flows Limit Reached	Total number of times the maximum flows limit was reached.
IP Retransmitted Packets Dropped	Total number of IP retransmitted packets dropped.
Data Stats:	
Total Packets Received	Total number of packets received in uplink and downlink flows.
Total Bytes Received	Total number of bytes received by Stateful Firewall.
Total Packets Sent	Total number of packets sent by Stateful Firewall.
Total Bytes Sent	Total number of bytes sent by Stateful Firewall.
Total Packets Injected	Total number of packets injected by Stateful Firewall.
Total Bytes Injected	Total number of bytes injected by Stateful Firewall.
Uplink Packets Dropped	Total number of packets in uplink flow dropped by Stateful Firewall.
Uplink Bytes Dropped	Total number of bytes in uplink flow dropped by Stateful Firewall.
Downlink Packets Dropped	Total number of packets in downlink flow dropped by Stateful Firewall.
Downlink Bytes Dropped	Total number of bytes in downlink flow dropped by Stateful Firewall.
Total Malformed Packets	Total number of malformed packets detected by Stateful Firewall.
Total DOS Attacks	Total number of Denial-of-Service attacks detected by Stateful Firewall.
Total Flows Processed by Firewall	Total number of flows processed by Stateful Firewall.

show active-charging firewall track-list attacking-servers

Table 56: show active-charging firewall track-list attacking-servers Command Output Descriptions

Field	Description
Attacking Servers:	
Server IP address	IP address of server being tracked for involvement in Denial-of-Service (DOS) attacks.
Time of last attack	Date and time of last attack from the server.
Time of first attack	Date and time of first attack from the server.
Total attacks	Total number of attacks from the server.
Last Attack Type	The last DOS attack type from the server.
Total attacking servers found	Total number of attacking servers found.

show active-charging fw-and-nat policy name

Note This show command and counters are available in the releases: 8.1, UMTS releases supporting policy-based Firewall and NAT; 9.0 and later.

Table 57: show active-charging fw-and-nat policy name Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Firewall Policy Name	Name of the Firewall-and-NAT Policy.
Firewall Status IPv4	Indicates whether IPv4 Stateful Firewall is enabled or disabled in the Firewall-and-NAT policy.
Firewall Status IPv6	Indicates whether IPv6 Stateful Firewall is enabled or disabled in the Firewall-and-NAT policy.
NAT Status NAT44	Indicates whether NAT44 is enabled or disabled in the Firewall-and-NAT policy.
NAT Status NAT64	Indicates whether NAT64 is enabled or disabled in the Firewall-and-NAT policy.
NAT Status	Indicates whether NAT is enabled or disabled in the Firewall-and-NAT policy.
Flow recovery status:	

Field	Description
Basic NAT flows	Indicates whether flow recovery is enabled or disabled for basic NAT flows in the Firewall-and-NAT policy.
Recoverable basic NAT flows	Displays the total number of recoverable basic NAT flows in the Firewall-and-NAT policy.
SIP-ALG	Indicates whether flow recovery is enabled or disabled for SIP ALG in the Firewall-and-NAT policy.
ICSR Flow-recovery Status:	
Non-ALG	Indicates whether ICSR flow-recovery is enabled or disabled for non-ALGs in the Firewall-and-NAT policy. **Important** This statistic is deprecated in 14.0 and later releases.
Basic NAT	Indicates whether ICSR flow-recovery is enabled or disabled for basic NAT in the Firewall-and-NAT policy.
SIP-ALG	Indicates whether ICSR flow-recovery is enabled or disabled for SIP ALG in the Firewall-and-NAT policy.
H323-ALG	Indicates whether ICSR flow-recovery is enabled or disabled for H323 ALG in the Firewall-and-NAT policy.
Firewall and NAT Action Priorities	
Ruledef Name	Name of the access ruledef.
Type	Indicates the ruledef type. • FD: Firewall Dynamic Ruledef — Predefined and disabled rules that can be enabled/disabled by the policy server. • FS: Firewall Static Ruledef — Predefined and enabled rules that cannot be modified by the policy server. • FSDP: Firewall Static & Dynamic Ruledef —Predefined and enabled rules that can be enabled/disabled by the policy server.
Priority	Priority of the access ruledef in the Firewall-and-NAT policy.
Charging-action/ Fw-and-nat-action	The charging action (C) or the fw-and-nat action (F) configured with the access ruledef.
Port-trigger aux-ports:direction	The auxiliary ports open for traffic, and the direction from which the auxiliary connection is initiated.
NAT-Realm	Name of the NAT realm.
Firewall Configuration	
Dos-Protection	

Field	Description
Source-Route	Indicates status of protection against IP Source Route IP Option attacks.
Win-Nuke	Indicates status of protection against Win Nuke attacks.
Mime-Flood	Indicates status of protection against MIME Flood attacks.
FTP-Bounce	Indicates status of protection against FTP Bounce attacks.
IP-Unaligned-Timestamp	Indicates status of protection against IP Unaligned Timestamp attacks.
TCP-Window-Containment	Indicates status of protection against TCP Window Containment.
Teardrop	Indicates status of protection against Teardrop attacks.
UDP Flooding	Indicates status of protection against UDP Flooding attacks.
ICMP Flooding	Indicates status of protection against ICMP Flooding attacks.
SYN Flooding	Indicates status of protection against SYN Flooding attacks.
Port Scan	Indicates status of protection against Port Scan attacks.
IPv6 Extension Headers Limit	Indicates status of protection against maximum limit of IPv6 extension headers in an IPv6 packet. An IPv6 packet can contain zero or more extension headers.
IPv6 Hop By Hop Options	Indicates status of protection against IPv6 packets containing hop-by-hop extension header options.
Hop By Hop Router Alert Option	Indicates status of protection against IPv6 packets containing router alert hop-by-hop option.
Hop By Hop Jumbo Payload Option	Indicates status of protection against IPv6 packets containing jumbo payload hop-by-hop option.
Invalid Hop By Hop Options	Indicates status of protection against IPv6 packets containing invalid hop-by-hop options.
Unknown Hop By Hop Options	Indicates status of protection against IPv6 packets containing unknown hop-by-hop options.
IPv6 Destination Options	Indicates status of protection against IPv6 packets containing IPv6 destination options header.
Invalid Destination Options	Indicates status of protection against IPv6 packets containing invalid destination options.
Unknown Destination Options	Indicates status of protection against IPv6 packets containing unknown destination options.
IPv6 Nested Fragmentation	Indicates status of protection against IPv6 packets containing IPv6 nested fragmentation.
UDP IP Sweep	Indicates status of protection against UDP IP sweep attacks.

Field	Description
ICMP IP Sweep	Indicates status of protection against ICMP IP sweep attacks.
TCP-SYN IP Sweep	Indicates status of protection against TCP-SYN IP sweep attacks.
Max-Packet-Size	
ICMP	For ICMP protocol, the maximum IP packet size (after IP reassembly) allowed over Stateful Firewall.
Non-ICMP	For non-ICMP protocol, the maximum IP packet size (after IP reassembly) allowed over Stateful Firewall.
Flooding	
ICMP limit	The maximum number of ICMP packets allowed during a sampling interval.
UDP limit	The maximum number of UDP packets allowed during a sampling interval.
TCP-SYN limit	The maximum number of TCP-SYN packets allowed during a sampling interval.
Sampling Interval	The flooding sampling interval, in seconds.
TCP-SYN Flood Intercept	
Mode	The TCP SYN flood intercept mode. • none • intercept • watch
Watch-timeout	The TCP intercept watch timeout, in seconds.
Mime-Flood Params	
HTTP Header-Limit	The maximum number of headers allowed in an HTTP packet.
HTTP Max-Header-Field-Size	The maximum header field size allowed in an HTTP header, in bytes.
No Firewall Ruledef Match Action	
Uplink Action	Action configured for uplink packets with no access ruledef matches.
Uplink Charging-Action	Charging action configured for uplink packets with no access ruledef matches.
Uplink NAT-Realm	The NAT-realm to be used if none of the firewall ruledefs are matched for the uplink traffic.
Uplink Fw-and-nat-action	The Fw-and-nat action to be used if none of the firewall ruledefs are matched for the uplink traffic.
Downlink Action	Action configured for downlink packets with no access ruledef matches.
Downlink Charging-Action	Charging action configured for downlink packets with no access ruledef matches.

Field	Description
Downlink NAT-Realm	The NAT-realm to be used if none of the firewall ruledefs are matched for the downlink traffic.
Downlink Fw-and-nat-action	The Fw-and-nat action to be used if none of the firewall ruledefs are matched for the downlink traffic.
TCP RST Message Threshold	Indicates whether a threshold limit is set on the number of TCP reset messages sent by the subscriber for a particular data flow.
TCP RST Message Threshold Value	The threshold value set for the number of TCP reset messages sent by the subscriber for a particular data flow. Range: 1 to 100
ICMP Dest-Unreachable Threshold	Indicates whether a threshold limit is set on the number of ICMP error messages sent by the subscriber for a particular data flow.
ICMP Dest-Unreachable Threshold Value	The threshold value set for the number of ICMP error messages sent by the subscriber for a particular data flow.
Action upon receiving TCP SYN packet with ECN/CWR Flag set	Indicates the action to be taken on receiving a TCP SYN packet with ECN/CWR Flag set.
Action upon receiving a malformed packet	Indicates the action to be taken on receiving a malformed packet.
Action upon IP Reassembly Failure	Indicates the action to be taken on IP reassembly failure.
Action upon receiving an IP packet with invalid Options	Indicates the action to be taken on receiving an IP packet with invalid options.
Action upon receiving a TCP packet with invalid Options	Indicates the action to be taken on receiving a TCP packet with invalid options.
Action upon receiving an ICMP packet with invalid Checksum	Indicates the action to be taken on receiving an ICMP packet with invalid checksum.
Action upon receiving a TCP packet with invalid Checksum	Indicates the action to be taken on receiving a TCP packet with invalid checksum.
Action upon receiving a UDP packet with invalid Checksum	Indicates the action to be taken on receiving a UDP packet with invalid checksum.
Action upon receiving an ICMP echo packet with id zero	Indicates the action to be taken on receiving an ICMP echo packet with id zero.
TCP Stateful Checks	Indicates whether stateful checks for TCP is enabled or disabled.
First Packet Non-SYN Action	Indicates the action to be taken on flows with first packet Non-SYN.
ICMP Stateful Checks	Indicates whether Stateful checks for ICMP is enabled or disabled.
TCP Partial Connection Timeout	Displays the time period for TCP partial connection, in seconds.
NAT Configuration	

Field	Description
NBR Format	Displays the NAT Binding Record format.
Private IP NPU Flow Timeout	The time period for private IP NPU Flow, in seconds.
Suppress sending NAT bind update to AAA	Indicates if the NAT bind update sent to AAA is suppressed or not.
Default NAT-Realm	The default NAT-realm to be used if no NAT-realm is found as part of firewall ruledefs.
Default Fw-and-nat-action	The Fw-and-nat action to be used when the default NAT-realm is used.

show active-charging flow-kpi all

Table 58: show active-charging flow-kpi all Command Output Descriptions

Field	Description
Rule Name	The name of rules eligible for flow checkpointing.
Active Flows	Total number of active flows of the rule.
SR Flow Checkpoint Sent	Total number of SR flow checkpoint sent for the rule.
SR Flow Checkpoint Received	Total number of SR flow checkpoint received for the rule.
GR Flow Checkpoint Sent	Total number of GR flow checkpoint sent for the rule.
GR Flow Checkpoint Received	Total number of GR flow checkpoint received for the rule.
SR Flow Checkpoint Delete Sent	Total number of SR delete flow checkpoint sent for the rule.
SR Flow Checkpoint Delete Received	Total number of SR delete flow checkpoint received for the rule.
GR Flow Checkpoint Delete Sent	Total number of GR delete flow checkpoint sent for the rule.
GR Flow Checkpoint Delete Received	Total number of GR delete flow checkpoint received for the rule.
Flows of lifetime bucket1	Total number of flows of lifetime_bucket1. Lifetime value of bucket1 is configurable.
Flows of lifetime bucket2	Total number of flows of lifetime_bucket2. Lifetime value of bucket2 is configurable.
Flows of lifetime bucket3	Total number of flows of lifetime_bucket3. Lifetime value of bucket3 is configurable.

show active-charging flows full

Table 59: show active-charging flows full Command Output Descriptions

Field	Description
FP-Stream-ID (Up)	Specifies the fastpath stream ID of uplink packets.
FP-Stream-State (Up)	Specifies the fastpath stream state of uplink packets.
FP-Stream-ID (Down)	Specifies the fastpath stream ID of downlink packets.
FP-Stream-State (Down)	Specifies the fastpath stream state of downlink packets.
FP-Client-ID	Specifies the VPP fastpath client ID.
Offload-Stream-at-packet (up)	Specifies the packet number of a stream offloaded from the session manager to VPP when the uplink traffic starts.
Offload-Stream-at-packet (Down)	Specifies the packet number of a stream offloaded from the session manager to VPP when the downlink traffic starts.
VPP FP UL Packets	Specifies the VPP count for uplink packets.
VPP FP UL Bytes	Specifies the VPP count for uplink bytes.
VPP FP DL Packets	Specifies the VPP count for downlink packets.
VPP FP DL Bytes	Specifies the VPP count for downlink bytes.
VPP FP Packets	Specifies total offloaded fastpath packets.
VPP FP Dropped Packets	Specifies dropped packets by VPP.
VPP Onload Succeeded	Specifies total packet onloaded from VPP (onloaded to session manager).
Flow-ID	Identifier for flows.
Session-ID	Identifier for ACS session.
Uplink Packets	The total number of uplinked packets.
Uplink Bytes	The total number of uplinked bytes.
Downlink Packets	The total number of downlinked packets.
Downlink Bytes	Total number of downlinked bytes.
FP Packets	Number of data packets processed in fastpath for this flow.
MS IP	The MS IP address.
MS NAT IP	The MS NAT IP address.
Server IP	The server IP address.

Field	Description
Transport Protocol	The transport protocol: TCP, UDP, ICMP
Application Protocol	The application protocol.
Video Pacing	Indicates whether video pacing is enabled or disabled.
Video Encoded Bit Rate	The currently enforced bit rate for video pacing.
Video Pacing Initial Burst Size	The initial burst size allowed, in bytes, during video pacing.
Video Pacing Normal Burst Size	The normal burst size allowed, in bytes, during video pacing.
Video Pacing Dropped Bytes	The number of data bytes dropped during video pacing.
Video Payload Bytes Sent towards User	The number of data bytes sent to the UE during video pacing.
Video Pacing Duration	The total number of video pacing in seconds.
TCP MS Port	The TCP MS port number.
TCP MS NAT Port	The TCP MS NAT port number. This field is not displayed for one-to-one NAT.
TCP Server Port	The TCP server port number.
TCP State	Indicates the TCP state.
TCP Prev State	Indicates the previous TCP state.
MS Window Size	The mobile window size.
Server Window Size	The server window size.
MS Retries	The total number of mobile subscriber retries.
Server Retries	The total number of server retries.
ITC Action Applied	Indicates that the ITC action is applied.
Throttle-Suppress Countdown	Displays the configured timeout (elapsed time) when flow is throttle-suppressed.
Throttle-Suppress	Displays "n/a" when throttle-suppress is inactive.
Socket Migration Details:	TCP Proxy Socket Migration related information.
State	Indicates the Socket Migration state of the flow. For example, SOCK_MIG_DONE.
Highest ACK Frm Server	The highest acknowledgment number from the server.
Highest Seq Frm Server	The Highest sequence number from the server.
Highest ACK Frm MS	The highest acknowledgement number from the MS.

Field	Description
Highest Seq Frm MS	The highest sequence number from the MS.
Seq Frm MS at Mig	Sequence number from MS at migration.
ACK Frm MS at Mig	Acknowledgement number from MS at migration.
Seq Frm Server at Mig	The sequence number from the server at migration.
ACK Frm Server at Mig	The acknowledgement number from the server at migration.
Data To Be Delivered To MS	Data to be delivered to the MS.
Data To Be Delivered To Server	Data to be delivered to the server.
Highest Seq Frm MS	Highest sequence number from the MS.
Timestamps Enabled	Indicates if timestamps option is enabled.
SACK Enabled	Indicates if selective acknowledgement is enabled.
Wscale From MS	Window scale value from MS.
Wscale From Server	Window scale value from server.
Buffering Statistics:	
Buffered Uplink Packets	The total number of buffered uplink packets.
Buffered Uplink Bytes	The total number of buffered uplink bytes.
Buffered Downlink Packets	The total number of buffered downlink packets.
Buffered Downlink Bytes	The total number of buffered downlink bytes.
Uplink Packets in Buffer	The total number of uplink packets in the buffer.
Uplink Bytes in Buffer	The total number of uplink bytes in the buffer.
Downlink Packets in Buffer	The total number of downlink packets in the buffer.
Downlink Bytes in Buffer	The total number of downlink bytes in the buffer.
Buff Over-limit Uplink Pkts	The total number of uplink packets that are over the limit in the buffer.
Buff Over-limit Uplink Bytes	The total number of uplink bytes that are over the limit in the buffer.
Buff Over-limit Downlink Pkts	The total number of downlink packets that are over the limit in the buffer.
Buff Over-limit Downlink Bytes	The total number of downlink bytes that are over the limit in the buffer.
CAE-Readdressing:	
Requests CAE-Readdressed	The total number of request readdressing done.
Responses CAE-Readdressed	The total number of response readdressing done.

Field	Description
Requests having xheader inserted	The total number of HTTP requests with x-headers inserted.
Total connect failed to CAE	The total number of connections failed to the CAE.
Total CAE-Readdressed Uplink Bytes	The total number of uplink bytes readdressed.
Total CAE-Readdressed Uplink Packets	The total number of uplink packets readdressed.
Total CAE-Readdressed Downlink Bytes	The total number of downlink bytes readdressed.
Total CAE-Readdressed Downlink Packets	The total number of downlink packets readdressed.
Flows connected to CAE	The total number of flows connected to the CAE.
Proxy Disable Success	The total number of flows with proxy disabled.
Proxy Disable Failed	The total number of times the proxy disable function failed.
Link Monitoring	
Average Throughput	The average TCP throughput of downlink TCP traffic towards the mobile device, in kbps.
Average RTT	The average TCP RTT (Round Trip Time) of downlink TCP traffic towards the mobile device, in milliseconds.
Tethering detection performed	Indicates whether tethering detection was performed.
Tethering detected	Indicates whether tethering was detected.
Total ACS flows matching specified criteria	The total number of ACS flows that match the specified criteria.

show active-charging flows full

Table 60: show active-charging flows full Command Output Descriptions

Field	Description
FP-Stream-ID (Up)	Specifies the fastpath stream ID of uplink packets.
FP-Stream-State (Up)	Specifies the fastpath stream state of uplink packets.
FP-Stream-ID (Down)	Specifies the fastpath stream ID of downlink packets.
FP-Stream-State (Down)	Specifies the fastpath stream state of downlink packets.
FP-Client-ID	Specifies the VPP fastpath client ID.

Field	Description
Offload-Stream-at-packet (up)	Specifies the packet number of a stream offloaded from the session manager to VPP when the uplink traffic starts.
Offload-Stream-at-packet (Down)	Specifies the packet number of a stream offloaded from the session manager to VPP when the downlink traffic starts.
VPP FP UL Packets	Specifies the VPP count for uplink packets.
VPP FP UL Bytes	Specifies the VPP count for uplink bytes.
VPP FP DL Packets	Specifies the VPP count for downlink packets.
VPP FP DL Bytes	Specifies the VPP count for downlink bytes.
VPP FP Packets	Specifies total offloaded fastpath packets.
VPP FP Dropped Packets	Specifies dropped packets by VPP.
VPP Onload Succeeded	Specifies total packet onloaded from VPP (onloaded to session manager).
Flow-ID	Identifier for flows.
Session-ID	Identifier for ACS session.
Uplink Packets	The total number of uplinked packets.
Uplink Bytes	The total number of uplinked bytes.
Downlink Packets	The total number of downlinked packets.
Downlink Bytes	Total number of downlinked bytes.
FP Packets	Number of data packets processed in fastpath for this flow.
MS IP	The MS IP address.
MS NAT IP	The MS NAT IP address.
Server IP	The server IP address.
Transport Protocol	The transport protocol: TCP, UDP, ICMP
Application Protocol	The application protocol.
Video Pacing	Indicates whether video pacing is enabled or disabled.
Video Encoded Bit Rate	The currently enforced bit rate for video pacing.
Video Pacing Initial Burst Size	The initial burst size allowed, in bytes, during video pacing.
Video Pacing Normal Burst Size	The normal burst size allowed, in bytes, during video pacing.
Video Pacing Dropped Bytes	The number of data bytes dropped during video pacing.

Field	Description
Video Payload Bytes Sent towards User	The number of data bytes sent to the UE during video pacing.
Video Pacing Duration	The total number of video pacing in seconds.
TCP MS Port	The TCP MS port number.
TCP MS NAT Port	The TCP MS NAT port number. This field is not displayed for one-to-one NAT.
TCP Server Port	The TCP server port number.
TCP State	Indicates the TCP state.
TCP Prev State	Indicates the previous TCP state.
MS Window Size	The mobile window size.
Server Window Size	The server window size.
MS Retries	The total number of mobile subscriber retries.
Server Retries	The total number of server retries.
ITC Action Applied	Indicates that the ITC action is applied.
Throttle-Suppress Countdown	Displays the configured timeout (elapsed time) when flow is throttle-suppressed.
Throttle-Suppress	Displays "n/a" when throttle-suppress is inactive.
Socket Migration Details:	TCP Proxy Socket Migration related information.
State	Indicates the Socket Migration state of the flow. For example, SOCK_MIG_DONE.
Highest ACK Frm Server	The highest acknowledgment number from the server.
Highest Seq Frm Server	The Highest sequence number from the server.
Highest ACK Frm MS	The highest acknowledgement number from the MS.
Highest Seq Frm MS	The highest sequence number from the MS.
Seq Frm MS at Mig	Sequence number from MS at migration.
ACK Frm MS at Mig	Acknowledgement number from MS at migration.
Seq Frm Server at Mig	The sequence number from the server at migration.
ACK Frm Server at Mig	The acknowledgement number from the server at migration.
Data To Be Delivered To MS	Data to be delivered to the MS.
Data To Be Delivered To Server	Data to be delivered to the server.

Field	Description
Highest Seq Frm MS	Highest sequence number from the MS.
Timestamps Enabled	Indicates if timestamps option is enabled.
SACK Enabled	Indicates if selective acknowledgement is enabled.
Wscale From MS	Window scale value from MS.
Wscale From Server	Window scale value from server.
Buffering Statistics:	
Buffered Uplink Packets	The total number of buffered uplink packets.
Buffered Uplink Bytes	The total number of buffered uplink bytes.
Buffered Downlink Packets	The total number of buffered downlink packets.
Buffered Downlink Bytes	The total number of buffered downlink bytes.
Uplink Packets in Buffer	The total number of uplink packets in the buffer.
Uplink Bytes in Buffer	The total number of uplink bytes in the buffer.
Downlink Packets in Buffer	The total number of downlink packets in the buffer.
Downlink Bytes in Buffer	The total number of downlink bytes in the buffer.
Buff Over-limit Uplink Pkts	The total number of uplink packets that are over the limit in the buffer.
Buff Over-limit Uplink Bytes	The total number of uplink bytes that are over the limit in the buffer.
Buff Over-limit Downlink Pkts	The total number of downlink packets that are over the limit in the buffer.
Buff Over-limit Downlink Bytes	The total number of downlink bytes that are over the limit in the buffer.
CAE-Readdressing:	
Requests CAE-Readdressed	The total number of request readdressing done.
Responses CAE-Readdressed	The total number of response readdressing done.
Requests having xheader inserted	The total number of HTTP requests with x-headers inserted.
Total connect failed to CAE	The total number of connections failed to the CAE.
Total CAE-Readdressed Uplink Bytes	The total number of uplink bytes readdressed.
Total CAE-Readdressed Uplink Packets	The total number of uplink packets readdressed.
Total CAE-Readdressed Downlink Bytes	The total number of downlink bytes readdressed.

Field	Description
Total CAE-Readdressed Downlink Packets	The total number of downlink packets readdressed.
Flows connected to CAE	The total number of flows connected to the CAE.
Proxy Disable Success	The total number of flows with proxy disabled.
Proxy Disable Failed	The total number of times the proxy disable function failed.
Link Monitoring	
Average Throughput	The average TCP throughput of downlink TCP traffic towards the mobile device, in kbps.
Average RTT	The average TCP RTT (Round Trip Time) of downlink TCP traffic towards the mobile device, in milliseconds.
Tethering detection performed	Indicates whether tethering detection was performed.
Tethering detected	Indicates whether tethering was detected.
Total ACS flows matching specified criteria	The total number of ACS flows that match the specified criteria.

show active-charging flows summary

Table 61: show active-charging flows summary Command Output Descriptions

Field	Description
Current:	
Active Flows	Specifies the total number of active flows currently on the system.
TCP Active flows	Specifies the total number of active flows for TCP traffic.
DNS Active flows	Specifies the total number of active flows for DNS traffic.
ICMPV6 Active flows	Specifies the total number of active flows for ICMPv6 traffic.
Idle Flows:	
TCP Idle flows	Specifies the total number of idle flows for TCP traffic.
UDP Idle flows	Specifies the total number of idle flows for UDP traffic.
ICMPv6 Idle flows	Specifies the total number of idle flows for ICMPv6 traffic.
DNS Idle flows	Specifies the total number of idle flows for DNS traffic.
Cumulative:	

Field	Description
Uplink Packets	Specifies the total number of uplinked packets.
Uplink Bytes	Specifies the total number of uplinked bytes.
Downlink Packets	Specifies the total number of downlinked packets.
Downlink Bytes	Specifies the total number of downlinked bytes.

show active-charging flows full debug-info all

Table 62: show active-charging flows full debug-info all Command Output Descriptions

Field	Description
Last Active Tick Time	Specifies the last active tick time for the data packet.
Current Tick Time	Specifies the current system tick time.

show active-charging flows full type p2p

Table 63: show active-charging flows full type p2p Command Output Descriptions

Field	Description
Flow-ID	Identifier for flows.
Session-ID	Identifier for Active Charging session with P2P.
Uplink Packets	Total packets uplinked.
Downlink Packets	Total packets downlinked.
Uplink Bytes	Total bytes uplinked.
Downlink Bytes	Total bytes downlinked.
Transport Protocol	The protocol used for data transport.
Application Protocol	The type of application protocol used for this session.
UDP Client Port	UDP port on client communication.
UDP Server Port	UDP port on server for communication.
ITC Action Applied	Status of Intelligent Traffic Control (ITC) on this session traffic.

show active-charging flows type cdp

Table 64: show active-charging flows type cdp Command Output Descriptions

Field	Description
Session-ID	Identifier for Active Charging session with CDP.
Flow-ID	Identifier for Flows.
Flow-num	Identifies the flow number.

Field	Description
Application Protocol (VV)	The protocol used for application. Supported application protocols are: • HT- HTTP • HS - HTTPS • SM - SMTP • P3 - POP3 • WT - WTP • WS - WSP • DN - DNS • RT - RTP • EM - EMAIL • MM - MMS • FT - FTP • SI - SIP • WW - WWW • RS - RTSP • IM - IMAP • P2 - P2P • RC - RTCP • TF - TFTP • WC - WSP Connection Oriented • WX - WSP Connection-less • H3 - H323 • PP - PPTP • RA - RADIUS • XX - Unknown

Field	Description
Transport Protocol (v)	The protocol used for data transport. Supported data transport protocols are: • T - TCP • U - UDP • I - ICMP and ICMPv6 • G - GREv1 • X - Unknown
Bytes-Up	Total bytes uplinked.
Bytes-Down	Total bytes downlinked.
Packets-Up	Total packets uplinked.
Packets-Down	Total packets downlinked.
Total ACS flows matching specified criteria	The total number of ACS flows matching the specified criteria.

show active-charging flows type p2p

Table 65: show active-charging flows type p2p Command Output Descriptions

Field	Description
Flow-ID	Identifier for Flows.
Session-ID	Identifier for Active Charging session with P2P.
Flow-num	Identifies the flow number.

Field	Description
Application Protocol (VV)	The protocol used for application. Supported application protocols are: • HT- HTTP • HS - HTTPS • SM - SMTP • P3 - POP3 • WT - WTP • WS - WSP • DN - DNS • RT - RTP • EM - EMAIL • MM - MMS • FT - FTP • SI - SIP • WW - WWW • RS - RTSP • IM - IMAP • P2 - P2P • RC - RTCP • TF - TFTP • WC - WSP Connection Oriented • WX - WSP Connection-less • XX - Unknown • H3 - H323 • PP - PPTP • M6 - MIPv6 • XX - Unknown

Field	Description
Transport Protocol (v)	The protocol used for data transport. Supported data transport protocols are: • T - TCP • U - UDP • I - ICMP and ICMPv6 • G - GREv1 • X - Unknown
Bytes-Up	Total bytes uplinked.
Bytes-Down	Total bytes downlinked.
Packets-Up	Total packets uplinked.
Packets-Down	Total packets downlinked.
Uplink Bytes	Total bytes uplinked.
Downlink Bytes	Total bytes downlinked.
Transport Protocol	The protocol used for data transport.
Application Protocol	The type of application protocol used for this session.
UDP Client Port	UDP port on client communication.
UDP Server Port	UDP port on server for communication.
ITC Action Applied	Status of intelligent traffic control (ITC) on this session traffic.

show active-charging flow-mappings all

Table 66: show active-charging flow-mappings all Command Output Descriptions

Field	Description
Call-ID	The call identification number to which the data flow belongs.
MS IP	The IP address of the mobile subscriber.
MS NAT IP	The NAT IP address allocated to the mobile subscriber.
MS Server IP	The server IP address of the mobile subscriber.
Transport Protocol	The transport protocol of the flow: TCP or UDP

Field	Description
TCP MS Port	The TCP port number of the mobile subscriber.
TCP MS NAT Port	The TCP NAT port number allocated to the mobile subscriber. This field is applicable for many-to-one NAT.
TCP Server Port	The TCP server port number for this flow (destination server port).
UDP MS Port	The UDP port number of the mobile subscriber.
UDP MS NAT Port	The UDP NAT port number allocated to the mobile subscriber. This field is applicable for many-to-one NAT.
UDP Server Port	The UDP server port number for this flow (destination server port).
Flow-Mapping timeout	The timeout after which the flow-mappings will be deleted.
Mapping Expiry	The time in seconds left for the flow-mapping timeout to happen. This value decrements starting from a maximum of "Flow-Mapping timeout". Upon this value reaching zero, the flow mapping will be deleted.

show active-charging group-of-ruledefs name

Table 67: show active-charging group-of-ruledefs name Command Output Descriptions

Field	Description
Service Name	The service in which the specified group-of-ruledefs is configured.
Group-of-Ruledefs Name	Name of the group-of-ruledefs.
Ruledef Name	Names of the ruledefs added to the group-of-ruledefs.
Priority	The priorities configured for each of the ruledefs in the group-of-ruledefs.
Total group(s)-of-ruledefs found	The total number of group(s)-of-ruledefs matching the specified criteria.

show active-charging nat statistics

Table 68: show active-charging nat statistics Command Output Descriptions

Field	Description
NAT Realm Utilization:	
Realm Name	Name of the NAT realm.

Field	Description
Context	Context in which the NAT realm is configured.
Current IP Address-In-Use	The number of IP addresses from the NAT realm currently in use.
Total IP Address	The total number of IP addresses for the NAT realm.
Current Calls Using-Realm	The number of current calls using the NAT realm.
Current Port-Chunks Available	The number of port chunks currently available.
Current Port-Chunks-In-Use	The number of port chunks currently in use.
Total Port-Chunks	The total number of port chunks for the NAT realm.
Port-Chunk Size	The size of the port chunks.
Current Port-Chunks-On-hold	The number of port chunks currently on hold.
Statistics:	
Total AAA alloc msgs sent	The total number of AAA allocation messages sent.
Total AAA dealloc msgs sent	The total number of AAA deallocation messages sent.
Total flows denied IP	The total number of subscriber flows that were denied NAT IP address.
Total flows denied port	The total number of subscriber flows that were denied a port.
NAT44 flows denied IP	The total number of NAT44 flows that were denied NAT IP address.
NAT44 flows denied port	The total number of NAT44 flows that were denied a port.
NAT64 flows denied IP	The total number of NAT64 flows that were denied NAT IP address.
NAT64 flows denied port	The total number of NAT64 flows that were denied a port.
Total flows denied memory	The total number of flows that were denied memory.
NAT44 flows denied memory	The total number of NAT44 flows that were denied memory.
NAT64 flows denied memory	The total number of NAT64 flows that were denied memory.
Total bytes Transferred	The total number of bytes transferred.
Total flows processed	The total number of flows processed.
NAT44 bytes Transferred	The total number of NAT44 bytes transferred.
NAT44 flows processed	The total number of NAT44 flows processed.
NAT64 bytes Transferred	The total number of NAT64 bytes transferred.
NAT64 flows processed	The total number of NAT64 flows processed.

Field	Description
Average TCP port usage	The average TCP port usage in the allocated TCP ports, i.e out of allocated TCP ports how many got used.
Average UDP port usage	The average UDP port usage in the allocated UDP ports, i.e out of allocated UDP ports how many got used.
Average Others port usage	The average Others (ICMP or GRE) port usage in the allocated others ports, i.e out of allocated 'Others' ports how many got used.
Total IP Alloc Reqs	The total number of IP allocation requests.
Total IP Dealloc Reqs	The total number of IP deallocation requests.
Total Port-Chunk Alloc Reqs	The total number of port-chunk allocation requests.
Total Port-Chunk Dealloc Reqs	The total number of port-chunk deallocation requests.
Total IP Alloc failure	The total number of IP allocation failures.
Total Port-Chunk Alloc failure	The total number of port-chunk allocation failures.
Total IP Alloc Bounce	The total number of IP allocations that bounced.
Total IP Audit Req	The total number of IP audit requests.
Total IP Audit Failure	The total number of IP audit failures.
Total IP Alloc failure while recovery is in progress	The total number of IP allocation failures while recovery is in progress.
Total Port-Chunk Alloc failure while recovery is in progress	The total number of port-chunk allocation failures while recovery is in progress.
Port-Chunks distribution	
Max no.of chunks used	The maximum number of port chunks used.
Total no.of subscribers	Total number of subscribers using maximum number of port chunks.
Current no.of subscribers	Total number of current subscribers using maximum number of port chunks.
Total Realms	The total number of NAT realms found.
Ports distribution	
Max no. of ports used	The maximum number of ports used.
Total no. of Subscribers	Total number of subscribers using maximum number of ports.

Field	Description
Important The maximum number of ports used are divided into buckets of size 8, with the following two exceptions: The first bucket [0-8] includes not-on-demand calls, that is, subscribers who are allocated a port chunk without using any ports at all will fall into the first bucket. The last bucket [>=65] includes all subscribers using greater than 64 ports.	

show active-charging nat statistics unsolicited-pkts-server-list instance <instance_num>

Table 69: show active-charging nat statistics unsolicited-pkts-server-list instance <instance_num> Command Output Descriptions

Field	Description
Server IP address	Displays the IP address of the server(s).
Total Number of Unsolicited Pkts	Displays the number of unsolicited downlink packets received.
Total Number of ICMP-HU Sent	Displays the number of ICMP-HU packets sent.

show active-charging p2p-dynamic-rules verbose

This command is not supported in this release.

show active-charging pcp-service all

Important This command is customer specific. For more information, contact your Cisco account representative.

Table 70: show active-charging pcp-service all Command Output Descriptions

Field	Description
Active Charging Service Name	Name of the ACS service.
PCP Service Name	Name of the PCP service.
PCP Supported Version	The supported version number of the PCP service.
PCP IPv4 Address/Port	The IPv4 address or port number of the PCP service.
Policy Control Options	

Field	Description
Request Opcodes	
Map Opcode	Indicates whether Request Map opcode is enabled or not.
Map Options	The Request Map opcode options are: • filter • prefer-failure
Peer Opcode	Indicates whether Request Peer opcode is enabled or not.
Announce Opcode	Indicates whether Request Announce opcode is enabled or not.
Response Opcodes	
Map Life-Time	
Success	Indicates the lifetime for successful Map responses.
Long Error	Indicates the life-time for long error cases.
Short Error	Indicates the life-time for short error cases.
Peer Life-Time	
Success	Indicates the lifetime for successful Peer responses.
Long Error	Indicates the life-time for long error cases.
Short Error	Indicates the life-time for short error cases.
Total PCP Service(s) found	Total number of PCP services matching the specified criteria.

show active-charging pcp-service name



Important This command is customer specific. For more information, contact your Cisco account representative.

Table 71: show active-charging pcp-service name Command Output Descriptions

Field	Description
Active Charging Service Name	Name of the ACS service.
PCP Service Name	Name of the PCP service.
PCP Supported Version	The supported version number of the PCP service.
PCP IPv4 Address/Port	The IPv4 address or port number of the PCP service.

Field	Description
Policy Control Options	
Request Opcodes	
Map Opcode	Indicates whether Request Map opcode is enabled or not.
Map Options	The Request Map opcode options are: • filter • prefer-failure
Peer Opcode	Indicates whether Request Peer opcode is enabled or not.
Announce Opcode	Indicates whether Request Announce opcode is enabled or not.
Response Opcodes	
Map Life-Time	
Success	Indicates the lifetime for successful Map responses.
Long Error	Indicates the life-time for long error cases.
Short Error	Indicates the life-time for short error cases.
Peer Life-Time	
Success	Indicates the lifetime for successful Peer responses.
Long Error	Indicates the life-time for long error cases.
Short Error	Indicates the life-time for short error cases.
Total PCP Service(s) found	Total number of PCP services matching the specified criteria.

show active-charging pcp-service statistics

Important This command is customer specific. For more information, contact your Cisco account representative.

Table 72: show active-charging pcp-service statistics Command Output Descriptions

Field	Description
Active Charging Service Name	Name of the ACS service.
PCP Service Name	Name of the PCP service.
Total PCP Subscribers	Total number of PCP enabled subscribers.

Field	Description
Current PCP Subscribers	Current number of PCP enabled subscribers.
IPv4:	
Total PCP Requests	Total number of request packets received for the PCP service.
Total PCP Responses	Total number of PCP Responses sent by the PCP service.
Total Unknown Requests	Total number of PCP Responses sent by the PCP service for unknown PCP Requests.
Total Invalid Requests	Total number of PCP Responses sent by the PCP service for unknown PCP Requests.
Map:	
Total Requests	Total number of PCP MAP requests received for the PCP service.
Total Responses	Total number of PCP MAP Responses sent by the PCP service.
Valid Requests	Total number of valid PCP MAP requests received for the PCP service.
Invalid Requests	Total number of invalid PCP MAP requests received for the PCP service.
Success Responses	Total number of successful PCP MAP responses sent by the PCP service.
Error Responses	Total number of error PCP MAP responses sent by the PCP service.
Peer:	
Total Requests	Total number of PCP PEER requests received for the PCP service.
Total Responses	Total number of PCP PEER Responses sent by the PCP service.
Valid Requests	Total number of valid PCP PEER requests received for the PCP service.
Invalid Requests	Total number of invalid PCP PEER requests received for the PCP service.
Success Responses	Total number of successful PCP PEER responses sent by the PCP service.
Error Responses	Total number of error PCP PEER responses sent by the PCP service.
Announce:	
Total Requests	Total number of PCP ANNOUNCE requests received for the PCP service.
Total Responses	Total number of PCP ANNOUNCE Responses sent by the PCP service.
Valid Requests	Total number of valid PCP ANNOUNCE requests received for the PCP service.
Invalid Requests	Total number of invalid PCP ANNOUNCE requests received for the PCP service.
Success Responses	Total number of successful PCP ANNOUNCE responses sent by the PCP service.
Error Responses	Total number of error PCP ANNOUNCE responses sent by the PCP service.
Total PCP Service(s) matched	Total number of PCP services matching the specified criteria.

show active-charging radio-congestion policy all

Table 73: show active-charging radio-congestion policy all Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Radio Congestion Policy	Name of the Radio Congestion policy.
Sampling Interval	Indicates the sampling interval, in seconds.
Reporting Interval	
Num Of Samples Required	Indicates the number of samples required.
Min Samples Required Per Flow	Indicates the minimum number of samples required per flow.
Rtt Samples	Indicated the number of RTT (Round Trip Time) samples for base RTT.
Data Loss	
Threshold	Indicates the threshold value for data loss.
Weightage	Indicates the weightage value for data loss.
Rtt Variance	
Threshold	Indicates the threshold value for RTT variance.
Weightage	Indicates the weightage value for RTT variance.
Congestion-level	
Low	Indicates the low congestion level value.
Medium	Indicates the medium congestion level value.
High	Indicates the high congestion level value.
Extreme	Indicates the extreme congestion level value.
correlation-method	Indicates the configured correlation method used to correlate multiple flows of a subscriber.

show active-charging radio-congestion policy statistics

Table 74: show active-charging radio-congestion policy statistics Command Output Descriptions

Field	Description
Total Bytes Analyzed	Total number of bytes that were successfully analyzed.
Total Bytes Retransmitted	Total number of bytes that were successfully retransmitted.
Total RTT Samples Analyzed	Total number of RTT samples that were analyzed.
Total Reports Generated	Total number of reports generated to CAE.
Total Reports Generated with Congestion Level no	Total number of generated reports with no congestion.
Total Reports Generated with Congestion Level low	Total number of generated reports with low congestion.
Total Reports Generated with Congestion Level medium	Total number of generated reports with medium congestion.
Total Reports Generated with Congestion Level high	Total number of generated reports with high congestion.
Total Reports Generated with Congestion Level extreme	Total number of generated reports with extreme congestion.
Total Reports Send with Congestion Level no	Total number of generated sent with no congestion.
Total Reports Send with Congestion Level low	Total number of generated sent with low congestion.
Total Reports Send with Congestion Level medium	Total number of generated sent with medium congestion.
Total Reports Send with Congestion Level high	Total number of generated sent with high congestion.
Total Reports Send with Congestion Level extreme	Total number of generated sent with extreme congestion.
Total Flows Analyzed	Total number of flows that were successfully analyzed.
Total Flows Eligible for Correlation	Total number of flows eligible for correlation.
Total Flows with Congestion Level no	Total number of flows with no congestion.
Total Flows with Congestion Level low	Total number of flows with low congestion.

Field	Description
Total Flows with Congestion Level medium	Total number of flows with medium congestion.
Total Flows with Congestion Level high	Total number of flows with high congestion.
Total Flows with Congestion Level extreme	Total number of flows with extreme congestion.

show active-charging readdress-server-list statistics all



Important This command is license dependent. For more information please contact your Cisco account representative.

Table 75: show active-charging readdress-server-list statistics all Command Output Descriptions

Field	Description
ACSMGR Instance	Total instances of ACS Manager.
Server List	The list name of the server.
Server	The IP address of the DNS server.
Port	The TCP port number used by the DNS server.
Total Requests	Total number of readdress requests to the DNS server.
Failed Requests	Total number of failed readdress requests to the DNS server.
Status	The status of the DNS server (Active/ Inactive)
Average RTT	Average Round Trip Time (RTT) for the response of the readdress requests sent to the server.

show active-charging rulebase name

Table 76: show active-charging rulebase name Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Rule Base Name	Name of the rulebase.
Transactional-Rule-Matching	Specifies if transactional rule matching is enabled or disabled.

Field	Description
Charging Action Priorities	
Name	Name of the charging ruledef / group-of-ruledefs.
Type	The ruledef / group-of-ruledefs type. • RD: Dynamic ruledef • RS: Static ruledef • RSD: Static and dynamic ruledef • GD: Dynamic group-of-ruledefs • GS: Static group-of-ruledefs • GSD: Static and dynamic group-of-ruledefs
Priority	Priority of the ruledef / group-of-ruledefs in the rulebase.
Charging-action	The charging action configured with the ruledef / group-of-ruledefs.
Timedef	The time definition configured with the ruledef / group-of-ruledefs.
Description	Description of the charging ruledef / group-of-ruledefs configuration.
Post-processing Action Priorities	
Name	Name of the Post-processing ruledef.
Type	The Post-processing ruledef type.
Priority	Priority of the Post-processing ruledef in the rulebase.
Charging-action	The charging action configured.
Description	Description of the Post-processing ruledef configuration.
Routing Action Priorities	
Ruledef Name	Name of the routing action ruledef.
Priority	Priority of the routing action ruledef in the rulebase.
Analyzer	Name of the applicable analyzer to routing action ruledef.
Description	Description of the routing ruledef configuration.
Firewall Action Priorities	
Ruledef Name	Name of the Stateful Firewall ruledef.

Field	Description
Type	Indicates the Stateful Firewall ruledef type. • FD: Firewall Dynamic Ruledef—Predefined and disabled Stateful Firewall rules that can be enabled/disabled by the policy server. • FS: Firewall Static Ruledef—Predefined and enabled Stateful Firewall rules that cannot be modified by the policy server. • FSDP: Firewall Static & Dynamic Ruledef—Predefined and enabled Stateful Firewall rules that can be disabled/enabled by the policy server.
Priority	Priority of the Stateful Firewall ruledef in the rulebase.
Charging-action	The charging action configured.
Port-trigger aux-ports:direction	The auxiliary ports open for traffic, and the direction from which the auxiliary connection is initiated.
EGCDR Fields	
Tariff Time thresholds (min:hrs)	Threshold for tariff in minutes and hours.
Internal Threshold	Internal threshold to generate eG-CDRs in seconds.
Uplink Octets	Total number of octets uplinked.
Downlink Octets	Total number of octets downlinked.
Total Octets	Total number of octets uplinked and downlinked.
Time Based Metering	Status of time based metering.
Content Filtering Group	Status of Content Filtering Server Group support for offline content filtering server (ICAP) support.
Content Filtering Flow Any Error	Indicates whether Content Filtering packets are allowed/discarded in case of ACS error scenarios. This field is displayed only if either the Content Filtering mode or, ICAP server-group is configured.
Content Filtering Policy	The Content Filtering policy.
Content Filtering Mode	Indicates the Content Filtering mode. • Static • Static-and-dynamic
In releases prior to StarOS 21.26: URL-Blacklisting Action From StarOS 21.26 and later releases: URL-Blockedlisting Action	Indicates action to be taken on URL Blockedlisting match.

Field	Description
Tethering Detection	Indicates whether tethering detection is enabled or disabled.
OS-based Detection	Indicates if detection is enabled or disabled for IPv4 and IPv6 OS databases.
UA-based Detection	Indicates if UA based detection is enabled or disabled.
Tethering Detection (ip-ttl)	Indicates if IP-TTL based tethering detection is enabled or disabled.
DNS Based Detection	Indicates if DNS-based tethering detection is enabled or disabled.
Ip-ttl Values	Displays TTL values (space separated) configured for detecting tethered flows.
Max SYN detection in a flow	Displays the maximum number of SYN packets detected in a flow.
UDR Fields	
Tariff Time thresholds (min:hrs)	Threshold for tariff, in minutes and hours.
Interval Threshold	Interval threshold to generate UDRs, in seconds.
Uplink Octets	Total number of octets uplinked.
Downlink Octets	Total number of octets downlinked.
First Hit Content-Id Trigger	Indicates whether the First Hit Content ID trigger is enabled or disabled. This is a customer-specific field and is only available in 8.3 and later releases.
Tariff time trigger	Indicates whether the Tariff Time trigger is enabled or disabled. If enabled, this field displays the configured tariff time value.
NEMO Prefix Update Trigger	Indicates whether the NEMO Prefix Update trigger is enabled or disabled. **Important** This field will be available only when the NEMO license is configured.
Total Octets	Total number of octets uplinked and downlinked.
CCA Fields	Information regarding Credit Control Application for prepaid charging.
RADIUS charging context	Name of the RADIUS charging context.
RADIUS Charging Group	Name of RADIUS charging server group.
RADIUS interim interval	Interim interval for RADIUS charging generation.
DIAMETER Requested Service Unit	Information regarding requested service unit for prepaid charging through Diameter.
Uplink Octets	Total number of octets uplinked in Diameter charging.
Downlink Octets	Total number of octets downlinked in Diameter charging.
Total Octets	Total number of octets uplinked and downlinked in Diameter charging.

Field	Description
Quota Retry Time	Duration set to retry for prepaid credit limit.
Quota Holding Time (QHT)	Status of quota holding time configuration.
Quota Time Duration Algorithms	Applicable algorithm for quota time duration.
Flow End Condition	Status of flow end condition configuration.
Handoff	Indicates whether EDRs are generated for handoffs.
Timeout	Indicates whether EDRs are generated for timeouts.
Normal-end-signaling	Indicates whether EDRs are generated for normal end signaling.
Session-end	Indicates whether EDRs are generated for session ends.
Hagr	Indicates whether EDRs are generated for HAGR.
Content-Filtering	Indicates whether EDRs are generated for Content Filtering.
edr-format	Name of the EDR format.
Flow Any Error Charging Action	Indicates the charging action configured for accounting action on packets dropped by Firewall due to any error. If disabled, no accounting is performed on such packets.
Billing Records	Status of billing record generation.
Limit For Total Flows	Status of flow limit setting across all applications.
Limit For TCP Flows	Status of TCP flow limit setting.
Limit For Non-TCP Flows	Status of non-TCP flow limit setting.
Charging Rule Optimization	Type of optimization rule setting for charging.
Firewall Configuration	
Dos-Protection	
Source-Route	Indicates status of protection against IP Source Route IP Option attacks.
Win-Nuke	Indicates status of protection against Win Nuke attacks.
Mime-Flood	Indicates status of protection against MIME Flood attacks.
FTP-Bounce	Indicates status of protection against FTP Bounce attacks.
IP-Unaligned-Timestamp	Indicates status of protection against IP Unaligned Timestamp attacks.
Seq-Number-Prediction	Indicates status of protection against Sequence Number Prediction attacks.
TCP-Window-Containment	Indicates status of protection against TCP Window Containment.
Teardrop	Indicates status of protection against Teardrop attacks.

Field	Description
UDP Flooding	Indicates status of protection against UDP Flooding attacks.
ICMP Flooding	Indicates status of protection against ICMP Flooding attacks.
SYN Flooding	Indicates status of protection against SYN Flooding attacks.
Port Scan	Indicates status of protection against Port Scan attacks.
Max-Packet-Size	
ICMP	For ICMP protocol, the maximum IP packet size (after IP reassembly) allowed over Stateful Firewall.
Non-ICMP	For non-ICMP protocol, the maximum IP packet size (after IP reassembly) allowed over Stateful Firewall.
Flooding	
ICMP limit	The maximum number of ICMP packets allowed during a sampling interval.
UDP limit	The maximum number of UDP packets allowed during a sampling interval.
TCP-SYN limit	The maximum number of TCP-SYN packets allowed during a sampling interval.
Sampling Interval	The flooding sampling interval, in seconds.
TCP-SYN Flood Intercept	
Mode	The TCP SYN flood intercept mode. • none • intercept • watch
Max-Attempts	The maximum number of attempts for sending proxy SYN to the target.
Retrans-timeout	The SYN-Proxy retransmit timeout, in seconds.
Watch-timeout	The TCP intercept watch timeout, in seconds.
Mime-Flood Params	
HTTP Header-Limit	The maximum number of headers allowed in an HTTP packet.
HTTP Max-Header-Field-Size	The maximum header field size allowed in an HTTP header, in bytes.
No Firewall Ruledef Match Action	
Uplink Action	Action configured for uplink packets with no Stateful Firewall ruledef matches.
Uplink Charging-Action	Charging action configured for uplink packets with no Stateful Firewall ruledef matches.

Field	Description
Downlink Action	Action configured for downlink packets with no Stateful Firewall ruledef matches.
Downlink Charging-Action	Charging action configured for downlink packets with no Stateful Firewall ruledef matches.
ICMP Dest-Unreachable Threshold	Indicates whether a threshold limit is set on the number of ICMP error messages sent by the subscriber for a particular data flow.
ICMP Dest-Unreachable Threshold Value	The threshold value set for the number of ICMP error messages sent by the subscriber for a particular data flow.
QoS Renegotiation Timeout	The timeout setting for the Quality of Service (QoS) Renegotiation feature.
EDR Suppress zero byte records	Indicates whether EDR suppression of zero byte records is enabled.
EDR Timestamp Rounding	Type of timestamp rounding set for Event Detail Records.
EGCDR Timestamp Rounding	Type of timestamp rounding set for eG-CDRs.
RTP Dynamic Routing	Status of RTP dynamic routing configuration.
Ignore port no. in application headers	Status of ignoring port numbers in application headers.
Delayed Charging	Status of charging configuration to exclude initial handshaking TCP packets from charging.
IP Reassembly-Timeout	IP reassembly timeout period in milliseconds.
IP Reset ToS field	Status of IP Reset ToS field.
TCP Out-of-Order-Timeout	TCP out-of-order timeout period in milliseconds.
TCP 2MSL Timeout	TCP 2MSL timeout period in seconds.
Port Reuse	Indicates whether the Port Reuse feature is enabled or disabled.
WTP Out-of-Order-Timeout	WTP out-of-order timeout period in milliseconds.
TCP transmit-out-of-order-packets	Status of transmitting TCP out-of-order packets.
Verify TCP checksum	Status of verifying TCP checksum errors.
Verify UDP checksum	Status of verifying UDP checksum errors.
P2P Dynamic Routing	Status of P2P dynamic routing.
Total rulebase(s) found	Total number of rulebases matching the criteria.
CAE-Readdressing	Indicates whether CAE re-addressing on the Mobile Video Gateway is enabled or disabled. **Important** In release 20.0, MVG is not supported. For more information, contact your Cisco account representative.

Field	Description
Override Control	Indicates whether the Override Control feature is enabled or disabled.
Percentage Rate Reduction	If enabled, indicates the configured bit rate reduction for mobile video as a percentage of the input bit rate. **Important** In release 20.0, MVG is not supported. For more information, contact your Cisco account representative.
HTTP header-parse-limit	For a customer-specific feature, this field indictaes the HTTP header parse limit, in bytes. On exceeding this limit the flow is marked as permanent failure and is matched and charged against **http error = TRUE** ruledef. If the feature is disabled, shows "disabled".
TFT updates to UE for default bearer UIDH Insertion	Indicate if the selective TFT suppression feature is enabled or disabled for the default bearer. Specifies if UIDH Insertion is enabled or disabled.
Server-name	Specifies the UIDH server name.
URL Whitelist	

show active-charging rulebase statistics

Table 77: show active-charging rulebase statistics Command Output Descriptions

Field	Description
Service Name	Name of the ACS service.
Rulebase Name	Name of the rulebase.
Uplink Pkts	Total number of packets uplinked.
Uplink Bytes	Total number of bytes uplinked.
Downlink Pkts	Total number of packets downlinked.
Downlink Bytes	Total number of bytes downlinked.
Readdressed Upl Pkts	Total number of readdressed uplinked packets.
Readdressed Upl Bytes	Total number of readdressed uplinked bytes.
Readdressed Dnl Pkts	Total number of readdressed downlinked packets.
Readdressed Dnl Bytes	Total number of readdressed downlinked bytes.
TCP MSS Inserted Pkts	Total number of TCP Maximum Segment Size (MSS) inserted packets.

Field	Description
TCP MSS Limited Pkts	Total number of TCP MSS limited packets.
TCP 2msl port reuse	Total number of TCP connections reopened within 2msl timeframe.
ITC Terminated Flows	Total number of ITC terminated flows.
Total PP Dropped Packets	Total number of packets dropped.
Total PP Dropped Packet Bytes	Total number of bytes dropped.
R7Gx Rule-Matching Failure Stats:	
Total Dropped Packets	Total number of packets dropped by R7Gx due to rule matching failure, for the rulebase.
Total Dropped Packet Bytes	Total number of bytes dropped by R7Gx due to rule matching failure, for the rulebase.
TCP-proxy reset for non-SYN flows	Total number of resets sent by TCP Proxy for flows with no SYN packet after recovery.
EDRs	
Total EDRs generated	Total number of EDRs generated.
EDRs generated for handoff	Total number of EDRs generated for handoffs.
EDRs generated for timeout	Total number of EDRs generated for timeouts.
EDRs generated for normal-end-signaling	Total number of EDRs generated for normal end signaling.
EDRs generated for session end	Total number of EDRs generated for session ending.
EDRs generated for rule match	Total number of EDRs generated for rule matches.
EDRs generated for hagr	Total number of EDRs generated for HAGR.
EDRs generated for flow-end content-filtering	Total number of EDRs generated for flow-end Category-based Content Filtering.
In releases prior to StarOS 21.26: EDRs generated for flow-end url-blacklisting From StarOS 21.26 and later releases: EDRs generated for flow-end url-blockedlisting	Total number of EDRs generated for flow-end URL Blockedlisting.
EDRs generated for content-filtering	Total number of EDRs generated for Category-based Content Filtering.
EDRs generated for url-blacklisting	Total number of EDRs generated for URL Blacklisting.
EDRs generated for any-error packets	Total number of EDRs generated for any-error packets.

Field	Description
EDRs generated for firewall deny rule match	Total number of EDRs generated for firewall deny rule match.
EDRs generated for transaction completion	Total number of EDRs generated for completion of transactions.
EDRs generated for voip call end	Total number of EDRs generated on completion of voice calls.
EDRs generated for audio-end Sessions	Total number of EDRs generated on completion of audio sessions.
EDRs generated for video-end Sessions	Total number of EDRs generated on completion of video sessions.
Total Flow-Overflow EDRs	Total number of Flow-Overflow EDRs.
UDRs	
Total UDRs generated	Total number of UDRs generated.
UDRs generated for handoff	Total number of UDRs generated for handoffs.
UDRs generated for time limit	Total number of UDRs generated for time limits.
UDRs generated for volume limit	Total number of UDRs generated for volume limits.
UDRs generated for call end	Total number of UDRs generated for call endings.
UDRs generated for hagr	Total number of UDRs generated for HAGR.
UDRs generated for first-hit per content-id	Total number of UDRs generated for first hit content-Id trigger.
UDRs generated for CCRU response	Total number of UDRs generated for CCR-U response.
UDRs generated for offline charging	Total number of UDRs generated when offline charging trigger is received from DCCA.
UDRs generated for tariff time	Total number of UDRs generated when tariff time trigger is received.
UDRs generated for NEMO prefix update	Total number of UDRs generated for NEMO update event. **Important** This field is customer specific, and is available only with NEMO license.
GCDRs	
Total EGCDRs generated	Total number of eG-CDRs generated.
GCDRs for Normal Release	Total number of G-CDRs generated for normal releases.
GCDRs for Abnormal Release	Total number of G-CDRs generated for abnormal releases.
GCDRs for Volume Limit	Total number of G-CDRs generated for volume limits.
GCDRs for Time Limit	Total number of G-CDRs generated for time limits.
GCDRs for SGSN Change	Total number of G-CDRs generated for SGSN change.

Field	Description
GCDRs for Max Change Cond	Total number of G-CDRs generated for maximum change condition.
GCDRs for Mgmt Intervention	Total number of G-CDRs generated for management interventions.
GCDRs for RAT Change	Total number of G-CDRs generated for RAT changes.
GCDRs for MS Timezone Change	Total number of G-CDRs generated for MS timezone changes.
GCDRs for SGSN PLMN ID Change	Total number of G-CDRs generated for SGSN PLMN ID changes.
PGWCDRs for Normal Release	Total number of PGW-CDRs generated for normal releases.
PGWCDRs for Abnormal Release	Total number of PGW-CDRs generated for abnormal releases.
PGWCDRs for Volume Limit	Total number of PGW-CDRs generated for volume limits.
PGWCDRs for Time Limit	Total number of PGW-CDRs generated for time limits.
PGWCDRs for ServingNode Change	Total number of PGW-CDRs generated for Serving Node change.
PGWCDRs for Max Change Cond	Total number of PGW-CDRs generated for maximum change condition.
PGWCDRs for Mgmt Intervention	Total number of PGW-CDRs generated for management interventions.
PGWCDRs for RAT Change	Total number of PGW-CDRs generated for RAT changes.
PGWCDRs for MS Timezone Change	Total number of PGW-CDRs generated for MS timezone changes.
PGWCDRs for SGSN PLMN ID Change	Total number of PGW-CDRs generated for SGSN PLMN ID changes.
NBRs	NAT Binding Record (NBR) statistics. These fields are displayed, only if configured, in 8.3 and later releases.
Total NBRs generated	Total number of NBRs generated.
NBRs generated for port chunk allocation	Total number of NBRs generated for port chunk allocation.
NBRs generated for port chunk release	Total number of NBRs generated for port chunk release.
CAE-Readdressing:	
Requests CAE-Readdressed	Total number of request readdressing done.
Responses CAE-Readdressed	Total number of response readdressing done.
Requests having xheader inserted	Total number of HTTP requests with x-headers inserted.
Total CAE-Readdressed Uplink Bytes	Total number of uplink bytes readdressed.
Total CAE-Readdressed Uplink Packets	Total number of uplink packets readdressed.
Total CAE-Readdressed Downlink Bytes	Total number of downlink bytes readdressed.
Total CAE-Readdressed Downlink Packets	Total number of downlink packets readdressed.

Field	Description
Total Charging action hit - Req. Readdr.	Total number of charging action hits based on HTTP request.
Total Charging action hit - Resp. Readdr	Total number of charging action hits based on HTTP response.
Proxy Disable Success	Total number of flows with proxy disabled.
Flows connected to CAE	Total number of flows connected to the CAE.
CAE Readdressing Error Conditions	
Total connect failed to CAE	Total number of connections failed to the CAE.
Req. Readdr. - pipelined case	Total number of pipelined requests skipped from doing readdressing.
Resp. Readdr. - pipelined case	Total number of pipelined response skipped from doing readdressing.
Req. Readdr. - Socket Mig. failed	Total number of TCP socket migration failure during request readdressing.
Skipped Resp. Readdr. - partial resp hdr	Total number of response readdressing skipped due to partial response.
Resp. Readdr. - Socket Mig. failed	Total number of TCP socket migration failure during response readdressing.
Total CAE load balancer failed	Total number of load balancer failures to find the video server (CAE) for readdressing.
Total MVG xheader insertion failed	Total number of MVG x-header insertion failures. **Important** In release 20.0, MVG is not supported. For more information, contact your Cisco account representative.
Proxy Disable Failed	Total number of times the proxy disable function failed.
Tethering Detection	
TAC ID lookups	Total number of TAC ID lookups.
TAC ID matches	Total number of TAC IDs matched.
OS signatures lookups	Total number of OS signatures lookups.
OS signatures matches	Total number of OS signatures matched.
IPv6 OS signatures lookups	Total number of IPv6 OS signatures lookups.
IPv6 OS signatures matches	Total number of IPv6 OS signatures matched.
UA signatures lookups	Total number of UA signatures lookups.
UA signatures matches	Total number of UA signatures matched.
Total flows scanned	Total number of flows scanned.
Tethered flows detected	Total number of tethered flows detected.

Field	Description
Non-tethered flows detected	Total number of non-tethered flows detected.
TRM Statistics:	
Bypassed rule-matching	Total number of requests that bypassed rule matching, using the cached rule match instead.
Rule-matching bypass triggered	Total number of times a flow or transaction was put into bypass state, bypassing additional rule matching.
Failed to create dynamic flow element	Total number of times a flow or transaction failed to go into bypass state due to a shortage of memory control blocks for a dynamic rule list element.
Flow cleared, rule not found	Total number of times TRM was cleared from a flow or transaction due to the cached rule no longer being available (i.e. deleted from config).
Flow cleared, rule stats not found	Total number of times TRM was cleared from a flow or transaction due to the cached rule's statistics no longer being available (i.e. deleted from config).
Flow cleared, group not found	Total number of times TRM was cleared from a flow or transaction due to the group no longer being available (i.e. deleted from config).
Flow cleared, group rule error	Total number of times TRM was cleared from a flow or transaction due to the group's rule no longer matching the cached rule (i.e. config change).
Flow cleared, rule error	Total number of times TRM was cleared from a flow or transaction due to the rule ID in the rule control block no longer matching the cached rule ID (i.e. config change).
Flow cleared, rule expired	Total number of times TRM was cleared from a flow or transaction due to the expiry of a dynamic rule's time.
Flow cleared, pkts not forwarded	Total number of times TRM was cleared from a flow or transaction due to the packet not being forwarded for some reason (i.e. user QoS or out of quota).
Flow cleared, pkts buffered	Number of times TRM was cleared from a flow or transaction due to the packet being buffered for later transmit (i.e. quota redirect).
Flow cleared, SEF event	Total number of times TRM was cleared from a flow or transaction due to a user modification event (i.e. QoS change, policy change, etc).
Flow cleared, egcdr bucket idle time out	Total number of times TRM was cleared from a flow or transaction due to service idle timeout expiry of eG-CDR bucket.
FastPath Eligible Flows	Number of data flows which were fastpath eligible for this rulebase.
FastPath Packets	Number of data packets processed in fastpath for this rulebase.
FastPath Failures	Number of fastpath packet errors encountered for this rulebase.
Override Control Install Statistics:	
Total number of Overrides Received	Total number of overrides received for the specified rulebase.

Field	Description
Total number of Overrides Succeeded	Total number of overrides succeeded for the specified rulebase.
Total number of Overrides Failed	Total number of overrides failed for the specified rulebase.
Total number of Subscribers	Total number of subscribers with override control in the specified rulebase.
Disable Override Control Statistics:	
Total number of Disables Received	Total number of disable overrides received for the specified rulebase.
Total number of Disables Succeeded	Total number of disable overrides succeeded for the specified rulebase.
Total number of Disables Failed	Total number of disable overrides failed for the specified rulebase.

show active-charging rulebase statistics name

Table 78: show active-charging rulebase statistics name Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Rulebase Name	Name of the rulebase.
Uplink Pkts	Total number of packets uplinked.
Uplink Bytes	Total number of bytes uplinked.
Downlink Pkts	Total number of packets downlinked.
Downlink Bytes	Total number of bytes downlinked.
Readdressed Upl Pkts	Total number of readdressed uplink packets.
Readdressed Upl Bytes	Total number of readdressed uplink bytes.
Readdressed Dnl Pkts	Total number of readdressed downlink packets.
Readdressed Dnl Bytes	Total number of readdressed downlink bytes.
Total Readdressing Failures	Total number of packets with readdressing failures.
Non Syn Flow	Total number of readdressing packets with a non SYN flow failure.
Duplicate Key	Total number of readdressing packets with a duplicate key failure.
Dropped Pkts	Total number of packets discarded on readdressing failure.
TCP MSS Inserted Pkts	Total number of Maximum Segment Size (MSS) inserted packets.
TCP MSS Limited Pkts	Total number of MSS limited packets.

Field	Description
TCP MSS Limited Pkts	Total number of MSS limited packets.
TCP 2msl port reuse	Total number of TCP connections reopened within 2msl timeframe.
Total PP Dropped Packets	Total number of packets dropped.
Total PP Dropped Packet Bytes	Total number of bytes dropped.
One Time Hit PCC Rule Matched	Total number of matches for one time hit PCC rules.
R7Gx Rule-Matching Failure Stats:	
Total Dropped Packets	Total number of packets dropped by R7Gx due to rule matching failure, for the rulebase.
Total Dropped Packet Bytes	Total number of bytes dropped by R7Gx due to rule matching failure, for the rulebase.
P2P random drop stats:	
Total Dropped Packets	Total number of packets dropped due to random drop to degrade voice quality.
Total Dropped Packet Bytes	Total number of bytes dropped due to random drop to degrade voice quality.
Predefined Rule Retention Statistics:	
Total number of Predefined Retention Succeeded	Total number of predefined retention succeeded.
Total number of Predefined Retention Failed	Total number of predefined retention failed.
Predefined Rule Installation Statistics:	
Total Number of Installation Received	Total number of predefined installation received.
Total Number of Installation Succeeded	Total number of predefined installation succeeded.
Total Number of Installation Failed	Total number of predefined installation failed.
Predefined Rule Removal Statistics:	
Total Number of Removal Received	Total number of predefined removal received.
Total Number of Removal Succeeded	Total number of predefined removal succeeded.
Total Number of Removal Failed	Total number of predefined removal failed.
Charging EDRs:	
Total Charging EDRs generated	Total number of EDRs generated.
EDRs generated for handoff	Total number of EDRs generated for handoffs.
EDRs generated for timeout	Total number of EDRs generated for timeouts.

Field	Description
EDRs generated for normal-end-signaling	Total number of EDRs generated for normal end signaling.
EDRs generated for session end	Total number of EDRs generated for session ends.
EDRs generated for rule match	Total number of EDRs generated for rule matches.
EDRs generated for hagr	Total number of EDRs generated for HAGR.
EDRs generated for flow-end content-filtering	Total number of EDRs generated for flow-end content filtering.
EDRs generated for content-filtering	Total number of EDRs generated for content filtering.
EDRs generated for any-error packets	Total number of EDRs generated for packets dropped by Firewall due to any error.
EDRs generated for firewall deny rule match	Total number of EDRs generated for firewall deny rule matches.
EDRs generated for voip call end	Total number of EDRs generated on completion of voice calls.
EDRs generated for dcca failure handling	Total number of EDRs generated for DCCA failure handling.
EDRs generated for audio-end Sessions	Total number of EDRs generated on completion of audio sessions.
EDRs generated for video-end Sessions	Total number of EDRs generated on completion of video sessions.
EDRs generated for tethering signature change	Total number of EDRs generated for tethering signature change.
Reporting EDRs:	
Total Reporting EDRs generated	Total number of REDRs generated.
REDRs generated for handoff	Total number of REDRs generated for handoffs.
REDRs generated for timeout	Total number of REDRs generated for timeouts.
REDRs generated for normal-end-signaling	Total number of REDRs generated for normal end signaling.
REDRs generated for session end	Total number of REDRs generated for session ends.
REDRs generated for rule match	Total number of REDRs generated for rule matches.
REDRs generated for hagr	Total number of REDRs generated for HAGR.
REDRs generated for flow-end content-filtering	Total number of REDRs generated for flow-end content filtering.

Field	Description
In releases prior to StarOS 21.26: REDRs generated for flow-end url-blacklisting From StarOS 21.26 and later releases: REDRs generated for flow-end url-blockedlisting	Total number of REDRs generated for flow-end url-blockedlisting .
EDRs generated for content-filtering	Total number of REDRs generated for content filtering.
In releases prior to StarOS 21.26: REDRs generated for url-blacklisting From StarOS 21.26 and later releases: REDRs generated for url-blockedlisting	Total number of REDRs generated for url-blockedlisting.
REDRs generated for any-error packets	Total number of REDRs generated for packets dropped by Firewall due to any error.
REDRs generated for firewall deny rule match	Total number of REDRs generated for firewall deny rule matches.
REDRs generated for transaction completion	Total number of REDRs generated for transaction completion.
REDRs generated for voip call end	Total number of REDRs generated on completion of voice calls.
REDRs generated for tethering signature change	Total number of REDRs generated for tethering signature change.
UDRs:	
Total UDRs generated	Total number of UDRs generated.
UDRs generated for handoff	Total number of UDRs generated for handoffs.
UDRs generated for time limit	Total number of UDRs generated for time limits.
UDRs generated for volume limit	Total number of UDRs generated for volume limits.
UDRs generated for call end	Total number of UDRs generated for call ends.
UDRs generated for hagr	Total number of UDRs generated for HAGR.
GCDRs:	
Total EGCDRs generated	Total number of eG-CDRs generated.
GCDRs for Normal Release	Total number of G-CDRs generated for normal releases.
GCDRs for Abnormal Release	Total number of G-CDRs generated for abnormal releases.

Field	Description
GCDRs for Volume Limit	Total number of G-CDRs generated for volume limits.
GCDRs for Time Limit	Total number of G-CDRs generated for time limits.
GCDRs for SGSN Change	Total number of G-CDRs generated for SGSN changes.
GCDRs for Max Change Cond	Total number of G-CDRs generated for maximum change condition.
GCDRs for Mgmt Intervention	Total number of G-CDRs generated for management interventions.
GCDRs for RAT Change	Total number of G-CDRs generated for RAT changes.
GCDRs for MS Timezone Change	Total number of G-CDRs generated for MS timezone changes.
GCDRs for SGSN PLMN ID Change	Total number of G-CDRs generated for SGSN PLMN ID changes.
Total rulebases matched	Total number of rulebases that matched the specified criteria.
Tethering Detection stats:	
TAC ID lookups	Total number of TAC ID lookups.
TAC ID matches	Total number of TAC ID matches.
OS signature lookups	Total number of OS signature lookups.
OS signature matches	Total number of OS signature matches.
UA signature lookups	Total number of UA signature lookups.
UA signature matches	Total number of UA signature matches.
Total flows scanned	Total number of flows scanned for tethering detection.
Tethered flows detected	Total number of tethered flows detected.
Tethered Uplink Packets	Total number of uplink packets for tethered flows.
Tethered Downlink Packets	Total number of downlink packets for tethered flows.
Tethering Detection Statistics (ip-ttl)	
Total flows scanned	Total number of flows scanned.
Tethered flows detected	Total number of tethered flows detected.
Tethered uplink packets	Total number of uplink packets for tethered flows.
Tethered downlink packets	Total number of downlink packets for tethered flows.
Change Statistics for Multiple SYN in Flow:	
Tethered to Non-Tethered	This counter is updated when previous SYN has tethered signature and new SYN has non-tethered signature.

Field	Description
Non-Tethered to Tethered	This counter is updated when previous SYN has non-tethered signature and new SYN has tethered signature.
Tethered to Tethered	This counter is updated when previous SYN has tethered signature and new SYN also has tethered signature.
Non-Tethered to Non-Tethered	This counter is updated when previous SYN has non-tethered signature and new SYN also has non-tethered signature.
Header Enrichment stats:	
HTTP header buffering limit reached	Total number of times the HTTP header buffering fails due to the maximum buffering limit reached. On a header buffering failure, the buffered packets are flushed and sent out without modification, and rule matching is performed on the last packet where the header finished.
Enterprise-ID received over Gx	Indicates the Enterprise ID of a user that PCRF sends in a custom-AVP over the Gx interface.
TRM Statistics:	
Bypassed rule-matching	Total number of requests that bypassed rule matching, using the cached rule match instead.
Rule-matching bypass triggered	Total number of times a flow or transaction was put into bypass state, bypassing additional rule matching.
Failed to create dynamic flow element	Total number of times a flow or transaction failed to go into bypass state due to a shortage of memory control blocks for a dynamic rule list element.
Flow cleared, rule not found	Total number of times TRM was cleared from a flow or transaction due to the cached rule no longer being available (i.e. deleted from config).
Flow cleared, rule stats not found	Total number of times TRM was cleared from a flow or transaction due to the cached rule's statistics no longer being available (i.e. deleted from config).
Flow cleared, group not found	Total number of times TRM was cleared from a flow or transaction due to the group no longer being available (i.e. deleted from config).
Flow cleared, group rule error	Total number of times TRM was cleared from a flow or transaction due to the group's rule no longer matching the cached rule (i.e. config change).
Flow cleared, rule error	Total number of times TRM was cleared from a flow or transaction due to the rule ID in the rule control block no longer matching the cached rule ID (i.e. config change).
Flow cleared, rule expired	Total number of times TRM was cleared from a flow or transaction due to the expiry of a dynamic rule's time.
Flow cleared, pkts not forwarded	Total number of times TRM was cleared from a flow or transaction due to the packet not being forwarded for some reason (i.e. user QoS or out of quota).

Field	Description
Flow cleared, pkts buffered	Number of times TRM was cleared from a flow or transaction due to the packet being buffered for later transmit (i.e. quota redirect).
Flow cleared, SEF event	Total number of times TRM was cleared from a flow or transaction due to a user modification event (i.e. QoS change, policy change, etc).
FastPath Eligible Flows	Number of data flows which were fastpath eligible for this rulebase.
FastPath Packets	Number of data packets processed in fastpath for this rulebase.
FastPath Failures	Number of fastpath packet errors encountered for this rulebase.
URL-Readdressing:	
Requests URL-Readdressed	Total number of URL-readdressed requests.
Total Charging action hit - Req. Readdr.	Total number of charging action hits based on request readdressing.
Proxy Disable Success	Total number of flows with proxy disabled.
Flows connected to URL Server	Total number of flows connected to URL server.
URL Readdressing Error Conditions:	
Total connect failed to URL Server	Total number of failed connections to the URL server.
URL Readdress - pipelined case	Total number of pipelined requests skipped during URL readdressing.
URL Readdress - Socket Mig. failed	Total number of TCP socket migration failure during URL readdressing.
Proxy Disable Failed	Total number of times the proxy disable function failed.
Dynamic Rule Statistics	
Rule Installation Statistics	
Total number of Installation Received	The number of dynamic rules received for installation from PCRF
Total number of Installation Succeeded	The number of dynamic rules installed successfully
Total number of Installation Failed	The number of dynamic rule installations failed
Rule Installation Failure Statistics:	
Unknown Rule Name Error	The number of dynamic rule installations failed because the rule name was not specified
Rating Group Error	The number of dynamic rule installations failed because rating group was invalid/missing.
Service ID Error	The number of dynamic rule installations failed because the service ID was invalid/missing.
Trigger Policy Failure	The number of dynamic rule installations failed because of internal policy failure

Field	Description
Resources Limitation	The number of dynamic rule installations failed because of the limitation of resources
Maximum Number Of Bearer Reached	The number of dynamic rule installations failed because the maximum limit of bearer is reached
Flow Information Missing	The number of dynamic rule installations failed because the flow information is missing
Resource Allocation Failure	The number of dynamic rule installations failed because the resource allocation failed.
QOS Validation Error	The number of dynamic rule installations failed because the QoS validation failed.
Incorrect Flow Information	Number of dynamic rule installations failed because the flow information is incorrect.
Adc Rule - Redirect Server Address Missing	Number of dynamic rule installations failed because the redirect address is missing in an ADC rule.
Adc Rule - TDF App ID Error	Number of dynamic rule installations failed because the TDF Application ID is invalid/missing.
Rule Modification Statistics:	
Total number of Modification Received	Number of dynamic rule modifications received.
Total number of Modification Succeeded	Number of dynamic rule modifications succeeded.
Total number of Modification Failed	Number of dynamic rule modifications failed
Rule Modification Failure Statistics:	
Rating Group Error	Number of dynamic rule modifications failed because the rating group is invalid/missing
Service ID Error	Number of dynamic rule modifications failed because the service ID is invalid/missing.
Trigger Policy Failure	Number of dynamic rule modifications failed because of the internal policy failure
Resources Limitation	Number of dynamic rule modifications failed because of the limitation of resources.
Maximum Number Of Bearer Reached	Number of dynamic rule modifications failed because the maximum limit of bearer is reached.
Resource Allocation Failure	Number of dynamic rule modifications failed because of allocation of resources failed.
QOS Validation Error	Number of dynamic rule modifications failed because the QoS validation failed.
Incorrect Flow Information	Number of dynamic rule modifications failed because the flow information is incorrect.

Field	Description
Adc Rule - Redirect Server Address Missing	Number of dynamic rule modifications failed because the redirect address is missing in an ADC rule.
Adc Rule - TDF App ID Error	Number of dynamic rule modifications failed because the TDF application ID is invalid/missing in an ADC rule.
Common Rule Statistics	
Total Number Of Common Rules Received	Number of dynamic rules received in installation/modification.
Total Number Of Common Failures	Number of dynamic rules failed in installation/modification.
Unknown Bearer ID Error	Number of dynamic rules failed during installation/modification because the bearer ID is not known
Resource Allocation Failure	Number of dynamic rules failed during installation/modification because the resource allocation failed
Already Installed Rule removal	
Total Number Of Intended Removals	Number of dynamic rules intentionally failed due to some internal event.
PS to CS Handover	Number of dynamic rules intentionally failed due to PS to CS handover.
Resource Allocation Failure	Number of dynamic rules intentionally failed due to resource allocation failure.
Rule Removal Statistics	
Total Number Of Removal Received	Number of dynamic rule removals received.
Total Number Of Removal Succeeded	Number of dynamic rules removed successfully.
Total Number Of Removal Failed	Number of dynamic rule removals failed.
Rule Removal Failure Statistics:	
BCM Mode Mismatch	Number of dynamic rule removals failed because the BCM mode has changed
Condition Action Statistics:	
Out of Credit allow actions received	Total number of times the "out of credit allow" actions have been received.
Action applied to packets	Total number of packets to which the "out of credit allow" actions are applied.
Action applied to bytes	Total number of bytes to which the "out of credit allow" actions are applied.
Current Opt-In Subscribers	Indicates the current Opt-In subscribers.
Total UIDH Request	Indicates the total number of UIDH requests.
Initial	Specifies the total number of initial UIDH requests transmitted
Refresh	Specifies the total number of UIDH Refresh Requests transmitted.
Total UIDH OptIn Response	Indicates the total number of UIDH Opt-In response.

Field	Description
Initial	Specifies the total of UIDH OPT-In (subscribers that have opted for UIDH service) response for the Initial Requests.
Refresh	Specifies the total of UIDH OPT-In (subscribers that have opted for UIDH service) response for Refresh Requests.
Total UIDH OptOut Response	Indicates the total number of Opt-out response.
Initial	Specifies the total of UIDH OPT-Out (subscribers that have opted out from the UIDH service) response received for Initial Requests.
Refresh	Specifies the total of UIDH OPT-Out (subscribers that have opted out from the UIDH service) response received for Refresh Requests.
UIDH Failure	Indicates the UIDH Failure.
Request Timeout	Specifies the total number of UIDH Requests that have expired on reaching the timeout value.
Initial	Specifies the total number of initial UIDH Requests that have expired on reaching the timeout value.
Refresh	Specifies the total number of refresh UIDH requests that have expired on reaching the timeout value.
Error Response Code	Indicates the UIDH Failure with an error response code.
Initial	Specifies the total of Failure Code UIDH response received for Initial Requests.
Refresh	Specifies the total of Failure Code UIDH response received for Refresh Requests.
Invalid Length	
Initial	
Refresh	
Request Enqueue Failed	
Initial	
Refresh	
Total UIDH Insertions	Indicates the total number of UIDH insertions in a HTTP request.
UIDH Whitelist Statistics	
URL Host Lookups	Specifies the number of URL Host lookups
URL Host Lookup Failed	Specifes the number of URL Host lookups that resulted in failure.
URL Host Matches	Specifies the number of URL Hosts matched.
URL Host Lookup Bypass	Specifies the number of URL Host Lookups bypassed

Field	Description
VPP Offload Statistics:	
Total Flows	Total number of flows.
Current Active Flows	Total number of active current flows.
IPv4:	
Uplink Pkts	Total number of IPv4 packets uplinked.
Uplink Bytes	Total number of IPv4 bytes uplinked.
Downlink Pkts	Total number of IPv4 packets downlinked.
Downlink Bytes	Total number of IPv4 bytes downlinked.
Dropped Uplink Pkts	Total number of IPv4 uplink packets discarded.
Dropped Uplink Bytes	Total number of IPv4 uplink bytes discarded.
Dropped Downlink Pkts	Total number of IPv4 downlink packets discarded.
Dropped Downlink Bytes	Total number of IPv4 downlink bytes discarded.
IPv6:	
Uplink Pkts	Total number of IPv6 packets uplinked.
Uplink Bytes	Total number of IPv6 bytes uplinked.
Downlink Pkts	Total number of IPv6 packets downlinked.
Downlink Bytes	Total number of IPv6 bytes downlinked.
Dropped Uplink Pkts	Total number of IPv6 uplink packets discarded.
Dropped Uplink Bytes	Total number of IPv6 uplink bytes discarded.
Dropped Downlink Pkts	Total number of IPv6 downlink packets discarded.
Dropped Downlink Bytes	Total number of IPv6 downlink bytes discarded.

show active-charging ruledef firewall

Table 79: show active-charging ruledef firewall Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Ruledef Name	Name of the ruledef.

Field	Description
tcp client-port	The TCP client port number.
tcp dst-port	The TCP destination port number.
tcp src-port	The TCP source port number.
tcp server-port	The TCP server port number.
udp client-port	The UDP client port number.
udp dst-port	The UDP destination port number.
udp src-port	The TCP source port number.
udp server-port	The UDP server port number.
ip any-match	Indicates whether the ruledef analyzes user traffic based on IP analyzed state—true/false.
Rule Application Type	The rule application type—firewall.
Create-log-record	Indicates whether logging is enabled or disabled.
Total ruledef(s) configured	Total number of Stateful Firewall ruledefs configured.

show active-charging ruledef statistics

Table 80: show active-charging ruledef statistics Command Output Descriptions

Field	Description
Total Charging Ruledefs	Total number of charging ruledefs configured.
Uplink Packets	Total number of packets received in uplink flow.
Uplink Bytes	Total number of bytes received in uplink flow.
Downlink Packets	Total number of packets received in downlink flow.
Downlink Bytes	Total number of bytes received in downlink flow.
Hits	Total number of events.
Match-Bypassed	Total number of packets bypassed on all ruledefs.
Total Post-processing Ruledefs	Total number of post-processing ruledefs configured.
Uplink Packets	Total number of packets received in uplink flow.
Uplink Bytes	Total number of bytes received in uplink flow.
Downlink Packets	Total number of packets received in downlink flow.

Field	Description
Downlink Bytes	Total number of bytes received in downlink flow.
Hits	Total number of events.
Total Firewall Ruledefs	Total number of Stateful Firewall ruledefs configured.
Uplink Packets	Total number of packets received in uplink flow.
Uplink Bytes	Total number of bytes received in uplink flow.
Downlink Packets	Total number of packets received in downlink flow.
Downlink Bytes	Total number of bytes received in downlink flow.
Uplink Packets Dropped	Total number of packets dropped in uplink flow.
Uplink Bytes Dropped	Total number of bytes dropped in uplink flow.
Downlink Packets Dropped	Total number of packets dropped in downlink flow.
Downlink Bytes Dropped	Total number of bytes dropped in downlink flow.
Hits	Total number of events.
Total TPO Ruledefs	**Important** The Traffic Performance Optimization (TPO) in-line service is not supported in this release.
Hits	**Important** The Traffic Performance Optimization (TPO) in-line service is not supported in this release.
Total Default Firewall Ruledefs	Total number of default Firewall ruledefs.
Uplink Packets	Total number of packets received in uplink flow.
Uplink Bytes	Total number of bytes received in uplink flow.
Downlink Packets	Total number of packets received in downlink flow.
Downlink Bytes	Total number of bytes received in downlink flow.
Uplink Packets Dropped	Total number of packets dropped in uplink flow.
Uplink Bytes Dropped	Total number of bytes dropped in uplink flow.
Downlink Packets Dropped	Total number of packets dropped in downlink flow.
Downlink Bytes Dropped	Total number of bytes dropped in downlink flow.
Hits	Total count of hits by default Firewall ruledefs.

show active-charging ruledef statistics all firewall wide

Table 81: show active-charging ruledef statistics all firewall wide Command Output Descriptions

Field	Description
Ruledef Name	Name of the Stateful Firewall ruledef.
Packets-Down	Total number of packets downlinked.
Bytes-Down	Total number of bytes downlinked.
Packets-Up	Total number of packets uplinked.
Bytes-Up	Total number of bytes uplinked.
Pkts-Drop-Dn	Total number of downlink packets dropped.
Bytes-Drop-Dn	Total number of downlink bytes dropped.
Pkts-Drop-Up	Total number of uplink packets dropped.
Bytes-Drop-Up	Total number of uplink bytes dropped.
Hits	Total number of events.
Match-Bypassed	Total number of packets bypassed on all ruledefs.
Total Ruledef(s)	Total number of ruledefs.
SFW Default Ruledefs:	
ALG Pinholes	Total number of packets which do not match SFW ruledefs configured in Firewall-and-NAT policy when NAT ALG is enabled in ECS but allowed to reach ISP or vice-versa.
Default Uplink	Total number of packets which do not match any SFW ruledefs configured but allowed to reach ISP from MS (uplink). This is due to the default SFW behavior.
Default Downlink	Total number of packets which do not match any SFW ruledefs configured but allowed to reach MS from ISP (downlink). This is due to the default SFW behavior.
Total Ruledef(s)	Total number of ruledefs per ACS sub-session.
Total Default SFW Ruledef(s)	Total number of default SFW ruledefs.

show active-charging ruledef statistics all charging

Table 82: show active-charging ruledef statistics all charging Command Output Descriptions

Field	Description
Ruledef Name	Name of the charging ruledef.
Packets-Down	Total number of packets downlinked.
Bytes-Down	Total number of bytes downlinked.
Packets-Up	Total number of packets uplinked.
Bytes-Up	Total number of bytes uplinked.
Hits	Total number of events.
Total Ruledef(s)	Total number of charging ruledefs.

show active-charging ruledef statistics all tpo

The Traffic Performance Optimization (TPO) in-line service is not supported in this release.

show active-charging ruledef tpo

The Traffic Performance Optimization (TPO) in-line service is not supported in this release.

show active-charging service all

Table 83: show active-charging service all Command Output Descriptions

Field	Description
Service name	Name of the Active Charging Service.
TCP Flow Idle Timeout	TCP flow idle timeout period, in seconds.
UDP Flow Idle Timeout	UDP flow idle timeout period, in seconds.
ICMP Flow Idle Timeout	ICMP flow idle timeout period, in seconds.
ALG Media Idle Timeout	The configured ALG media idle timeout value, in seconds.
TCP Flow-Mapping Idle Timeout	The configured TCP flow-mapping timeout value, in seconds.
UDP Flow-Mapping Idle Timeout	The configured UDP flow-mapping timeout value, in seconds.

Field	Description
Deep Packet Inspection	Indicates whether Deep Packet Inspection is enabled.
Passive Mode	Indicates whether Passive Mode is enabled.
CDR Flow Control	Indicates whether CDR Flow Control is enabled.
Content Filtering	Indicates whether Category-based Content Filtering is enabled.
Dynamic Content Filtering	Indicates whether Dynamic Content Filtering is enabled.
In releases prior to StarOS 21.26: URL-Blacklisting From StarOS 21.26 and later releases: URL-Blockedlisting	Indicates whether URL Blockedlisting is enabled.
In releases prior to StarOS 21.26: URL-Blacklisting Match-method From StarOS 21.26 and later releases: URL-Blockedlisting Match-method	Indicates the URL Blockedlisting method to look up URLs in the URL Blockedlisting database.
Content Filtering Match-method	Indicates the match method to look up URLs in the category-based content filtering database.
Interpretation of Charging-rule-base-name	Indicates how the Charging-Rule-Base-Name AVP from PCRF is interpreted, either as ACS rulebase or ACS group-of-ruledefs.
Selection of Charging-rule-base	If multiple Charging-Rule-Base-Name AVP are received from the PCRF, indicates which rulebase is selected and applied to the call, the first or the last rulebase.
optimize-update	Enables multiple policy optimization.
pra-change	Enables optimization policies for PRA changes.
Credit Control:	
Mode	Indicates the pre-paid charging application mode—Diameter or RADIUS.
APN-name-to-be-included	Indicates the APN name to be sent in CCA messages.
Trigger-Type	Indicates the credit control reauthorization trigger type.
Event-Trigger-Type	Indicates the configured credit control reauthorization event trigger type.
Failure-Handling	
Initial-Request	Indicates whether initial-request calls will be continued/terminated/retired in the event of a communication failure with the pre-paid server.
Update-Request	Indicates whether update-request calls will be continued/terminated/retired in the event of a communication failure with the pre-paid server.

Field	Description
Terminate-Request	Indicates whether terminate-request calls will be continued/terminated/retired in the event of a communication failure with the pre-paid server.
Server Unreachable Failure-Handling	
Initial-Request	Indicates whether initial-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable.
Update-Request	Indicates whether update-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable.
Diameter:	
Endpoint	Name of the Diameter endpoint.
Endpoint-Realm	Realm of the Diameter endpoint.
Dictionary	The Diameter dictionary used for Credit Control.
Session-Failover	Indicates whether Session Failover is supported.
Pending-Timeout	Indicates the pending timeout period, in seconds.
HDD	Indicates whether the Credit-Control group has been configured to store the failed CCR-Ts in the HDD.
Peer-Select:	
Peer	Name of the peer.
Realm	Indicates realm for the peer.
Secondary-Peer	Name of the secondary peer.
Realm	Indicates realm for the secondary peer.
IMSI-Based Start-Value	To select the Diameter peer based on the International Mobile Subscriber Identification (IMSI) number, specify the start of range in integer value of IMSI.
IMSI-Based End-Value	The end of range in integer value of IMSI.
MSISDN-Range-Mode	To select the Diameter peer based on Mobile Station International Subscriber Directory (MSISDN) number, specify the prefix or suffix mode.
MSISDN-Based Start-Value	To select the peer based on MSISDN value, specify the start of range in integer value of MSISDN.
MSISDN-Based End-Value	The end of range in integer value of MSISDN.
Quota	
Request-Trigger	Indicates the trigger action on packets on crossing the threshold limit of subscriber quota in the pre-paid credit control service.

Field	Description
Holding-Time	Indicates the Quota Holding Time (QHT).
Validity-Time	Indicates the validity lifetime of the quota in seconds.
Time-Threshold	Indicates the time threshold for pre-paid credit control quota.
Units-Threshold	Indicates the units threshold for DCCA quota in percentage.
Volume-Threshold	Indicates the volume threshold for pre-paid credit control quota.
Pending-Traffic-Treatment	
trigger	Indicates the trigger status.
forced-reauth	Indicates status of the Diameter credit control pending traffic treatment for forced reauthorization.
no-quota	Indicates status of the Diameter credit control pending traffic treatment quota.
quota-exhausted	Indicates status of the Diameter credit control pending traffic treatment for exhausted quota.
validity-expired	Indicates status of the Diameter credit control pending traffic treatment for validity.
Redirection	Indicates whether or not the "user-agent" check in the HTTP header is enabled.
diameter mscc-final-unit-action terminate	Indicates whether a PDP session or a category is terminated based on the user's quota and Final-Unit-Action (FUA) at **Multiple-Services-Credit-Control** (MSCC) level.

show active-charging service-scheme statistics

Table 84: show active-charging service-scheme statistics Command Output Descriptions

Field	Description
Service-name	The active charging service name.
Service-Scheme	The active charging service-scheme name.
Total Subscribers	Total number of subscribers configured on the system.
Total service scheme(s) found	Total number of configured active charging service-schemes.

show active-charging sessions all

Table 85: show active-charging sessions all Command Output Descriptions

Field	Description
SESSIONID	The active charging session ID.
CALLID	The Call ID.
IMSI/MSID	Indicates the International Mobile Subscriber Identification/Mobile Station ID.
IP	IP address of the client.
USERNAME	Name of the subscriber.
OC	Indicates the Override Control status as ON or OFF based on whether OC is enabled or disabled for the call.

show active-charging sessions credit-control server-unreachable

Table 86: show active-charging sessions credit-control server-unreachable Command Output Descriptions

Field	Description
SESSIONID	The active charging session ID.
CALLID	The call ID.
IMSI/MSID	The International Mobile Subscriber Identification/Mobile Station ID.
IP	IP address of client.
USERNAME	Name of the subscriber.
Total acs sessions matching specified criteria	Total number of ACS sessions with firewall enabled.

show active-charging sessions firewall required

Table 87: show active-charging sessions firewall required Command Output Descriptions

Field	Description
SESSIONID	The active charging session ID.

Field	Description
CALLID	The call ID.
IMSI/MSID	The International Mobile Subscriber Identification/Mobile Station ID.
IP	IP address of client.
USERNAME	Name of the subscriber.
Total acs sessions matching specified criteria	Total number of ACS sessions with firewall enabled.

show active-charging sessions full

Table 88: show active-charging sessions full Command Output Descriptions

Field	Description
Session-ID	The active charging session ID.
Username	Name of the subscriber.
Callid	The Call ID.
IMSI/MSID	Indicates the International Mobile Subscriber Identification/Mobile Station ID.
ACSMgr Instance	Total instances of ACS Manager.
ACSMgr Card/Cpu	Total number of ACS Manager Card/CPU.
Client-IP	In 14.0 and later releases, prefix of IPv6 address or IPv4 address of the client for all call types. In 12.3 and earlier releases, IPv6 address or IPv4 address of the client for all call types.
SessMgr Instance	Total instances of Session Manager.
NAS-IP	IP address of Network Access Server.
NAS-PORT	TCP port of Network Access Server.
Access-NAS-IP(FA)	IP address of accessed Network Access Server Foreign Agent (FA).
NSAPI	Total instances of NS APIs used.
Acct-Session-ID	The accounting session ID.
NAS-ID	The Network Access Server ID.
Access-NAS-ID(FA)	Accessed Network Access Server Foreign Agent (FA) ID.
3GPP2-BSID	3GPP2 base station ID.

Field	Description
Access-Correlation-ID(FA)	Access correlation ID for FA.
3GPP2-Correlation-ID	Mobile IP Correlation ID.
MEID	Mobile equipment's unique Mobile Equipment IDentifier (MEID).
Carrier-ID	Carrier or service ID.
ESN	Electronic Serial Number (ESN) of mobile equipment.
Uplink Bytes	Total bytes uploaded.
Downlink Bytes	Total bytes downloaded.
Uplink Packets	Total packets uploaded.
Downlink Packets	Total packets downloaded.
Injected Uplink Bytes	Total bytes injected to upload.
Injected Downlink Bytes	Total bytes injected to download.
Injected Uplink Packets	Total packets injected to upload.
Injected Downlink Packets	Total packets injected to download.
Buffered Uplink Packets	Total buffered packets for uplink.
Buffered Downlink Packets	Total buffered packets for downlink.
Buffered Uplink Bytes	Total buffered bytes for uplink.
Buffered Downlink Bytes	Total buffered bytes for uplink.
Uplink Packets in Buffer	Total number of uplink packets in the buffer.
Uplink Bytes in Buffer	Total number of uplink bytes in the buffer.
Downlink Packets in Buffer	Total number of downlink packets in the buffer.
Downlink Bytes in Buffer	Total number of downlink bytes in the buffer.
Buff Over-limit Uplink Pkts	Total number of uplink packets that were over the buffer limit.
Buff Over-limit Uplink Bytes	Total number of uplink bytes that were over the buffer limit.
Buff Over-limit Downlink Pkts	Total number of downlink packets that were over the buffer limit.
Buff Over-limit Downlink Bytes	Total number of downlink bytes that were over the buffer limit.
Processed Uplink Packets	Total packets processed for upload.
Processed Downlink Packets	Total packets processed for download.
Dropped Uplink Packets	Total packets dropped in uplink direction.

Field	Description
Dropped Downlink Packets	Total packets dropped in downlink direction.
Uplink Out of Order Packets	Total out of order packets in uplink direction.
Downlink Out of Order Packets	Total out of order packets in downlink direction.
ITC Terminated Flows	Total number of flows terminated by Intelligent Traffic Control service.
ITC Redirected Flows	Total number of flows redirected by Intelligent Traffic Control service.
ITC Dropped Packets	Total number of packets dropped by Intelligent Traffic Control service.
ITC ToS Remarked Packets	Total number of packets marked with Type of Service (ToS) by Intelligent Traffic Control service.
ITC Dropped Upl Pkts	Total number of packets in uplink direction, that were dropped by Intelligent Traffic Control service.
ITC Dropped Dnl Pkts	Total number of packets in downlink direction, that were dropped by Intelligent Traffic Control service.
ITC Dropped Upl Bytes	Total number of uplink bytes dropped by Intelligent Traffic Control service.
ITC Dropped Dnl Bytes	Total number of downlink bytes dropped by Intelligent Traffic Control service.
R7Gx Dropped Upl Packets	Total number of packets dropped by R7Gx in uplink direction.
R7Gx Dropped Dnl Packets	Total number of packets dropped by R7Gx in downlink direction.
R7Gx Dropped Upl Pkts RuleMatch Fail	Total number of packets dropped by R7Gx in uplink direction due to rulematch failure—no matching rule is found.
R7Gx Dropped Upl Bytes RuleMatch Fail	Total number of bytes dropped by R7Gx in uplink direction due to rulematch failure.
R7Gx Dropped Dnl Pkts RuleMatch Fail	Total number of packets dropped by R7Gx in downlink direction due to rulematch failure.
R7Gx Dropped Dnl Bytes RuleMatch Fail	Total number of bytes dropped by R7Gx in downlink direction due to rulematch failure.
CC Dropped Uplink Packets	Total number of packets dropped by credit control in uplink direction.
CC Dropped Uplink Bytes	Total number of bytes dropped by credit control in uplink direction.
CC Dropped Downlink Packets	Total number of packets dropped by credit control in downlink direction.
CC Dropped Downlink Bytes	Total number of bytes dropped by credit control in downlink direction.
NRUPC Req Made	Total number of Network Requested Update PDP Context (NRUPC) requests made.
NRUPC Req Success	Total number of NRUPC requests succeeded.

Field	Description
NRUPC Req Failed	Total number of NRUPC requests failed.
NRUPC Req Time Out	Total number of NRUPC requests timed out.
Current Readdressed Sessions	Number of current re-addressed sessions
Total Readdressed Uplink Pkts	Total number of re-addressed uplink packets.
Total Readdressed Uplink Bytes	Total number of re-addressed uplink bytes.
Total Readdressed Downlink Pkts	Total number of re-addressed downlink packets.
Total Readdressed Downlink Bytes	Total number of re-addressed downlink bytes.
Total Readdressing Failure	Total number re-addressing failures.
Creation Time	Time display in UTC format.
Last Pkt Time	Time of last packet created.
Duration	Duration of session.
Active Charging Service name	Name of the active charging service.
Rule Base name	Name of the rulebase applied.
Bandwidth Policy	The ACS bandwidth policy applicable for subscriber.
FW-and-NAT Policy	The Stateful Firewall-and-NAT policy applicable for subscriber.
Firewall Policy IPv4	Indicates whether Stateful Firewall IPv4 processing is required for subscriber.
Firewall Policy IPv6	Indicates whether Stateful Firewall IPv6 processing is required for subscriber.
NAT Policy	Indicates whether NAT processing is required for subscriber.
NAT Policy NAT44	Indicates whether NAT44 is enabled or disabled for the subscriber.
NAT Policy NAT64	Indicates whether NAT64 is enabled or disabled for the subscriber.
Bypass NAT Flow Present	Indicates whether bypass NAT flow is present or not.
TPO Policy	**Important** The Traffic Performance Optimization (TPO) in-line service is not supported in this release.
CF Policy ID	The content filtering policy identifier applicable for subscriber.
Dynamic Charging	Status of dynamic charging functionality.
Dynamic Chrg Msg Received	Total number of messages received for dynamic charging.
Rule Definitions Received	Total number of ruledefs received.

Field	Description
Installs Received	Total number of "Charging-Rule-Install" messages received.
Removes Received	Total number of "Charging-Rule-Remove" messages received.
Installs Succeeded	Total number of charging rules installed successfully.
Installs Failed	Total number of charging rules installation failed.
Removes Succeeded	Total number of charging rules removed successfully.
Removes Failed	Total number of charging rules removal failed.
Uplink Dynamic Rule Packets	Total number of packets uplinked with dynamic rules.
Uplink Dynamic Rule Bytes	Total number of bytes uplinked with dynamic rules.
Downlink Dynamic Rule Packets	Total number of packets downlinked with dynamic rules.
Downlink Dynamic Rule Bytes	Total number of bytes downlinked with dynamic rules.
Credit-Control	Displays the status of DCCA (on/off). **Important** Credit-Control state will be displayed as "Pending CCR-Event" when the session is waiting for a CCA-Event message. If there are no pending CCA-Event messages then Credit-Control state will be displaying the string "Event-Based-Charging".
Event-Triggers	Indicates the configured credit control reauthorization event triggers. **Important** This field will appear when Event-Based-Gy session is active.
CC Peer	Name of the credit control (CC) peer.
CC Group	Displays the selected credit control group information.
CC Mode	Indicates the credit control mode: RADIUS or DIAMETER
CC Failure Handling	Action configured for credit control failure handling.
CC Session Failover	Credit control session failover status.
CCR-I Server Unreachable Handling	Indicates whether initial-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable.
CCR-U Server Unreachable Handling	Indicates whether update-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable.
Total CCR-U	The total number of CCR-Updates (Credit Control Request with Update) messages sent to the credit control server.
Last State Change Time:	

Field	Description
Offline/Online	Indicates the state transition timestamp. The Offline timestamp is updated when the Gy session goes Offline. The Online timestamp is updated when the Gy session goes Online.
Total Server Unreachable States Hit	Indicates the total number of sessions that are in server unreachable state.
Tx-Expiry	Indicates the number of sessions that are in server unreachable state due to Tx expiry.
Response-TimeOut	Indicates the number of sessions that are in server unreachable state due to response timeout.
Connection-Failure	Indicates the number of sessions that are in server unreachable state due to connection failure.
Result-Code Based	Indicates the number of sessions that are in server unreachable state based on the result codes.
Current Server Unreachable State	Indicates that the Diameter server(s)/OCS are unreachable.
Interim Volume in Bytes (used / allotted)	Indicates how much of data volume has been currently consumed and the total allocated value. This value will be reset once the session comes out of Server-Unreachable-State i.e. when the server becomes available again.
Interim Time in Seconds (used / allotted)	Indicates how much of time has been used up and the total allocated time. This value will be reset once the session comes out of Server-Unreachable-State i.e. when the server becomes available again.
Server Retries (attempted / configured)	Indicates the total number of retries that were configured and attempted to the Diameter server during the Server-Unreachable-State.
Server Unreachable Reason	Indicates the reason for which server-unreachable condition was hit lastly.
Current TCP Proxy Flows	Total number of current TCP Proxy flows for the session. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Total TCP Proxy Flows	Total number of TCP Proxy flows for the session. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
TCP-proxy reset for non-SYN flows	Total number of resets sent by TCP Proxy for flows with no SYN packet after recovery. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.

Field	Description
Current IP Flows	Total number of current IP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current ICMP Flows	Total number of current ICMP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current IPv6 Flows	Total number of current IPv6 flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current ICMPv6 Flows	Total number of current ICMPv6 flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current TCP Flows	Total number of current TCP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current UDP Flows	Total number of current UDP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current HTTP Flows	Total number of current HTTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current HTTPS Flows	Total number of current HTTPS flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.

Field	Description
Current FTP Flows	Total number of current FTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current POP3 Flows	Total number of current POP3 flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current SMTP Flows	Total number of current SMTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current SIP Flows	Total number of current SIP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current RTSP Flows	Total number of current RTSP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current RTP Flows	Total number of current RTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current RTCP Flows	Total number of current RTCP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current IMAP Flows	Total number of current IMAP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.

Field	Description
Current WSP-CO Flows	Total number of current WSP-CO flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current WSP-CL Flows	Total number of current WSP-CL flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current MMS Flows	Total number of current MMS flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current DNS Flows	Total number of current DNS flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current PPTP-GRE Flows	Total number of current PPTP-GRE flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current PPTP Flows	Total number of current PPTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current TFTP Flows	Total number of current TFTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current P2P Flows	Total number of current P2P flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.

Field	Description
Current H323 Flows	Total number of current H323 flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current UNKNOWN Flows	Total number of current UNKNOWN flows.
Max (L3) Flows	The maximum number of simultaneous L3 flows seen by the session.
Max Flows Timestamp	Lists the date and time at which the L3 flows were seen.
CAE-Readdressing:	
GET Requests redirected	Total number of HTTP GET requests redirected to a CAE.
POST Requests redirected	Total number of HTTP POST requests redirected to a CAE.
Other Requests redirected	Total number of other HTTP requests redirected to a CAE.
HTTP Responses redirected	Total number of HTTP responses redirected to a CAE.
Requests having xheader inserted	Total number of HTTP requests that have x-headers inserted.
Total connection failed to video server	Total number of failed connections to the video server.
Total uplink Bytes	Total number of uplink bytes.
Total uplink Packets	Total number of uplink packets.
Total downlink Bytes	Total number of downlink bytes.
Total downlink Packets	Total number of downlink packets.
Rating-Group	Rating-Group of the MSCC which is used by DCCA.
Service-Identifier	Service-Identifier of the MSCC which is used by DCCA
State	State in which the MSCC (identified by Rating-Group and Service-Identifier) is present. For example, Charging, Limit-Reached, Rating-Failed
Checkpoint State	Checkpoint status of the MSCC. It can be either Current or Outdated. Current implies that the MSCC is checkpointed recently. Outdated means the MSCC is ready to get checkpointed to update its new status.
Pending Update	This indicates whether a response is awaited from the server for this MSCC, after sending a CCR-U.
Accelerated	This indicates whether or not the MSCC supports acceleration. The Accelerated status of MSCC will only be visible if the chassis has license for the Flow Aware Packet Acceleration (FAPA) feature.
Last Answer	Time duration from the last sent CCR-Update request for this MSCC.

Field	Description
Backpressured	Shows how many times the category (Rating-Group) is subsequently moving into backpressured (unable to send message due to message queue being full) state while sending a CCR-U. The maximum count value that can be supported is 15. Once the messages are sent successfully, this counter will be reset to 0 and this field will not be displayed in the output.
Ruledef Name	Name of the ACS ruledef.
Pkts-Down	Total number of packets downlinked.
Bytes-Down	Total number of bytes downlinked.
Pkts-Up	Total number of packets uplinked.
Bytes-Up	Total number of bytes uplinked.
Hits	Total number of packets handled in uplink and downlink directions.
Match-Bypassed	Total number of rule-match request bypassed.
Post-processing Rulestats	
Ruledef Name	Name of the ACS ruledef.
Pkts-Down	Totak number of packets downlinked.
Bytes-Down	Total number of bytes downlinked.
Pkts-Up	Total number of packets uplinked.
Bytes-Up	Total number of bytes uplinked.
Hits	Total number of packets handled in uplink and downlink directions.
Firewall-Ruledef Name	Name of the Stateful Firewall ruledef.
Pkts-Down	Total number of packets downlinked.
Bytes-Down	Total number of bytes downlinked.
Pkts-Up	Total number of packets uplinked.
Bytes-Up	Total number of bytes uplinked.
Hits	Total number of packets handled in uplink and downlink directions.
Dynamic Charging Rule Name Statistics	Dynamic charging rule name statistics.
Dynamic Charging Rule Name Configured	Dynamic charging rule name configured.
Predefined Rules Enabled List	List of enabled predefined rules.
Predefined Firewall Rules Enabled List	List of enabled predefined Firewall rules.

Field	Description
NCQoS NRUPC Req Made	Total number of network-controlled QOS Network Requested Update PDP Context requests made.
NCQoS NRSPCA Req Made	Total number of network-controlled QOS Network Requested Secondary PDP Context Activation requests made.
NCQoS NRUPC Req Failed	Total number of network-controlled QOS Network Requested Update PDP Context requests failed.
NCQoS NRSPCA Req Failed	Total number of network-controlled QOS Network Requested Secondary PDP Context Activation requests failed.
NCQoS NRUPC Req Success	Total number of network-controlled QOS Network Requested Update PDP Context requests succeeded.
NCQoS NRSPCA Req Success	Total number of network-controlled QOS Network Requested Secondary PDP Context Activation requests succeeded.
Total acs sessions matching specified criteria	Total number of ACS sessions matching the specified criteria.

show active-charging sessions full all

Table 89: show active-charging sessions full all Command Output Descriptions

Field	Description
Session-ID	The active charging session ID.
Username	The subscriber's name.
Callid	Call identification.
IMSI/MSID	The International Mobile Subscriber Identification/Mobile Station ID.
ACSMgr Instance	Total instance of ACS Manager.
ACSMgr Card/Cpu	Total number of ACS Manager Card/CPU.
SessMgr Instance	Total instance of session manager.
Client-IP	In 14.0 and later releases, prefix of IPv6 address or IPv4 address of the client for all call types. In 12.3 and earlier releases, IPv6 address or IPv4 address of the client for all call types.
NAS-IP	Indicates the IP address of Network Access Server.

Field	Description
Access-NAS-IP(FA)	Indicates the IP address of accessed Network Access Server Foreign Agent (FA).
NAS-PORT	Indicates the TCP port of Network Access Server.
NSAPI	Total instances of NS APIs used.
Acct-Session-ID	Indicates the accounting session ID.
NAS-ID	The Network Access Server identifier.
Access-NAS-ID(FA)	Indicates the identifier of accessed Network Access Server Foreign Agent (FA).
3GPP2-BSID	Indicates the 3GPP2 base station identifier.
Access-Correlation-ID(FA)	Indicates the access correlation ID for FA.
3GPP2-Correlation-ID	Indicates the Mobile IP Correlation ID.
MEID	Indicates the Mobile equipment's unique Mobile Equipment Identifier (MEID).
Carrier-ID	Indicates the carrier or service ID.
PCO: Value/Interface	Specifies the last updated PCO value and the interface it is configured for.
ESN	Indicates the Electronic Serial Number (ESN) of mobile equipment.
Enterprise ID	A 24-bit integer value, PCRF sends Enterprise ID that is associated with the user to the gateway during call setup. This field is required for identifying traffic based on NSH.
Uplink Bytes	Total bytes uploaded.
Downlink Bytes	Total bytes downloaded.
Uplink Packets	Total packets uploaded.
Downlink Packets	Total packets downloaded.
Injected Uplink Bytes	Total bytes injected to upload.
Injected Downlink Bytes	Total bytes injected to download.
Injected Uplink Packets	Total packets injected to upload.
Injected Downlink Packets	Total packets injected to download.
Buffered Uplink Packets	Total buffered packets for uplink.
Buffered Downlink Packets	Total buffered packets for downlink.

Field	Description
Buffered Uplink Bytes	Total buffered bytes for uplink.
Buffered Downlink Bytes	Total buffered bytes for uplink.
Uplink Packets in Buffer	Total number of uplink packets in the buffer.
Uplink Bytes in Buffer	Total number of uplink bytes in the buffer.
Downlink Packets in Buffer	Total number of downlink packets in the buffer.
Downlink Bytes in Buffer	Total number of downlink bytes in the buffer.
Buff Over-limit Uplink Pkts	Total number of uplink packets that were over the buffer limit.
Buff Over-limit Uplink Bytes	Total number of uplink bytes that were over the buffer limit.
Buff Over-limit Downlink Pkts	Total number of downlink packets that were over the buffer limit.
Buff Over-limit Downlink Bytes	Total number of downlink bytes that were over the buffer limit.
Processed Uplink Packets	Total packets processed for upload.
Processed Downlink Packets	Total packets processed for download.
In Releases prior to 20: Dropped Uplink Packets	Total packets dropped in uplink direction. In Release 20 and beyond, this statistic is replaced by DCCA Buffered Packet Drops Uplink.
In Releases prior to 20: Dropped Downlink Packets	Total packets dropped in downlink direction. In Release 20 and beyond, this statistic is replaced by DCCA Buffered Packet Drops Downlink.
Current P-GW-Buffer Queue Length	Displays the currently utilized queue length.
Total P-GW Buffer Merge Count	Displays the merged count of PRA messages.
DCCA Buffered Packet Drops	
Uplink	Total number of packets dropped in uplink direction due to rule failure for DCCA buffered packets.
Downlink	Total number of packets dropped in downlink direction due to rule failure for DCCA buffered packets.
Uplink Out of Order Packets	Total out of order packets in uplink direction.
Downlink Out of Order Packets	Total out of order packets in downlink direction.
ITC Terminated Flows	Total number of flows terminated by Intelligent Traffic Control service.
ITC Redirected Flows	Total number of flows redirected by Intelligent Traffic Control service.
ITC Dropped Packets	Total number of packets dropped by Intelligent Traffic Control service.
ITC ToS Remarked Packets	Total number of packets marked with Type of Service (ToS) by Intelligent Traffic Control service.

Field	Description
R7Gx Dropped Upl Packets	Total number of packets dropped by R7Gx in uplink direction.
R7Gx Dropped Dnl Packets	Total number of packets dropped by R7Gx in downlink direction.
R7Gx Dropped Upl Pkts RuleMatch Fail	Total number of packets dropped by R7Gx in uplink direction due to rulematch failure—no matching rule is found.
R7Gx Dropped Upl Bytes RuleMatch Fail	Total number of bytes dropped by R7Gx in uplink direction due to rulematch failure.
R7Gx Dropped Dnl Pkts RuleMatch Fail	Total number of packets dropped by R7Gx in downlink direction due to rulematch failure.
R7Gx Dropped Dnl Bytes RuleMatch Fail	Total number of bytes dropped by R7Gx in downlink direction due to rulematch failure.
CC Dropped Uplink Packets	Total number of packets dropped by credit control in uplink direction.
CC Dropped Uplink Bytes	Total number of bytes dropped by credit control in uplink direction.
CC Dropped Downlink Packets	Total number of packets dropped by credit control in downlink direction.
CC Dropped Downlink Bytes	Total number of bytes dropped by credit control in downlink direction.
NRUPC Req Made	Total number of Network Requested Update PDP Context (NRUPC) requests made.
NRUPC Req Success	Total number of NRUPC requests succeeded.
NRUPC Req Failed	Total number of NRUPC requests failed.
NRUPC Req Time Out	Total number of NRUPC requests timed out.
Current Readdressed Sessions	Total number of current readdressed sessions.
Total Readdressed Uplink Pkts	Total number of readdressed uplink packets.
Total Readdressed Uplink Bytes	Total number of readdressed uplink bytes.
Total Readdressed Downlink Pkts	Total number of readdressed downlink packets.
Total Readdressed Downlink Bytes	Total number of readdressed downlink bytes.
Total Readdressing Failure Packets	Total number of packets with readdressing failures.
Non SYN Flow	Total number of readdressing packets with a non SYN flow failure.
Duplicate Key	Total number of readdressing packets with a duplicate key failure.
Dropped Pkts	Total number of packets discarded on readdressing failure. If the **discard-on-failure** option is not enabled using the **flow action readdress** command, this value will be zero.
Creation Time	Time display in UTC format.

Field	Description
Last Pkt Time	Time of last packet created.
Duration	Duration of session.
Active Charging Service name	Name of the Active Charging Service.
Rule Base name	Name of the ACS rulebase applied.
URL-Redir First-Request-Only	Specifies whether URL redirection for the first request only is enabled.
Tethering-detection notification	Indicates whether tethering detection notification is enabled or disabled.
Tethering-detected notification sent	Indicates wheter tethering detection notification is sent (Yes, No, or n/a)
Bandwidth Policy	The ACS bandwidth policy applicable for subscriber.
Firewall Policy	Indicates whether Stateful Firewall processing is required for subscriber.
FW-and-NAT Policy	The Stateful Firewall-and-NAT policy applicable for subscriber.
NAT Policy	Indicates whether NAT processing is required for subscriber.
TPO Policy	**Important** The Traffic Performance Optimization (TPO) in-line service is not supported in this release.
CF Policy ID	The Content Filtering policy ID applicable for subscriber.
Dynamic Charging	Status of dynamic charging functionality.
Dynamic Chrg Msg Received	Total number of messages received for dynamic charging.
Rule Definitions Received	Total number of ruledefs received.
Installs Received	Total number of "Charging-Rule-Install" messages received.
Removes Received	Total number of "Charging-Rule-Remove" messages received.
Installs Succeeded	Total number of charging rules installed successfully.
Installs Failed	Total number of charging rules installation failed.
Removes Succeeded	Total number of charging rules removed successfully.
Removes Failed	Total number of charging rules removal failed.
Override Control	
Installs Received	Total number of overrides received.
Installs Succeeded	Total number of overrides that were succeeded.
Installs Failed	Total number of overrides that were failed.

Field	Description
Disables Received	Total number of disable overrides received for a specific call.
Disables Succeeded	Total number of disable overrides succeeded for a specific call.
Disables Failed	Total number of disable overrides failed for a specific call.
Uplink Dynamic Rule Packets	Total number of packets uplinked with dynamic rules.
Uplink Dynamic Rule Bytes	Total number of bytes uplinked with dynamic rules.
Downlink Dynamic Rule Packets	Total number of packets downlinked with dynamic rules.
Downlink Dynamic Rule Bytes	Total number of bytes downlinked with dynamic rules.
Dynamic Charging Packet Drop Statistics	
Bearer BW Limit Upl Pkts	Total number of uplink packets dropped due to bearer bandwidth limiting.
Bearer BW Limit Dnl Pkts	Total number of downlink packets dropped due to bearer bandwidth limiting.
Bearer BW Limit Upl Bytes	Total number of uplink bytes dropped due to bearer bandwidth limiting.
Bearer BW Limit Dnl Bytes	Total number of downlink bytes dropped due to bearer bandwidth limiting.
PCC Rule BW Limit Upl Pkts	Total number of uplink packets dropped due to PCC rule bandwidth limiting.
PCC Rule BW Limit Dnl Pkts	Total number of downlink packets dropped due to PCC rule bandwidth limiting.
PCC Rule BW Limit Upl Bytes	Total number of uplink bytes dropped due to PCC rule bandwidth limiting.
PCC Rule BW Limit Dnl Bytes	Total number of downlink bytes dropped due to PCC rule bandwidth limiting.
PCC Rule Gating Upl Pkts	Total number of uplink packets dropped due to PCC rule gating.
PCC Rule Gating Dnl Pkts	Total number of downlink packets dropped due to PCC rule gating.
PCC Rule Gating Upl Bytes	Total number of uplink bytes dropped due to PCC rule gating.
PCC Rule Gating Dnl Bytes	Total number of downlink bytes dropped due to PCC rule gating.
RuleMatch Fail Upl Pkts	Total number of uplink packets dropped due to rule match failure.
RuleMatch Fail Dnl Pkts	Total number of downlink packets dropped due to rule match failure.
RuleMatch Fail Upl Bytes	Total number of uplink bytes dropped due to rule match failure.
RuleMatch Fail Dnl Bytes	Total number of downlink bytes dropped due to rule match failure.
Credit-Control	Indicates DCCA status: On/Off
CC Peer	Name of the credit control (CC) peer.
CC Group	Displays the selected credit control group information.

Field	Description
CC Mode	Indicates the credit control mode: RADIUS or DIAMETER
CC Failure Handling	Action configured for credit control failure handling.
CC Session Failover	Credit control session failover status.
CCR-I Server Unreachable Handling	Indicates whether initial-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable.
CCR-U Server Unreachable Handling	Indicates whether update-request calls will be continued/terminated when Diameter server(s)/OCS are unreachable.
Total CCR-U	The total number of CCR-Updates (Credit Control Request with Update) messages sent to the credit control server.
Current Server Unreachable State	Indicates that the Diameter server(s)/OCS are unreachable.
Interim Volume in Bytes (used / allotted)	Indicates how much of data volume has been currently consumed and the total allocated value. This value will be reset once the session comes out of Server-Unreachable-State i.e. when the server becomes available again.
Interim Time in Seconds (used / allotted)	Indicates how much of time has been used up and the total allocated time. This value will be reset once the session comes out of Server-Unreachable-State i.e. when the server becomes available again.
Server Retries (attempted / configured)	Indicates the total number of retries that were configured and attempted to the Diameter server during the Server-Unreachable-State.
Current TCP Proxy Flows	Total number of current TCP Proxy flows for the session. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Total TCP Proxy Flows	Total number of TCP Proxy flows for the session. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
TCP-proxy reset for non-SYN flows	Total number of resets sent by TCP Proxy for flows with no SYN packet after recovery. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current IP Flows	Total number of current IP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.

Field	Description
Current ICMP Flows	Total number of current ICMP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current IPv6 Flows	Total number of current IPv6 flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current ICMPv6 Flows	Total number of current ICMPv6 flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current MIPv6 Flows	Total number of current MIPv6 flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current TCP Flows	Total number of current TCP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current UDP Flows	Total number of current UDP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current HTTP Flows	Total number of current HTTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current HTTPS Flows	Total number of current HTTPS flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.

Field	Description
Current FTP Flows	Total number of current FTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current POP3 Flows	Total number of current POP3 flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current SMTP Flows	Total number of current SMTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current SIP Flows	Total number of current SIP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current RTSP Flows	Total number of current RTSP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current RTP Flows	Total number of current RTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current RTCP Flows	Total number of current RTCP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current IMAP Flows	Total number of current IMAP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.

Field	Description
Current WSP-CO Flows	Total number of current WSP-CO flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current WSP-CL Flows	Total number of current WSP-CL flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current MMS Flows	Total number of current MMS flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current DNS Flows	Total number of current DNS flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current PPTP-GRE Flows	Total number of current PPTP-GRE flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current PPTP Flows	Total number of current PPTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current P2P Flows	Total number of current P2P flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current H323 Flows	Total number of current H323 flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.

Field	Description
Current TFTP Flows	Total number of current TFTP flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
Current UNKNOWN Flows	Total number of current UNKNOWN flows. **Important** This statistic is removed from this command in 18.0 and later releases, and availble in the **show active-charging subscribers full all** command.
CAE-Readdressing:	
GET Requests redirected	Total number of HTTP GET requests redirected to a CAE.
POST Requests redirected	Total number of HTTP POST requests redirected to a CAE.
Other Requests redirected	Total number of other HTTP requests redirected to a CAE.
HTTP Responses redirected	Total number of HTTP responses redirected to a CAE.
Requests having xheader inserted	Total number of HTTP requests that have x-headers inserted.
Total connection failed to video server	Total number of failed connections to the video server.
Total uplink Bytes	Total number of uplink bytes.
Total uplink Packets	Total number of uplink packets.
Total downlink Bytes	Total number of downlink bytes.
Total downlink Packets	Total number of downlink packets.
STATIC CF STATISTICS	
CF Packets Allowed	Total number of packets allowed after applying content filtering service. **NOTE:** This statistic has been renamed to **Flows Allowed** in 12.0 and later releases.
CF Packets Discarded without Responding	Total number of packets discarded without sending any response after applying content filtering service. **NOTE:** This statistic has been renamed to **Flows Discarded** in 12.0 and later releases.
CF Packets Discarded with Flow Redirection	Total number of packets discarded with traffic flow redirection after applying content filtering service. **NOTE:** This statistic has been renamed to **Flows Redirected** in 12.0 and later releases.

Field	Description
CF Packets Discarded with Flow Termination	Total number of packets discarded and traffic flow terminated after applying content filtering service. **NOTE:** This statistic has been renamed to **Flows Terminated** in 12.0 and later releases.
CF Packets Discarded with Flow Content Insertion	Total number of packets discarded and content inserted in response message after applying content filtering service. **NOTE:** This statistic has been renamed to **Flows Discarded with Content Insertion** in 12.0 and later releases.
CF Static DB Look-ups	Total number of lookups in static rating database for content filtering service.
CF Successful Cache Look-ups	Total number of lookups in cache memory for static rating of URLs and returned successful after applying content filtering service.
DYNAMIC CF STATISTICS	
Flows Allowed	Total number of flows allowed by dynamic CF. Typically a flow is allowed if the matched flow category contains the action "allow" in the CF configuration.
Flows Discarded	Total number of flows discarded by dynamic CF.
Flows Redirected	Total number of flows redirected by dynamic CF.
Flows Terminated	Total number of flows terminated by dynamic CF.
Flows Discarded with Content Insertion	Total number of flows discarded with content insertion by dynamic CF.
CF Dynamic Lookups	Total number of lookups in dynamic rating database for content filtering service.
Charging ruledef(s) matching the specified criteria	Charging ruledef(s) matching the specified criteria.
Firewall ruledef(s) match the specified criteria	Stateful Firewall ruledef(s) matching the specified criteria.
Dynamic Charging Rule Name Statistics	Dynamic charging rule name statistics.
Total Dynamic Rules	Total number of dynamic rules.
Total L7 Dynamic Rules	Total number of L7 dynamic rules sent from PCRF.
Total Predefined Rules	Total number of predefined rules.
Total ADC Rules	Total number of ADC rules (ADC Predefined + ADC Dynamic Rules).
Total Firewall Predefined Rules	Total number of Stateful Firewall predefined rules.
Dynamic Charging Rule Definitions Configured	Dynamic charging rules configured.

Field	Description
Rule Parameters	Displays the values for the following parameters: • TDF Application Id: ADC Application Identifier. The name of the ruledef given in the PCRF/Gx configuration. • TDF Readdress Status: ADC Readdress status enabled/disabled. • TDF Readdress IP: Displayed only when Readdress status is enabled. • TDF Redirect URL: Displayed only when the redirect to URL is given in the PCRF/Gx configuration. Either readdress or redirect information is displayed. • TDF Custom-mute: Enabled/Disabled
Total Dynamic Charging Rule Names	Total number of dynamic charging rules.
Total Dynamic Firewall Rule Names	Total number of dynamic Stateful Firewall rules.
Inheritance is disabled for this subscriber - Error!	This field is displayed if rule information has inheritance parameters but the subscriber-level information does not have inheritance enabled.
Predefined Rules Enabled List	List of enabled predefined rules.
Predefined Firewall Rules Enabled List	List of enabled predefined Firewall rules.
Total Override Control	Total number of overrides that are currently active for the subscriber.
Total acs sessions matching specified criteria	Total number of ACS sessions matching the specified criteria.
Radio-Congestion Session Full Stats	
Last Reported Congestion Level	Indicates the last reported congestion level.
Total Flows Analyzed	Total number of flows analyzed.
Total Flows Eligible for Correlation	Total number of flows eligible for correlation.
Radio-Congestion Session Last Reported Stats	
Total Flows Analyzed	Total number of flows analyzed.
Total Flows Eligible for Correlation	Total number of flows eligible for correlation.
Total Flows with Congestion Level	Total number of flows with congestion level.
no Congestion	Total number of flows with no congestion.
low Congestion	Total number of flows with low congestion.
medium Congestion	Total number of flows with medium congestion.
high Congestion	Total number of flows with high congestion.

Field	Description
extreme Congestion	Total number of flows with extreme congestion.
Link Monitoring Average Throughput	The average link monitoring throughput, in kbps.
Link Monitoring Average RTT Custom	The average link monitoring RTT (Round Trip Time), in milliseconds. Indicates operator specific custom option.
Value	Indicates the value used for sending in custom PCO container.
Interface	Indicates the interface such as Gx. Gy or n/a based on the following conditions: • Gx: The charging rule is applied from the Gx interface that has custom PCO value. • Gy: The charging rule is applied from the Gy interface that has custom pco value. • N/A: The configured PCO value which is applied from APN profile

show active-charging sessions summary

Table 90: show active-charging sessions summary Command Output Descriptions

Field	Description
Session-ID	The active charging session ID.
Username	Name of the subscriber.
Callid	Call identification.
IMSI/MSID	Indicates the International Mobile Subscriber Identification / Mobile Station ID.
ACSMgr Instance	Total instance of ACS Manager.
ACSMgr Card/Cpu	Total number of ACS Manager Card/CPU.
Client-IP	Indicates the IP address of Client.
SessMgr Instance	Total instance of session manager.
NAS-IP	Indicates the IP address of Network Access Server.
NAS-PORT	Indicates the TCP port of Network Access Server.
Access-NAS-IP(FA)	Indicates the IP address of accessed Network Access Server Foreign Agent (FA).
Acct-Session-ID	Indicates the accounting session ID.

Field	Description
3GPP2-Correlation-ID	Indicates the Mobile IP Correlation ID.
Access-Correlation-ID(FA)	Indicates the access correlation ID for FA.
MEID	Indicates the Mobile equipment's unique Mobile Equipment IDentifier (MEID).
Carrier-ID	Indicates the Carrier or service ID.
ESN	Indicates the Electronic Serial Number (ESN) of mobile equipment.
Uplink Bytes	Total bytes uploaded.
Downlink Bytes	Total bytes downloaded.
Uplink Packets	Total packets uploaded.
Downlink Packets	Total packets downloaded.
Injected Uplink Bytes	Total bytes injected to upload.
Injected Downlink Bytes	Total bytes injected to download.
Injected Uplink Packets	Total packets injected to upload.
Injected Downlink Packets	Total packets injected to download.
Uplink Out of Order Packets	Total out of order packets in uplink direction.
Downlink Out of Order Packets	Total out of order packets in downlink direction.
Creation Time	Time display in UTC format.
Last Pkt Time	Time of last packet created.
Duration	Duration of session.
Active Charging Service name	Name of the ACS service.
Rule Base name	Name of the rulebase applied.
Credit-Control	DCCA status: On/Off
CC peer	Name of the Credit Control (CC) peer.
CC Failure Handling	Action configured to handle CC failure.
CC Session Failover	CC Session Failover status.
Rating-Group	Rating-Group of the MSCC which is used by DCCA
State	State in which the MSCC (identified by Rating-Group and Service-Identifier) is present. For example, Charging, Limit-Reached, Rating-Failed, etc.
Pending Update	This indicates whether a response is awaited from the server for this MSCC, after sending a CCR-U.

Field	Description
Last CCA	Time duration from the last sent CCR-Update request for this MSCC.
Time Threshold	Threshold for CC.
Quota	Quota assigned for pre-paid subscriber.
Usage	Usage by subscriber.
Ruledef Name	Name of the Ruledef.
Pkts-Down	Total packets in downlink direction.
Bytes-Down	Total byte in downlink direction.
Pkts-Up	Total Packets in upward direction.
Bytes-Up	Total bytes in upward direction.
Hits	Total packets in upload and download direction.
Current IP Sessions	Total number of current IP sessions.
Current ICMP Sessions	Total number of current ICMP sessions.
Current IPv6 Sessions	Total number of current IPv6 sessions.
Current ICMPv6 Sessions	Total number of current ICMPv6 sessions.
Current TCP Sessions	Total number of current TCP sessions.
Current UDP Sessions	Total number of current UDP sessions.
Current HTTP Sessions	Total number of current HTTP sessions.
Current HTTPS Sessions	Total number of current HTTPS sessions.
Current FTP Sessions	Total number of current FTP sessions.
Current POP3 Sessions	Total number of current POP3 sessions.
Current SMTP Sessions	Total number of current SMTP sessions.
Current SIP Sessions	Total number of current SIP sessions.
Current RTSP Sessions	Total number of current RTSP sessions.
Current RTP Sessions	Total number of current RTP sessions.
Current RTCP Sessions	Total number of current RTCP sessions.
Current IMAP Sessions	Total number of current IMAP sessions.
Current WSP-CO Sessions	Total number of current WSP-CO sessions.
Current WSP-CL Sessions	Total number of current WSP-CL sessions.

Field	Description
Current MMS Sessions	Total number of current MMS sessions.
Current DNS Sessions	Total number of current DNS sessions.
Current PPTP Sessions	Total number of current PPTP sessions.
Current PPTP-GRE Sessions	Total number of current PPTP-GRE sessions.
Current P2P Sessions	Total number of current P2P sessions.
Current H323 Sessions	Total number of current H323 sessions.
Current TFTP Sessions	Total number of current TFTP sessions.
Current UNKNOWN Sessions	Total number of current UNKNOWN sessions.
Current SKYPE Sessions	Total number of current SKYPE sessions.
Current YAHOO Sessions	Total number of current YAHOO sessions.
Important The following voice/non-voice counters are available only for 10.0 and earlier releases.	
Current SKYPE voice Sessions	Total number of current SKYPE voice sessions.
Current YAHOO voice Sessions	Total number of current YAHOO voice sessions.
Current SKYPE non-voice Sessions	Total number of current SKYPE non-voice sessions.
Current YAHOO non-voice Sessions	Total number of current YAHOO non-voice sessions.
Important The following two audio counters are available only for 11.0 and later releases.	
Current SKYPE Audio Sessions	Total number of current SKYPE audio sessions.
Current YAHOO Audio Sessions	Total number of current YAHOO audio sessions.
Current YAHOO Video Sessions	Total number of current YAHOO video sessions.
Current SKYPE Unclassified Sessions	Total number of current SKYPE Unclassified sessions.
Current SKYPE Voipout Sessions	Total number of current SKYPE Voipout sessions.
Current EDONKEY Sessions	Total number of current EDONKEY sessions.
Current ORB Sessions	Total number of current ORB sessions.
Current MSN Sessions	Total number of current MSN sessions.
Current GNUTELLA Sessions	Total number of current GNUTELLA sessions.
Important The following voice/non-voice counters are available only for 10.0 and earlier releases.	

Field	Description
Current MSN voice Sessions	Total number of current MSN voice sessions.
Current MSN non-voice Sessions	Total number of current MSN non-voice sessions.
Current BITTORRENT Sessions	Total number of current BITTORRENT sessions.
Important The following audio/video counters are available only for 11.0 and later releases.	
Current MSN Audio Sessions	Total number of current MSN audio sessions.
Current MSN Video Sessions	Total number of current MSN video sessions.
Current SLINGBOX Sessions	Total number of current SLINGBOX sessions.
Current JABBER Sessions	Total number of current JABBER sessions.
Current WINNY Sessions	Total number of current WINNY sessions.
Current MANOLITO Sessions	Total number of current MANOLITO sessions.
Current PANDO Sessions	Total number of current PANDO sessions.
Current FILETOPIA Sessions	Total number of current FILETOPIA sessions.
Current SOULSEEK Sessions	Total number of current SOULSEEK sessions.
Current PPSTREAM Sessions	Total number of current PPSTREAM sessions.
Current QQ Sessions	Total number of current QQ sessions.
Current QQ Audio Sessions	Total number of current QQ audio sessions.
Current QQ Video Sessions	Total number of current QQ video sessions.
Current QQLIVE Sessions	Total number of current QQLIVE sessions.
Current IMESH Sessions	Total number of current IMESH sessions.
Current MUTE Sessions	Total number of current MUTE sessions.
Current PPLIVE Sessions	Total number of current PPLIVE sessions.
Current GADUGADU Sessions	Total number of current GADUGADU sessions.
Current FEIDIAN Sessions	Total number of current FEIDIAN sessions.
Current APPLEJUICE Sessions	Total number of current APPLEJUICE sessions.
Current fasttrack Sessions	Total number of current Fasttrack sessions.
Current ZATTOO Sessions	Total number of current ZATTOO sessions.
Current SKINNY Sessions	Total number of current SKINNY sessions.

Field	Description
Current SOPCAST Sessions	Total number of current SOPCAST sessions.
Current DIRECTCONNECT Sessions	Total number of current DIRECTCONNECT sessions.
Current ARES Sessions	Total number of current ARES sessions.
Current OSCAR Sessions	Total number of current OSCAR sessions.
Important The following voice/non-voice counters are available only for 10.0 and earlier releases.	
Current OSCAR voice Sessions	Total number of current OSCAR voice sessions.
Current OSCAR non-voice Sessions	Total number of current OSCAR non-voice sessions.
Important The following two counters are available only for 11.0 and later releases.	
Current OSCAR Audio Sessions	Total number of current OSCAR audio sessions.
Current OSCAR Video Sessions	Total number of current OSCAR video sessions.
Current POPO Sessions	Total number of current POPO sessions.
Current IRC Sessions	Total number of current IRC sessions.
Current STEAM Sessions	Total number of current STEAM sessions.
Current DDLINK Sessions	Total number of current DDLINK sessions.
Current HALFLIFE2 Sessions	Total number of current HALFLIFE2 sessions.
Current HAMACHIVPN Sessions	Total number of current HAMACHIVPN sessions.
Current TVANTS Sessions	Total number of current TVANTS sessions.
Current TVUPLAYER Sessions	Total number of current TVUPLAYER sessions.
Current UUSEE Sessions	Total number of current UUSEE sessions.
Current VPNX Sessions	Total number of current VPNX sessions.
Current VTUN Sessions	Total number of current VTUN sessions.
Current WINMX Sessions	Total number of current WINMX sessions.
Current WOFWARCRAFT Sessions	Total number of current WOFWARCRAFT sessions.
Current XBOX Sessions	Total number of current XBOX sessions.
Current ISKOOT Sessions	Total number of current ISKOOT sessions.
Current FRING Sessions	Total number of current FRING sessions.

Field	Description
Current GTALK Sessions	Total number of current GTALK sessions.
Important The following voice/non-voice counters are available only for 10.0 and earlier releases.	
Current GTALK voice Sessions	Total number of current GTALK voice sessions.
Current GTALK non-voice Sessions	Total number of current GTALK non-voice sessions.
Important The following two counters are available only for 11.0 and later releases.	
Current GTALK Audio Sessions	Total number of current GTALK audio sessions.
Current GTALK Video Sessions	Total number of current GTALK video sessions.
Current OOVOO Sessions	Total number of current OOVOO sessions.
Current FREENET Sessions	Total number of current FREENET sessions.
Current AIMINI Sessions	Total number of current AIMINI sessions.
Current BATTLEFIELD Sessions	Total number of current BATTLEFIELD sessions.
Current OPENFT Sessions	Total number of current OPENFT sessions.
Current QQGAME Sessions	Total number of current QQGAME sessions.
Current QUAKE Sessions	Total number of current QUAKE sessions.
Current SECONDLIFE Sessions	Total number of current SECONDLIFE sessions.
Current ACTIVESYNC Sessions	Total number of current ACTIVESYNC sessions.
Current NIMBUZZ Sessions	Total number of current NIMBUZZ sessions.
Current IAX Sessions	Total number of current IAX sessions.
Current PALTALK Sessions	Total number of current PALTALK sessions.
Current WARCRAFT3 Sessions	Total number of current WARCRAFT3 sessions.
Current IPTV Sessions	Total number of current IPTV sessions.
Current RDP Sessions	Total number of current RDP sessions.
Current PANDORA Sessions	Total number of current PANDORA sessions.
Current PANDORA unclassified Sessions	Total number of current PANDORA unclassified sessions.
Current PANDORA ads Sessions	Total number of current PANDORA ads sessions.
Current ICECAST Sessions	Total number of current ICECAST sessions.

Field	Description
Current KONTIKI Sessions	Total number of current KONTIKI sessions.
Current MEEBO Sessions	Total number of current MEEBO sessions.
Current SHOUTCAST Sessions	Total number of current SHOUTCAST sessions.
Current TRUPHONE Sessions	Total number of current TRUPHONE sessions.
Current THUNDER Sessions	Total number of current THUNDER sessions.
Current ARMAGETTRON Sessions	Total number of current ARMAGETTRON sessions.
Current BLACKBERRY Sessions	Total number of current BLACKBERRY sessions.
Current CITRIX Sessions	Total number of current CITRIX sessions.
Current CLUBPENGUIN Sessions	Total number of current CLUBPENGUIN sessions.
Current CROSSFIRE Sessions	Total number of current CROSSFIRE sessions.
Current DOFUS Sessions	Total number of current DOFUS sessions.
Current FIESTA Sessions	Total number of current FIESTA sessions.
Current FLORENSIA Sessions	Total number of current FLORENSIA sessions.
Current FUNSHION Sessions	Total number of current FUNSHION sessions.
Current GUILDWARS Sessions	Total number of current GUILDWARS sessions.
Current ISAKMP Sessions	Total number of current ISAKMP sessions.
Current MAPLESTORY Sessions	Total number of current MAPLESTORY sessions.
Current MGCP Sessions	Total number of current MGCP sessions.
Current OCTOSHAPE Sessions	Total number of current OCTOSHAPE sessions.
Current OFF Sessions	Total number of current OFF sessions.
Current PS3 Sessions	Total number of current PS3 sessions.
Current RMSTREAM Sessions	Total number of current RMSTREAM sessions.
Current RFACTOR Sessions	Total number of current RFACTOR sessions.
Current SPLASHFIGHTER Sessions	Total number of current SPLASHFIGHTER sessions.
Current SSDP Sessions	Total number of current SSDP sessions.
Current STEALTHNET Sessions	Total number of current STEALTHNET sessions.
Current STUN Sessions	Total number of current STUN sessions.
Current TEAMSPEAK Sessions	Total number of current TEAMSPEAK sessions.

Field	Description
Current TOR Sessions	Total number of current TOR sessions.
Current VEOHTV Sessions	Total number of current VEOHTV sessions.
Current WII Sessions	Total number of current WII sessions.
Current WMSTREAM Sessions	Total number of current WMSTREAM sessions.
Current WOFKUNGFU Sessions	Total number of current WOFKUNGFU sessions.
Current XDCC Sessions	Total number of current XDCC sessions.
Current YOURFREEDOM Sessions	Total number of current YOURFREEDOM sessions.
Current FACEBOOK Sessions	Total number of current FACEBOOK sessions.
Current GAMEKIT Sessions	Total number of current GAMEKIT sessions.
Current FACETIME Sessions	Total number of current FACETIME sessions.
Current FACETIME Unclassified Sessions	Total number of current FACETIME unclassified sessions.
Current FACETIME Audio Sessions	Total number of current FACETIME audio sessions.
Current FACETIME Video Sessions	Total number of current FACETIME video sessions.
Current GMAIL Sessions	Total number of current GMAIL sessions.
Current ITUNES Sessions	Total number of current ITUNES sessions.
Current MYSPACE Sessions	Total number of current MYSPACE sessions.
Current TEAMVIEWER Sessions	Total number of current TEAMVIEWER sessions.
Current TWITTER Sessions	Total number of current TWITTER sessions.
Current TWITTER streaming-video Sessions	Total number of current TWITTER streaming-video sessions.
Current VIBER Sessions	Total number of current VIBER sessions.
Current VIBER Unclassified Sessions	Total number of current VIBER Unclassified sessions.
Current VIBER Audio Sessions	Total number of current VIBER Audio sessions.
Current VIBER im Sessions	Total number of current VIBER IM sessions.
Current VIBER file-transfer Sessions	Total number of current VIBER File-transfer sessions.
Current ANTSP2P Sessions	Total number of current ANTSP2P sessions.
Current IMO Sessions	Total number of current IMO sessions.
Current NETMOTION Sessions	Total number of current NETMOTION sessions.
Current OGG Sessions	Total number of current OGG sessions.

Field	Description
Current OPENVPN Sessions	Total number of current OPENVPN sessions.
Current QUICKTIME Sessions	Total number of current QUICKTIME sessions.
Current SPOTIFY Sessions	Total number of current SPOTIFY sessions.
Current TANGO Sessions	Total number of current TANGO sessions.
Current TANGO Audio Sessions	Total number of current TANGO audio sessions.
Current TANGO Video Sessions	Total number of current TANGO video sessions.
Current ULTRABAC Sessions	Total number of current ULTRABAC sessions.
Current USENET Sessions	Total number of current USENET sessions.
Current VOIPTUNNEL Sessions	Total number of current VOIPTUNNEL sessions.
Current SCYDO Sessions	Total number of current SCYDO sessions.
Current WHATSAPP Sessions	Total number of current WHATSAPP sessions.
Current WHATSAPP unclassified Sessions	Total number of current WHATSAPP unclassified sessions.
Current WHATSAPP audio Sessions	Total number of current WHATSAPP audio sessions.
Current MYPEOPLE Sessions	Total number of current MYPEOPLE sessions.
Current RDT Sessions	Total number of current RDT sessions.
Current FLASH Sessions	Total number of current FLASH sessions.
Current MOJO Sessions	Total number of current MOJO sessions.
Current PCANYWHERE Sessions	Total number of current PCANYWHERE sessions.
Current WEBEX Sessions	Total number of current WEBEX sessions.
Current NETFLIX Sessions	Total number of current NETFLIX sessions.
Current IMPLUS Sessions	Total number of current IMPLUS sessions.
Current EBUDDY Sessions	Total number of current EBUDDY sessions.
Current MSRP Sessions	Total number of current MSRP sessions.
Current FICALL Sessions	Total number of current FICALL sessions.
Current GOTOMEETING Sessions	Total number of current GOTOMEETING sessions.
Current MIG33 Sessions	Total number of current MIG33 sessions.
Current COMODOUNITE Sessions	Total number of current COMODOUNITE sessions.
Current CALLOFDUTY Sessions	Total number of current CALLOFDUTY sessions.

Field	Description
Current GOOBER Sessions	Total number of current GOOBER sessions.
Current IPLAYER Sessions	Total number of current IPLAYER sessions.
Current OPERAMINI Sessions	Total number of current OPERAMINI sessions.
Current KAKAOTALK Sessions	Total number of current KAKAOTALK sessions.
Current KAKAOTALK Audio Sessions	Total number of current KAKAOTALK audio sessions.
Current KAKAOTALK Unclassified Sessions	Total number of current KAKAOTALK unclassified sessions.
Current NATEONTALK Sessions	Total number of current NATEONTALK sessions.
Current NAVERLINE Sessions	Total number of current NAVERLINE sessions.
Current AVI Sessions	Total number of current AVI sessions.
Current GOOGLEPLAY Sessions	Total number of current GOOGLEPLAY sessions.
Current ICLOUD Sessions	Total number of current ICLOUD sessions.
Current SORIBADA Sessions	Total number of current SORIBADA sessions.
Current WECHAT Sessions	Total number of current WECHAT sessions.
Current WUALA Sessions	Total number of current WUALA sessions.
Current ACTIONVOIP Sessions	Total number of current ACTIONVOIP sessions.
Current ACTIONVOIP unclassified Sessions	Total number of current ACTIONVOIP unclassified sessions.
Current ACTIONVOIP audio Sessions	Total number of current ACTIONVOIP audio sessions.
Current AMAZONCLOUD Sessions	Total number of current AMAZONCLOUD sessions.
Current ICALL Sessions	Total number of current ICALL sessions.
Current ICALL unclassified Sessions	Total number of current ICALL unclassified sessions.
Current ICALL audio Sessions	Total number of current ICALL audio sessions.
Current ICALL video Sessions	Total number of current ICALL video sessions.
Current INSTAGRAM Sessions	Total number of current INSTAGRAM sessions.
Current JUMBLO Sessions	Total number of current JUMBLO sessions.
Current JUMBLO unclassified Sessions	Total number of current JUMBLO unclassified sessions.
Current JUMBLO audio Sessions	Total number of current JUMBLO audio sessions.
Current KUGOO Sessions	Total number of current KUGOO sessions.

Field	Description
Current MAGICJACK Sessions	Total number of current MAGICJACK sessions.
Current MAGICJACK unclassified Sessions	Total number of current MAGICJACK unclassified sessions.
Current MAGICJACK audio Sessions	Total number of current MAGICJACK audio sessions.
Current MAPI Sessions	Total number of current MAPI sessions.
Current PINTEREST Sessions	Total number of current PINTEREST sessions.
Current PLINGM Sessions	Total number of current PLINGM sessions.
Current PLINGM unclassified Sessions	Total number of current PLINGM unclassified sessions.
Current PLINGM audio Sessions	Total number of current PLINGM audio sessions.
Current RYNGA Sessions	Total number of current RYNGA sessions.
Current RYNGA unclassified Sessions	Total number of current RYNGA unclassified sessions.
Current RYNGA audio Sessions	Total number of current RYNGA audio sessions.
Current SMARTVOIP Sessions	Total number of current SMARTVOIP sessions.
Current SMARTVOIP unclassified Sessions	Total number of current SMARTVOIP unclassified sessions.
Current SMARTVOIP audio Sessions	Total number of current SMARTVOIP audio sessions.
Current SPDY Sessions	Total number of current SPDY sessions.
Current TALKATONE Sessions	Total number of current TALKATONE sessions.
Current TALKATONE unclassified Sessions	Total number of current TALKATONE unclassified sessions.
Current TALKATONE audio Sessions	Total number of current TALKATONE audio sessions.
Current VOIPDISCOUNT Sessions	Total number of current VOIPDISCOUNT sessions.
Current VOIPDISCOUNT unclassified Sessions	Total number of current VOIPDISCOUNT unclassified sessions.
Current VOIPDISCOUNT audio Sessions	Total number of current VOIPDISCOUNT audio sessions.
Current VOPIUM Sessions	Total number of current VOPIUM sessions.
Current VOPIUM unclassified Sessions	Total number of current VOPIUM unclassified sessions.
Current VOPIUM audio Sessions	Total number of current VOPIUM audio sessions.
Current BEHAVIORAL-P2P Sessions	Total number of current Behavioral-P2P sessions.
Current BEHAVIORAL-VOIP Sessions	Total number of current Behavioral-VoIP sessions.
Current BEHAVIORAL-UPLOAD Sessions	Total number of current Behavioral-upload sessions.

Field	Description
Current BEHAVIORAL-DOWNLOAD Sessions	Total number of current Behavioral-download sessions.
Current IMESSAGE Sessions	Total number of current IMESSAGE sessions.
Current LINKEDIN Sessions	Total number of current LINKEDIN sessions.
Current GOOGLE Sessions	Total number of current GOOGLE sessions.
Current POCO Sessions	Total number of current POCO sessions.
Current ULTRASURF Sessions	Total number of current ULTRASURF sessions.
Current SNAPCHAT Sessions	Total number of current SNAPCHAT sessions.
Current TRUECALLER Sessions	Total number of current TRUECALLER sessions.
Current CYBERGHOST Sessions	Total number of current CYBERGHOST sessions.
Current GOOGLEPLUS Sessions	Total number of current GOOGLEPLUS sessions.
Current ADOBECONNECT Sessions	Total number of current ADOBECONNECT sessions.
Current USTREAM Sessions	Total number of current USTREAM sessions.
Current SIRI Sessions	Total number of current SIRI sessions.
Current SOFTETHER Sessions	Total number of current SOFTETHER sessions.
Current SUDAPHONE Sessions	Total number of current SUDAPHONE sessions.
Current SVTPLAY Sessions	Total number of current SVTPLAY sessions.
Current HYVES Sessions	Total number of current HYVES sessions.
Current SILVERLIGHT Sessions	Total number of current SILVERLIGHT sessions.
Current BLACKDIALER Sessions	Total number of current BLACKDIALER sessions.
Current BLACKDIALER Unclassified Sessions	Total number of current BLACKDIALER unclassified sessions.
Current BLACKDIALER Audio Sessions	Total number of current BLACKDIALER audio sessions.
Important The following statistics are supported from ADC plugin 1.5 and later releases.	
Current RODI Sessions	Total number of current RODI sessions.
Current SKYDRIVE Sessions	Total number of current SKYDRIVE sessions.
Current VTOK Sessions	Total number of current VTOK sessions.
Current VTOK Unclassified Sessions	Total number of current VTOK unclassified sessions.

Field	Description
Current VTOK Audio Sessions	Total number of current VTOK audio sessions.
Current VTOK Video Sessions	Total number of current VTOK video sessions.
Current FLICKR Sessions	Total number of current FLICKR sessions.
Current KURO Sessions	Total number of current KURO sessions.
Current DROPBOX Sessions	Total number of current DROPBOX sessions.
Current HEYTELL Sessions	Total number of current HEYTELL sessions.
Current BITCASA Sessions	Total number of current BITCASA sessions.
Current CLUBBOX Sessions	Total number of current CLUBBOX sessions.
Current TUMBLR Sessions	Total number of current TUMBLR sessions.
Current YOUTUBE Sessions	Total number of current YOUTUBE sessions.
Current VOXER Sessions	Total number of current VOXER sessions.
Current HOTSPOTVPN Sessions	Total number of current HOTSPOT VPN sessions.
Current BAIDUMOVIE Sessions	Total number of current BAIDU MOVIE sessions.
Current APPLEMAPS Sessions	Total number of current APPLEMAPS sessions.
Current BADOO Sessions	Total number of current BADOO sessions.
Current FACEBOOK UNCLASSIFIED Sessions	Total number of current FACEBOOK UNCLASSIFIED sessions.
Current FACEBOOK AUDIO Sessions	Total number of current FACEBOOK AUDIO sessions.
Current FACEBOOK streaming-video Sessions	Total number of current FACEBOOK streaming-video sessions.
Current FOURSQUARE Sessions	Total number of current FOURSQUARE sessions.
Current JAP Sessions	Total number of current JAP sessions.
Current MONKEY3 Sessions	Total number of current MONKEY3 sessions.
Current OUTLOOK Sessions	Total number of current OUTLOOK sessions.
Current VINE Sessions	Total number of current VINE sessions.
Current YAHOOMAIL Sessions	Total number of current YAHOOMAIL sessions.
Current BBM Sessions	Total number of current BBM sessions.
Current BBM UNCLASSIFIED Sessions	Total number of current BBM UNCLASSIFIED sessions.
Current BBM AUDIO Sessions	Total number of current BBM AUDIO sessions.

Field	Description
Current BOX Sessions	Total number of current BOX sessions.
Current CHIKKA Sessions	Total number of current CHIKKA sessions.
Current IMGUR Sessions	Total number of current IMGUR sessions.
Current OIST Sessions	Total number of current OIST sessions.
Current REGRAM Sessions	Total number of current REGRAM sessions.
Current VCHAT Sessions	Total number of current VCHAT sessions.
Current bittorent-sync Sessions	Total number of current Bittorrent Sync sessions.
Current cisco-jabber unclassified Sessions	Total number of current Cisco Jabber Unclassified sessions.
Current cisco-jabber audio Sessions	Total number of current Cisco Jabber Audio sessions.
Current cisco-jabber video Sessions	Total number of current Cisco Jabber Video sessions.
Current hls Sessions	Total number of current HLS sessions.
Current lync Sessions	Total number of current Lync sessions.
Current lync unclassified Sessions	Total number of current Lync Unclassified sessions.
Current lync audio Sessions	Total number of current Lync Audio sessions.
Current lync auvideo Sessions	Total number of current Lync Video sessions.
Current lync file-transfer Sessions	Total number of current Lync File-transfer sessions.
Current path Sessions	Total number of current Path sessions.
Current waze Sessions	Total number of current Waze sessions.
Current youku Sessions	Total number of current Youku sessions.
Current behavioral-video Sessions	Total number of current Behavioral video sessions.
Current apple-store Sessions	Total number of current apple-store sessions.
Current blackberry-store Sessions	Total number of current blackberry-store sessions.
Current hulu Sessions	Total number of current hulu sessions.
Current igo Sessions	Total number of current igo sessions.
Current mapfactor Sessions	Total number of current mapfactor sessions.
Current mozy Sessions	Total number of current mozy sessions.
Current navigon Sessions	Total number of current navigon sessions.
Current nokia-store Sessions	Total number of current nokia-store sessions.

Field	Description
Current opendrive Sessions	Total number of current opendrive sessions.
Current samsung-store Sessions	Total number of current samsung-store sessions.
Current weibo Sessions	Total number of current weibo sessions.
Current windows-azure Sessions	Total number of current windows-azure sessions.
Current windows-store Sessions	Total number of current windows-store sessions.
Current windows-store Sessions	Total number of current windows-store sessions.
Current apple-push Sessions	Total number of current apple-push sessions.
Current didi Sessions	Total number of current didi sessions.
Current friendster Sessions	Total number of current friendster sessions.
Current google-music Sessions	Total number of current google-music sessions.
Current google-push Sessions	Total number of current google-push sessions.
Current hike-messenger Sessions	Total number of current hike-messenger sessions.
Current idrive Sessions	Total number of current idrive sessions.
Current kik-messenger Sessions	Total number of current kik-messenger sessions.
Current tagged Sessions	Total number of current tagged sessions.
Current telegram Sessions	Total number of current telegram sessions.
Current xing Sessions	Total number of current xing sessions.
Current rhapsody Sessions	Total number of current rhapsody sessions.
Current speedtest Sessions	Total number of current speedtest sessions.
Current twitch Sessions	Total number of current twitch sessions.
Current hbogo Sessions	Total number of current hbogo sessions.
Current iheartradio Sessions	Total number of current iheartradio sessions.
Current iheartradio unclassified Sessions	Total number of current iheartradio unclassified sessions.
Current iheartradio ads Sessions	Total number of current iheartradio ads sessions.
Current slacker-radio Sessions	Total number of current slacker-radio sessions.
Current slacker-radio unclassified Sessions	Total number of current slacker-radio unclassified sessions.
Current slacker-radio ads Sessions	Total number of current slacker-radio ads sessions.
Current upc-phone Sessions	Total number of current upc-phone sessions.

Field	Description
Current upc-phone unclassified Sessions	Total number of current upc-phone unclassified sessions.
Current upc-phone audio Sessions	Total number of current upc-phone audio sessions.
Current radio-paradise audio Sessions	Total number of current radio-paradise audio sessions.
Current beatport Sessions	Total number of current beatport sessions.
Current soundcloud Sessions	Total number of current soundcloud sessions.
Current amazonmusic Sessions	Total number of current amazonmusic sessions.
Current ssl Sessions	Total number of current ssl sessions.
Current slingtv Sessions	Total number of current slingtv sessions.
Current vessel Sessions	Total number of current vessel sessions.
Current vudu Sessions	Total number of current vudu sessions.
Current go90 Sessions	Total number of current go90 sessions.
Current Espn Sessions	Total number of current espn sessions.
Current Hbonow Sessions	Total number of current hbonow sessions.
Current Crackle Sessions	Total number of current crackle sessions.

show active-charging sessions summary type p2p

Table 91: show active-charging sessions summary type p2p Command Output Descriptions

Field	Description
Total Active Charging Sessions	The total number of active charging sessions.
Uplink Bytes	Total bytes uploaded.
Downlink Bytes	Total bytes downloaded.
Uplink Packets	Total packets uploaded.
Downlink Packets	Total packets downloaded.
Current IP Sessions	Total number of current IP sessions.
Current ICMP Sessions	Total number of current ICMP sessions.
Current IPv6 Sessions	Total number of current IPv6 sessions.
Current ICMPv6 Sessions	Total number of current ICMPv6 sessions.

Field	Description
Current TCP Sessions	Total number of current TCP sessions.
Current UDP Sessions	Total number of current UDP sessions.
Current HTTP Sessions	Total number of current HTTP sessions.
Current HTTPS Sessions	Total number of current HTTPS sessions.
Current FTP Sessions	Total number of current FTP sessions.
Current POP3 Sessions	Total number of current POP3 sessions.
Current SMTP Sessions	Total number of current SMTP sessions.
Current SIP Sessions	Total number of current SIP sessions.
Current RTSP Sessions	Total number of current RTSP sessions.
Current RTP Sessions	Total number of current RTP sessions.
Current RTCP Sessions	Total number of current RTCP sessions.
Current IMAP Sessions	Total number of current IMAP sessions.
Current WSP-CO Sessions	Total number of current WSP-CO sessions.
Current WSP-CL Sessions	Total number of current WSP-CL sessions.
Current MMS Sessions	Total number of current MMS sessions.
Current DNS Sessions	Total number of current DNS sessions.
Current PPTP Sessions	Total number of current PPTP sessions.
Current PPTP-GRE Sessions	Total number of current PPTP-GRE sessions.
Current P2P Sessions	Total number of current P2P sessions.
Current H323 Sessions	Total number of current H323 sessions.
Current TFTP Sessions	Total number of current TFTP sessions.
Current UNKNOWN Sessions	Total number of current UNKNOWN sessions.
Current SKYPE Sessions	Total number of current SKYPE sessions.
Current YAHOO Sessions	Total number of current YAHOO sessions.
Important The following voice/non-voice counters are available only for 10.0 and earlier releases.	
Current SKYPE voice Sessions	Total number of current SKYPE voice sessions.
Current YAHOO voice Sessions	Total number of current YAHOO voice sessions.

Field	Description
Current SKYPE non-voice Sessions	Total number of current SKYPE non-voice sessions.
Current YAHOO non-voice Sessions	Total number of current YAHOO non-voice sessions.
Important The following audio/non-audio counters are available only for 11.0 and later releases.	
Current SKYPE Audio Sessions	Total number of current SKYPE audio sessions.
Current YAHOO Audio Sessions	Total number of current YAHOO audio sessions.
Important The following audio/non-audio counters are available only for release 11.0.	
Current SKYPE non-audio Sessions	Total number of current SKYPE non-audio sessions.
Current YAHOO non-audio Sessions	Total number of current YAHOO non-audio sessions.
Important The following counters are available only for 12.0 and later releases.	
Current SKYPE Video Sessions	Total number of current SKYPE Video sessions.
Current YAHOO Video Sessions	Total number of current YAHOO Video sessions.
Current SKYPE Unclassified Sessions	Total number of current SKYPE Unclassified sessions.
Current SKYPE Voipout Sessions	Total number of current SKYPE Voipout sessions.
Current EDONKEY Sessions	Total number of current EDONKEY sessions.
Current ORB Sessions	Total number of current ORB sessions.
Current MSN Sessions	Total number of current MSN sessions.
Current GNUTELLA Sessions	Total number of current GNUTELLA sessions.
Important The following counter is available only for 10.0 and earlier releases.	
Current MSN voice Sessions	Total number of current MSN voice sessions.
Important The following counter is available only for 11.0 and later releases.	
Current MSN audio Sessions	Total number of current MSN audio sessions.
Current BITTORRENT Sessions	Total number of current BITTORRENT sessions.
Important The following counter is available only for 10.0 and earlier releases.	

Field	Description
Current MSN non-voice Sessions	Total number of current MSN non-voice sessions.
Important The following counter is available only for release 11.0.	
Current MSN non-audio Sessions	Total number of current MSN non-audio sessions.
Current MSN Video Sessions	Total number of current MSN video sessions.
Current MSN Unclassified Sessions	Total number of current MSN unclassified sessions.
Current SLINGBOX Sessions	Total number of current SLINGBOX sessions.
Current JABBER Sessions	Total number of current JABBER sessions.
Current WINNY Sessions	Total number of current WINNY sessions.
Current MANOLITO Sessions	Total number of current MANOLITO sessions.
Current PANDO Sessions	Total number of current PANDO sessions.
Current FILETOPIA Sessions	Total number of current FILETOPIA sessions.
Current SOULSEEK Sessions	Total number of current SOULSEEK sessions.
Current PPSTREAM Sessions	Total number of current PPSTREAM sessions.
Current QQ Sessions	Total number of current QQ sessions.
Current QQ Audio Sessions	Total number of current QQ audio sessions.
Current QQ Video Sessions	Total number of current QQ video sessions.
Current QQLIVE Sessions	Total number of current QQLIVE sessions.
Current IMESH Sessions	Total number of current IMESH sessions.
Current MUTE Sessions	Total number of current MUTE sessions.
Current PPLIVE Sessions	Total number of current PPLIVE sessions.
Current GADUGADU Sessions	Total number of current GADUGADU sessions.
Current FEIDIAN Sessions	Total number of current FEIDIAN sessions.
Current APPLEJUICE Sessions	Total number of current APPLEJUICE sessions.
Current FASTTRACK Sessions	Total number of current FASTTRACK sessions.
Current ZATTOO Sessions	Total number of current ZATTOO sessions.
Current SKINNY Sessions	Total number of current SKINNY sessions.
Current SOPCAST Sessions	Total number of current SOPCAST sessions.

Field	Description
Current DIRECTCONNECT Sessions	Total number of current DIRECTCONNECT sessions.
Current ARES Sessions	Total number of current ARES sessions.
Current OSCAR Sessions	Total number of current OSCAR sessions.
Important The following voice/non-voice counters are available only for 10.0 and earlier releases.	
Current OSCAR voice Sessions	Total number of current OSCAR voice sessions.
Current OSCAR non-voice Sessions	Total number of current OSCAR non-voice sessions.
Important The following audio/non-audio counters are available only for release 11.0 and later releases.	
Current OSCAR Audio Sessions	Total number of current OSCAR audio sessions.
Current OSCAR Video Sessions	Total number of current OSCAR video sessions.
Current POPO Sessions	Total number of current POPO sessions.
Current IRC Sessions	Total number of current IRC sessions.
Current STEAM Sessions	Total number of current STEAM sessions.
Current DDLINK Sessions	Total number of current DDLINK sessions.
Current HALFLIFE2 Sessions	Total number of current HALFLIFE2 sessions.
Current HAMACHIVPN Sessions	Total number of current HAMACHIVPN sessions.
Current TVANTS Sessions	Total number of current TVANTS sessions.
Current TVUPLAYER Sessions	Total number of current TVUPLAYER sessions.
Current UUSEE Sessions	Total number of current UUSEE sessions.
Current VPNX Sessions	Total number of current VPNX sessions.
Current VTUN Sessions	Total number of current VTUN sessions.
Current WINMX Sessions	Total number of current WINMX sessions.
Current WOFWARCRAFT Sessions	Total number of current WOFWARCRAFT sessions.
Current XBOX Sessions	Total number of current XBOX sessions.
Current ISKOOT Sessions	Total number of current ISKOOT sessions.
Current FRING Sessions	Total number of current FRING sessions.
Current GTALK Sessions	Total number of current GTALK sessions.

Field	Description
Important The following voice/non-voice counters are available only for 10.0 and earlier releases.	
Current GTALK voice Sessions	Total number of current GTALK voice sessions.
Current GTALK non-voice Sessions	Total number of current GTALK non-voice sessions.
Important The following audio/non-audio counters are available only for 11.0 and later releases.	
Current GTALK Audio Sessions	Total number of current GTALK Audio sessions.
Current GTALK Video Sessions	Total number of current GTALK video sessions.
Current OOVOO Sessions	Total number of current OOVOO sessions.
Current FREENET Sessions	Total number of current FREENET sessions.
Current AIMINI Sessions	Total number of current AIMINI sessions.
Current BATTLEFIELD Sessions	Total number of current BATTLEFIELD sessions.
Current OPENFT Sessions	Total number of current OPENFT sessions.
Current QQGAME Sessions	Total number of current QQGAME sessions.
Current QUAKE Sessions	Total number of current QUAKE sessions.
Current SECONDLIFE Sessions	Total number of current SECONDLIFE sessions.
Current ACTIVESYNC Sessions	Total number of current ACTIVESYNC sessions.
Current NIMBUZZ Sessions	Total number of current NIMBUZZ sessions.
Current IAX Sessions	Total number of current IAX sessions.
Current PALTALK Sessions	Total number of current PALTALK sessions.
Current WARCRAFT3 Sessions	Total number of current WARCRAFT3 sessions.
Current IPTV Sessions	Total number of current IPTV sessions.
Current RDP Sessions	Total number of current RDP sessions.
Current PANDORA Sessions	Total number of current PANDORA sessions.
Current PANDORA unclassified Sessions	Total number of current PANDORA unclassified sessions.
Current PANDORA ads Sessions	Total number of current PANDORA ads sessions.
Current ICECAST Sessions	Total number of current ICECAST sessions.
Current KONTIKI Sessions	Total number of current KONTIKI sessions.

Field	Description
Current MEEBO Sessions	Total number of current MEEBO sessions.
Current SHOUTCAST Sessions	Total number of current SHOUTCAST sessions.
Current TRUPHONE Sessions	Total number of current TRUPHONE sessions.
Current THUNDER Sessions	Total number of current THUNDER sessions.
Current ARMAGETTRON Sessions	Total number of current ARMAGETTRON sessions.
Current BLACKBERRY Sessions	Total number of current BLACKBERRY sessions.
Current CITRIX Sessions	Total number of current CITRIX sessions.
Current CLUBPENGUIN Sessions	Total number of current CLUBPENGUIN sessions.
Current CROSSFIRE Sessions	Total number of current CROSSFIRE sessions.
Current DOFUS Sessions	Total number of current DOFUS sessions.
Current FIESTA Sessions	Total number of current FIESTA sessions.
Current FLORENSIA Sessions	Total number of current FLORENSIA sessions.
Current FUNSHION Sessions	Total number of current FUNSHION sessions.
Current GUILDWARS Sessions	Total number of current GUILDWARS sessions.
Current ISAKMP Sessions	Total number of current ISAKMP sessions.
Current MAPLESTORY Sessions	Total number of current MAPLESTORY sessions.
Current MGCP Sessions	Total number of current MGCP sessions.
Current OCTOSHAPE Sessions	Total number of current OCTOSHAPE sessions.
Current OFF Sessions	Total number of current OFF sessions.
Current PS3 Sessions	Total number of current PS3 sessions.
Current RMSTREAM Sessions	Total number of current RMSTREAM sessions.
Current RFACTOR Sessions	Total number of current RFACTOR sessions.
Current SPLASHFIGHTER Sessions	Total number of current SPLASHFIGHTER sessions.
Current SSDP Sessions	Total number of current SSDP sessions.
Current STEALTHNET Sessions	Total number of current STEALTHNET sessions.
Current STUN Sessions	Total number of current STUN sessions.
Current TEAMSPEAK Sessions	Total number of current TEAMSPEAK sessions.
Current TOR Sessions	Total number of current TOR sessions.

Field	Description
Current VEOHTV Sessions	Total number of current VEOHTV sessions.
Current WII Sessions	Total number of current WII sessions.
Current WMSTREAM Sessions	Total number of current WMSTREAM sessions.
Current WOFKUNGFU Sessions	Total number of current WOFKUNGFU sessions.
Current XDCC Sessions	Total number of current XDCC sessions.
Current YOURFREEDOM Sessions	Total number of current YOURFREEDOM sessions.
Current FACEBOOK Sessions	Total number of current FACEBOOK sessions.
Current GAMEKIT Sessions	Total number of current GAMEKIT sessions.
Current FACETIME Sessions	Total number of current FACETIME sessions.
Current FACETIME Unclassified Sessions	Total number of current FACETIME unclassified sessions.
Current FACETIME Audio Sessions	Total number of current FACETIME audio sessions.
Current FACETIME Video Sessions	Total number of current FACETIME video sessions.
Current GMAIL Sessions	Total number of current GMAIL sessions.
Current ITUNES Sessions	Total number of current ITUNES sessions.
Current MYSPACE Sessions	Total number of current MYSPACE sessions.
Current TEAMVIEWER Sessions	Total number of current TEAMVIEWER sessions.
Current TWITTER Sessions	Total number of current TWITTER sessions.
Current TWITTER streaming-video Sessions	Total number of current TWITTER streaming-video sessions.
Current VIBER Sessions	Total number of current VIBER sessions.
Current VIBER Unclassified Sessions	Total number of current VIBER Unclassified sessions.
Current VIBER Audio Sessions	Total number of current VIBER Audio sessions.
Current VIBER im Sessions	Total number of current VIBER IM sessions.
Current VIBER file-transfer Sessions	Total number of current VIBER File-transfer sessions.
Current ANTSP2P Sessions	Total number of current ANTSP2P sessions.
Current IMO Sessions	Total number of current IMO sessions.
Current NETMOTION Sessions	Total number of current NETMOTION sessions.
Current OGG Sessions	Total number of current OGG sessions.
Current OPENVPN Sessions	Total number of current OPENVPN sessions.

Field	Description
Current QUICKTIME Sessions	Total number of current QUICKTIME sessions.
Current SPOTIFY Sessions	Total number of current SPOTIFY sessions.
Current TANGO Sessions	Total number of current TANGO sessions.
Current ULTRABAC Sessions	Total number of current ULTRABAC sessions.
Current USENET Sessions	Total number of current USENET sessions.
Current VOIPTUNNEL Sessions	Total number of current VOIPTUNNEL sessions.
Current SCYDO Sessions	Total number of current SCYDO sessions.
Current WHATSAPP Sessions	Total number of current WHATSAPP sessions.
Current WHATSAPP unclassified Sessions	Total number of current WHATSAPP unclassified sessions.
Current WHATSAPP audio Sessions	Total number of current WHATSAPP audio sessions.
Current MYPEOPLE Sessions	Total number of current MYPEOPLE sessions.
Current RDT Sessions	Total number of current RDT sessions.
Current FLASH Sessions	Total number of current FLASH sessions.
Current MOJO Sessions	Total number of current MOJO sessions.
Current PCANYWHERE Sessions	Total number of current PCANYWHERE sessions.
Current WEBEX Sessions	Total number of current WEBEX sessions.
Current NETFLIX Sessions	Total number of current NETFLIX sessions.
Current IMPLUS Sessions	Total number of current IMPLUS sessions.
Current EBUDDY Sessions	Total number of current EBUDDY sessions.
Current MSRP Sessions	Total number of current MSRP sessions.
Current FICALL Sessions	Total number of current FICALL sessions.
Current GOTOMEETING Sessions	Total number of current GOTOMEETING sessions.
Current MIG33 Sessions	Total number of current MIG33 sessions.
Current COMODOUNITE Sessions	Total number of current COMODOUNITE sessions.
Current GOOBER Sessions	Total number of current GOOBER sessions.
Current IPLAYER Sessions	Total number of current IPLAYER sessions.
Current OPERAMINI Sessions	Total number of current OPERAMINI sessions.
Current KAKAOTALK Sessions	Total number of current KAKAOTALK sessions.

Field	Description
Current KAKAOTALK Audio Sessions	Total number of current KAKAOTALK audio sessions.
Current KAKAOTALK Unclassified Sessions	Total number of current KAKAOTALK unclassified sessions.
Current NATEONTALK Sessions	Total number of current NATEONTALK sessions.
Current NAVERLINE Sessions	Total number of current NAVERLINE sessions.
Current AVI Sessions	Total number of current AVI sessions.
Current GOOGLEPLAY Sessions	Total number of current GOOGLEPLAY sessions.
Current ICLOUD Sessions	Total number of current ICLOUD sessions.
Current SORIBADA Sessions	Total number of current SORIBADA sessions.
Current WECHAT Sessions	Total number of current WECHAT sessions.
Current WUALA Sessions	Total number of current WUALA sessions.
Current ACTIONVOIP Sessions	Total number of current ACTIONVOIP sessions.
Current ACTIONVOIP unclassified Sessions	Total number of current ACTIONVOIP unclassified sessions.
Current ACTIONVOIP audio Sessions	Total number of current ACTIONVOIP audio sessions.
Current AMAZONCLOUD Sessions	Total number of current AMAZONCLOUD sessions.
Current ICALL Sessions	Total number of current ICALL sessions.
Current ICALL unclassified Sessions	Total number of current ICALL unclassified sessions.
Current ICALL audio Sessions	Total number of current ICALL audio sessions.
Current ICALL video Sessions	Total number of current ICALL video sessions.
Current INSTAGRAM Sessions	Total number of current INSTAGRAM sessions.
Current JUMBLO Sessions	Total number of current JUMBLO sessions.
Current JUMBLO unclassified Sessions	Total number of current JUMBLO unclassified sessions.
Current JUMBLO audio Sessions	Total number of current JUMBLO audio sessions.
Current KUGOO Sessions	Total number of current KUGOO sessions.
Current MAGICJACK Sessions	Total number of current MAGICJACK sessions.
Current MAGICJACK unclassified Sessions	Total number of current MAGICJACK unclassified sessions.
Current MAGICJACK audio Sessions	Total number of current MAGICJACK audio sessions.
Current MAPI Sessions	Total number of current MAPI sessions.

Field	Description
Current PINTEREST Sessions	Total number of current PINTEREST sessions.
Current PLINGM Sessions	Total number of current PLINGM sessions.
Current PLINGM unclassified Sessions	Total number of current PLINGM unclassified sessions.
Current PLINGM audio Sessions	Total number of current PLINGM audio sessions.
Current RYNGA Sessions	Total number of current RYNGA sessions.
Current RYNGA unclassified Sessions	Total number of current RYNGA unclassified sessions.
Current RYNGA audio Sessions	Total number of current RYNGA audio sessions.
Current SMARTVOIP Sessions	Total number of current SMARTVOIP sessions.
Current SMARTVOIP unclassified Sessions	Total number of current SMARTVOIP unclassified sessions.
Current SMARTVOIP audio Sessions	Total number of current SMARTVOIP audio sessions.
Current SPDY Sessions	Total number of current SPDY sessions.
Current TALKATONE Sessions	Total number of current TALKATONE sessions.
Current TALKATONE unclassified Sessions	Total number of current TALKATONE unclassified sessions.
Current TALKATONE audio Sessions	Total number of current TALKATONE audio sessions.
Current VOIPDISCOUNT Sessions	Total number of current VOIPDISCOUNT sessions.
Current VOIPDISCOUNT unclassified Sessions	Total number of current VOIPDISCOUNT unclassified sessions.
Current VOIPDISCOUNT audio Sessions	Total number of current VOIPDISCOUNT audio sessions.
Current VOPIUM Sessions	Total number of current VOPIUM sessions.
Current VOPIUM unclassified Sessions	Total number of current VOPIUM unclassified sessions.
Current VOPIUM audio Sessions	Total number of current VOPIUM audio sessions.
Current BEHAVIORAL-P2P Sessions	Total number of current Behavioral-P2P sessions.
Current BEHAVIORAL-VOIP Sessions	Total number of current Behavioral-VoIP sessions.
Current BEHAVIORAL-UPLOAD Sessions	Total number of current Behavioral-upload sessions.
Current BEHAVIORAL-DOWNLOAD Sessions	Total number of current Behavioral-download sessions.
Current IMESSAGE Sessions	Total number of current IMESSAGE sessions.
Current LINKEDIN Sessions	Total number of current LINKEDIN sessions.
Current GOOGLE Sessions	Total number of current GOOGLE sessions.

Field	Description
Current POCO Sessions	Total number of current POCO sessions.
Current ULTRASURF Sessions	Total number of current ULTRASURF sessions.
Current SNAPCHAT Sessions	Total number of current SNAPCHAT sessions.
Current TRUECALLER Sessions	Total number of current TRUECALLER sessions.
Current CYBERGHOST Sessions	Total number of current CYBERGHOST sessions.
Current GOOGLEPLUS Sessions	Total number of current GOOGLEPLUS sessions.
Current ADOBECONNECT Sessions	Total number of current ADOBECONNECT sessions.
Current USTREAM Sessions	Total number of current USTREAM sessions.
Current SIRI Sessions	Total number of current SIRI sessions.
Current SOFTETHER Sessions	Total number of current SOFTETHER sessions.
Current SUDAPHONE Sessions	Total number of current SUDAPHONE sessions.
Current SVTPLAY Sessions	Total number of current SVTPLAY sessions.
Current HYVES Sessions	Total number of current HYVES sessions.
Current SILVERLIGHT Sessions	Total number of current SILVERLIGHT sessions.
Current BLACKDIALER Sessions	Total number of current BLACKDIALER sessions.
Current APPLEMAPS Sessions	Total number of current APPLEMAPS sessions.
Current BADOO Sessions	Total number of current BADOO sessions.
Current FACEBOOK UNCLASSIFIED Sessions	Total number of current FACEBOOK UNCLASSIFIED sessions.
Current FACEBOOK AUDIO Sessions	Total number of current FACEBOOK AUDIO sessions.
Current FACEBOOK streaming-video Sessions	Total number of current FACEBOOK streaming-video sessions.
Current FOURSQUARE Sessions	Total number of current FOURSQUARE sessions.
Current JAP Sessions	Total number of current JAP sessions.
Current MONKEY3 Sessions	Total number of current MONKEY3 sessions.
Current OUTLOOK Sessions	Total number of current OUTLOOK sessions.
Current VINE Sessions	Total number of current VINE sessions.
Current YAHOOMAIL Sessions	Total number of current YAHOOMAIL sessions.
Current BBM Sessions	Total number of current BBM sessions.

Field	Description
Current BBM UNCLASSIFIED Sessions	Total number of current BBM UNCLASSIFIED sessions.
Current BBM AUDIO Sessions	Total number of current BBM AUDIO sessions.
Current BOX Sessions	Total number of current BOX sessions.
Current CHIKKA Sessions	Total number of current CHIKKA sessions.
Current IMGUR Sessions	Total number of current IMGUR sessions.
Current OIST Sessions	Total number of current OIST sessions.
Current REGRAM Sessions	Total number of current REGRAM sessions.
Current VCHAT Sessions	Total number of current VCHAT sessions.
Current bittorent-sync Sessions	Total number of current Bittorrent Sync sessions.
Current cisco-jabber unclassified Sessions	Total number of current Cisco Jabber Unclassified sessions.
Current cisco-jabber audio Sessions	Total number of current Cisco Jabber Audio sessions.
Current cisco-jabber video Sessions	Total number of current Cisco Jabber Video sessions.
Current hls Sessions	Total number of current HLS sessions.
Current lync Sessions	Total number of current Lync sessions.
Current lync unclassified Sessions	Total number of current Lync Unclassified sessions.
Current lync audio Sessions	Total number of current Lync Audio sessions.
Current lync auvideo Sessions	Total number of current Lync Video sessions.
Current lync file-transfer Sessions	Total number of current Lync File-transfer sessions.
Current path Sessions	Total number of current Path sessions.
Current waze Sessions	Total number of current Waze sessions.
Current youku Sessions	Total number of current Youku sessions.
Current behavioral-video Sessions	Total number of current Behavioral video sessions.
Current apple-store Sessions	Total number of current apple-store sessions.
Current blackberry-store Sessions	Total number of current blackberry-store sessions.
Current hulu Sessions	Total number of current hulu sessions.
Current igo Sessions	Total number of current igo sessions.
Current mapfactor Sessions	Total number of current mapfactor sessions.
Current mozy Sessions	Total number of current mozy sessions.

Field	Description
Current navigon Sessions	Total number of current navigon sessions.
Current nokia-store Sessions	Total number of current nokia-store sessions.
Current opendrive Sessions	Total number of current opendrive sessions.
Current samsung-store Sessions	Total number of current samsung-store sessions.
Current weibo Sessions	Total number of current weibo sessions.
Current windows-azure Sessions	Total number of current windows-azure sessions.
Current windows-store Sessions	Total number of current windows-store sessions.
Current apple-push Sessions	Total number of current apple-push sessions.
Current didi Sessions	Total number of current didi sessions.
Current friendster Sessions	Total number of current friendster sessions.
Current google-music Sessions	Total number of current google-music sessions.
Current google-push Sessions	Total number of current google-push sessions.
Current hike-messenger Sessions	Total number of current hike-messenger sessions.
Current idrive Sessions	Total number of current idrive sessions.
Current kik-messenger Sessions	Total number of current kik-messenger sessions.
Current tagged Sessions	Total number of current tagged sessions.
Current telegram Sessions	Total number of current telegram sessions.
Current xing Sessions	Total number of current xing sessions.
Current rhapsody Sessions	Total number of current rhapsody sessions.
Current speedtest Sessions	Total number of current speedtest sessions.
Current twitch Sessions	Total number of current twitch sessions.
Current hbogo Sessions	Total number of current hbogo sessions.
Current iheartradio Sessions	Total number of current iheartradio sessions.
Current iheartradio unclassified Sessions	Total number of current iheartradio unclassified sessions.
Current iheartradio ads Sessions	Total number of current iheartradio ads sessions.
Current slacker-radio Sessions	Total number of current slacker-radio sessions.
Current slacker-radio unclassified Sessions	Total number of current slacker-radio unclassified sessions.
Current slacker-radio ads Sessions	Total number of current slacker-radio ads sessions.

Field	Description
Current upc-phone Sessions	Total number of current upc-phone sessions.
Current upc-phone unclassified Sessions	Total number of current upc-phone unclassified sessions.
Current upc-phone audio Sessions	Total number of current upc-phone audio sessions.
Current radio-paradise Sessions	Total number of current radio-paradise sessions.
Current beatport Sessions	Total number of current beatport sessions.
Current soundcloud Sessions	Total number of current soundcloud sessions.
Current amazonmusic Sessions	Total number of current amazonmusic sessions.
Current ssl Sessions	Total number of current ssl sessions.
Current slingtv Sessions	Total number of current slingtv sessions.
Current vessel Sessions	Total number of current vessel sessions.
Current Vudu Sessions	Total number of current vudu sessions.
Current go90 Sessions	Total number of current go90 sessions.
Current Espn Sessions	Total number of current espn sessions.
Current Hbonow Sessions	Total number of current hbonow sessions.
Current Crackle Sessions	Total number of current crackle sessions.

show active-charging subscribers full all

Table 92: show active-charging subscribers full all Command Output Descriptions

Field	Description
Callid	The unique call identifier value.
ACSMgr Card/Cpu	Total number of ACS Manager Card/CPU.
Active Charging Service name	Name of the Active Charging Service.
Active Charging Service Scheme name	Name of the Active Charging service-scheme selected for the particular subscriber.
ACSMgr Instance	Total instances of ACS Manager.
Number of Sub sessions	Total number of sub-sessions.
Data Sessions Active	Total number of active data sessions.
Dynamic Routes created	Total number of dynamic routes created.

Field	Description
Uplink Bytes	Total number of uplink bytes.
Downlink Bytes	Total number of downlink bytes.
Uplink Packets	Total number of uplink packets.
Downlink Packets	Total number of downlink packets.
Accel Packets	Total number of accelerated packets.
FastPath Packets	Total number of data packets processed in fastpath.
Total NRSPCA Requests	Total number of Network Requested Secondary PDP Context Activation (NRSPCA) Requests.
NRSPCA Req. Succeeded	Total number of NRSPCA requests succeeded.
NRSPCA Req. Failed	Total number of NRSPCA requests failed.
Total NRUPC Requests	Total number of Network Requested Update PDP Context (NRUPC) requests.
NRUPC Req. Succeeded	Total number of NRUPC requests succeeded.
NRUPC Req. Failed	Total number of NRUPC requests failed.
Pending NRSPCA Requests	Total number of pending NRSPCA requests.
Pending NRUPC Requests	Total number of pending NRUPC requests.
Total Bound Dynamic Rules	Total number of bound dynamic rules.
Total Bound Predef. Rules	Total number of bound predefined rules.
Data Sessions moved	Total number of data sessions moved.
Bearers Terminated for no rules	Total number of bearers terminated for no rules.
Failed Rulebase Install (unknown bearer-id)	Total number of failed Rulebase installation with failure code —Unknown Bearer ID.
Failed Rule Install (unknown bearer-id)	Total number of failed Rule installation with failure code —Unknown Bearer ID.
TCP Proxy:	
TCP Proxy Flows Requests	Total number of TCP Proxy flow requests.
TCP Proxy Flows Request Success	Total number of successful TCP Proxy flow requests.
Disable TCP Proxy Flows Requests	Total number of TCP Proxy flow requests disabled.
Disable TCP Proxy Flows Success	Total number of successful TCP Proxy flow requests disabled.
Current TCP Proxy Flows	Total number of current TCP Proxy flows for the session.

Field	Description
Total TCP Proxy Flows	Total number of TCP Proxy flows for the session.
TCP-proxy reset for non-SYN flows	Total number of resets sent by TCP Proxy for flows with no SYN packet after recovery.
Current Flows:	
Current IP Flows	Total number of current IP flows.
Current ICMP Flows	Total number of current ICMP flows.
Current IPv6 Flows	Total number of current IPv6 flows.
Current ICMPv6 Flows	Total number of current ICMPv6 flows.
Current TCP Flows	Total number of current TCP flows.
Current UDP Flows	Total number of current UDP flows.
Current HTTP Flows	Total number of current HTTP flows.
Current HTTPS Flows	Total number of current HTTPS flows.
Current FTP Flows	Total number of current FTP flows.
Current POP3 Flows	Total number of current POP3 flows.
Current SMTP Flows	Total number of current SMTP flows.
Current SIP Flows	Total number of current SIP flows.
Current RTSP Flows	Total number of current RTSP flows.
Current RTP Flows	Total number of current RTP flows.
Current RTCP Flows	Total number of current RTCP flows.
Current IMAP Flows	Total number of current IMAP flows.
Current WSP-CO Flows	Total number of current WSP-CO flows.
Current WSP-CL Flows	Total number of current WSP-CL flows.
Current MMS Flows	Total number of current MMS flows.
Current DNS Flows	Total number of current DNS flows.
Current PPTP-GRE Flows	Total number of current PPTP-GRE flows.
Current PPTP Flows	Total number of current PPTP flows.
Current P2P Flows	Total number of current P2P flows.
Current H323 Flows	Total number of current H323 flows.

Field	Description
Current TFTP Flows	Total number of current TFTP flows.
Current UNKNOWN Flows	Total number of current UNKNOWN flows.
IPNE	Name of the associated IPNE service.
Flow Information	
Subscriptions	Total number of subscriptions.
Disabled Notifications	Total number of disabled notifications.
NBR Information	
Subscriptions	Total number of NBR subscriptions.
Disabled Notifications	Total number of disabled notifications for NBR.
Usage Information	
Notifications	Total number of notifications.
UL Bytes Last Reported	Total number of Last Reported uplink bytes.
DL Bytes Last Reported	Total number of Last Reported uplink bytes.
Packets dropped due to no NAT Port/IP	Total number of packets dropped due to no NAT Port/IP.
Packets dropped since Last EDR trigger	Total number of packets dropped since the last EDR trigger.
Total packets dropped	Total number of packets dropped.
Radio-Congestion Subscriber Full Stats	
Last Reported Congestion Level	Indicates the last reported congestion level.
Total Flows Analyzed	Total number of flows analyzed.
Total Flows Eligible for Correlation	Total number of flows eligible for correlation.
Radio-Congestion Session Last Reported Stats	
Total Flows Analyzed	Total number of flows analyzed.
Total Flows Eligible for Correlation	Total number of flows eligible for correlation.
Total Flows with Congestion Level	Total number of flows with congestion level.
no Congestion	Total number of flows with no congestion.
low Congestion	Total number of flows with low congestion.
medium Congestion	Total number of flows with medium congestion.

Field	Description
high Congestion	Total number of flows with high congestion.
extreme Congestion	Total number of flows with extreme congestion.
P2P Plugin Version	Displays the P2P Plugin version.
FW-and-NAT Policy	The Stateful Firewall-and-NAT policy name.
FW-and-NAT Policy ID	The Stateful Firewall-and-NAT policy identifier.
Firewall Policy IPv4	Indicates whether Stateful Firewall IPv4 processing is required for subscriber.
Firewall Policy IPv6	Indicates whether Stateful Firewall IPv6 processing is required for subscriber.
NAT Policy NAT44	Indicates whether NAT44 is enabled or disabled for the subscriber.
NAT Policy NAT64	Indicates whether NAT64 is enabled or disabled for the subscriber.
Bypass NAT Flow Present	Indicates whether bypass NAT flow is present or not.
No Firewall ruledef(s) match the specified criteria	Stateful Firewall ruledef(s) matching the specified criteria.
No Default Firewall ruledef(s) match the specified criteria	Default Stateful Firewall ruledef(s) matching the specified criteria.
Predefined Firewall Rules Enabled List	List of enabled predefined Firewall rules.
Local-policy RAI/TAI Rules Active List	Displays the list of local-policy rules for RAI/TAI that are currently activated for the subscriber.
Total acs subscribers matching specified criteria	Total number of ACS subscribers matching the specified criteria.
UIDH received from Server	Specifies the total number of UIDH requests received from the server.
Total UIDH Insertions	Specifies the total number of UIDH insertions.
Override Control	
Charging Parameters	
Online Response Required	Speciies that Online Response Required AVP is activated in the Gx Interface at charging level or Override level with an option to WAIT to DONT_WAIT.
VPP Offload Statistics:	
Total Flows	Total number of flows.
Current Active Flows	Total number of active current flows.
IPv4:	
Uplink Pkts	Total number of IPv4 packets uplinked.

Field	Description
Uplink Bytes	Total number of IPv4 bytes uplinked.
Downlink Pkts	Total number of IPv4 packets downlinked.
Downlink Bytes	Total number of IPv4 bytes downlinked.
Dropped Uplink Pkts	Total number of IPv4 uplink packets discarded.
Dropped Uplink Bytes	Total number of IPv4 uplink bytes discarded.
Dropped Downlink Pkts	Total number of IPv4 downlink packets discarded.
Dropped Downlink Bytes	Total number of IPv4 downlink bytes discarded.
IPv6:	
Uplink Pkts	Total number of IPv6 packets uplinked.
Uplink Bytes	Total number of IPv6 bytes uplinked.
Downlink Pkts	Total number of IPv6 packets downlinked.
Downlink Bytes	Total number of IPv6 bytes downlinked.
Dropped Uplink Pkts	Total number of IPv6 uplink packets discarded.
Dropped Uplink Bytes	Total number of IPv6 uplink bytes discarded.
Dropped Downlink Pkts	Total number of IPv6 downlink packets discarded.
Dropped Downlink Bytes	Total number of IPv6 downlink bytes discarded.

show active-charging subsystem all

Table 93: show active-charging subsystem all Command Output Descriptions

Field	Description
Total ACS Managers	Total number of Active Charging Service managers running on the system.
Session Creation Succ	Total number of sessions created successfully.
Session Creation Fail	Total number of session creation failures.
Total subscribers	Total number of subscribers configured on system.
Current subscribers	Total number of subscriber active on system.
Total CF subscribers	Total number of Content Filtering subscribers configured on the system.
Current CF subscribers	Total number of Content Filtering subscribers active on the system.

Field	Description
Total Flows Connected	Total number of IPv4 and IPv6 flows connected.
Total IPv4 Flows Connected	Total number of IPv4 flows connected.
Total IPv6 Flows Connected	Total number of IPv6 flows connected.
Total Flows Disconnected	Total number of IPv4 and IPv6 flows disconnected.
Total IPv4 Flows Disconnected	Total number of IPv4 flows disconnected.
Total IPv6 Flows Disconnected	Total number of IPv6 flows disconnected.
Total Uplink Pkts	Total number of IPv4 and IPv6 packets uplinked.
Total IPv4 Uplink Pkts	Total number of IPv4 packets uplinked.
Total IPv6 Uplink Pkts	Total number of IPv6 packets uplinked.
Total Uplink Bytes	Total number of IPv4 and IPv6 bytes uplinked.
Total IPv4 Uplink Bytes	Total number of IPv4 bytes uplinked.
Total IPv6 Uplink Bytes	Total number of IPv6 bytes uplinked.
Total Downlink Pkts	Total number of IPv4 and IPv6 packets downlinked.
Total IPv4 Downlink Pkts	Total number of IPv4 packets downlinked.
Total IPv6 Downlink Pkts	Total number of IPv6 packets downlinked.
Total Downlink Bytes	Total number of IPv4 and IPv6 bytes downlinked.
Total IPv4 Downlink Bytes	Total number of IPv4 bytes downlinked.
Total IPv6 Downlink Bytes	Total number of IPv6 bytes downlinked.
Total ICMP flows	Total number of ICMP flows.
Total ICMPv4 flows	Total number of ICMPv4 flows.
Total ICMPv6 flows	Total number of ICMPv6 flows.
Current ICMP flows	Total number of current ICMP flows.
Current ICMPv4 flows	Total number of current ICMPv4 flows.
Current ICMPv6 flows	Total number of current ICMPv6 flows.
Total TCP flows	Total number of TCP flows.
Total TCP over IPv4 flows	Total number of TCP IPv4 flows.
Total TCP over IPv6 flows	Total number of TCP IPv6 flows.
Current TCP flows	Total number of current TCP flows.

Field	Description
Current TCP over IPv4 flows	Total number of current TCP IPv4 flows.
Current TCP over IPv6 flows	Total number of current TCP IPv6 flows.
Total UDP flows	Total number of UDP flows.
Total UDP over IPv4 flows	Total number of UDP IPv4 flows.
Total UDP over IPv6 flows	Total number of UDP IPv6 flows.
Current UDP flows	Total number of current UDP flows.
Current UDP over IPv4 flows	Total number of current UDP IPv4 flows.
Current UDP over IPv6 flows	Total number of current UDP IPv6 flows.
Total DNS flows	Total number of DNS flows.
Current DNS flows	Total number of current DNS flows.
Total FTP flows	Total number of FTP flows.
Current FTP flows	Total number of current FTP flows.
Total HTTP flows	Total number of HTTP flows.
Current HTTP flows	Total number of current HTTP flows.
Total HTTPS flows	Total number of HTTPS flows.
Current HTTPS flows	Total number of current HTTPS flows.
Total POP3 flows	Total number of POP3 flows.
Current POP3 flows	Total number of current POP3 flows.
Total SMTP flows	Total number of SMTP flows.
Current SMTP flows	Total number of current SMTP flows.
Total SIP flows	Total number of SIP flows.
Current SIP flows	Total number of current SIP flows.
Total RTSP flows	Total number of RTSP flows.
Current RTSP flows	Total number of current RTSP flows.
Total RTP flows	Total number of RTP flows.
Current RTP flows	Total number of current RTP flows.
Total RTCP flows	Total number of RTCP flows.
Current RTCP flows	Total number of current RTCP flows.

Field	Description
Total IMAP flows	Total number of IMAP flows.
Current IMAP flows	Total number of current IMAP flows.
Total WSP-CO flows	Total number of WSP-CO flows.
Current WSP-CO flows	Total number of current WSP-CO flows.
Total WSP-CL flows	Total number of WSP-CL flows.
Current WSP-CL flows	Total number of current WSP-CL flows.
Total MMS flows	Total number of MMS flows.
Current MMS flows	Total number of current MMS flows.
Total TFTP flows	Total number of TFTP flows.
Current TFTP flows	Total number of current TFTP flows.
Total PPTP flows	Total number of PPTP flows.
Current PPTP flows	Total number of current PPTP flows.
Total PPTP-GRE flows	Total number of PPTP-GRE flows.
Current PPTP-GRE flows	Total number of current PPTP-GRE flows.
Total H323 flows	Total number of H323 flows.
Current H323 flows	Total number of current H323 flows.
Total MIPv6 flows	Total number of MIPv6 flows.
Current MIPv6 flows	Total number of current MIPv6 flows.
Total video flows paced	Total number of TCP video flows paced.
Current video flows paced	Total number of current TCP video flows paced.
Total Rule-Hits	Total number of rule hits.
Total Readdr flows	Total number of re-addressed flows.
Current Readdr flows	Total number of current re-addressed flows.
Total Fastpath flows	Total number of data flows that support fastpath.
Total Fastpath pkts	Total number of data packets that have been processed in fastpath.
Total Fastpath NAT pkts	Total number of fastpath packets in which NAT was applied.
Total Fastpath Firewall pkts	Total number of packets processed by Firewall in fast path.
Total Fastpath Bypass NAT pkts	Total number of NAT bypass packets processed in fast path.

Field	Description
Total Fastpath failures	Total number of packet errors detected during fastpath processing.
Last Fastpath Failure	ASCII output indicating the reason the last data flow failed to meet fastpath eligibility requirements.
Readdressing Failure Statistics (Packets):	
Non SYS Flow	The number of packets failed due to non SYS flow.
Duplicate Key	The number of packets failed due to duplicate keys.
Dropped Pkts	The number of packets failed due to dropped packets.
Total Throttle-Suppressed flows	Total number of flows for which bandwidth limiting is suppressed.
Current Throttle-Suppressed flows	Current number of flows for which bandwidth limiting is suppressed.
Total P2P Subscribers	Total number of P2P subscribers.
Total Firewall Subscribers	Total number of Firewall subscribers. **NOTE:** This statistic is obsolete in 11.0 and later releases.
Total NAT Subscribers	Total number of Network Address Translation subscribers. **NOTE:** This statistic is obsolete in 11.0 and later releases.
In releases prior to StarOS 21.26: Total Blacklisted URL hits From StarOS 21.26 and later releases: Total Blockedlisted URL hits	Total number of Blockedlisted URL hits.
In releases prior to StarOS 21.26: Total Blacklisted URL misses From StarOS 21.26 and later releases: Total Blockedlisted URL misses	Total number of Blockedlisted URL misses.
Total URLs Outstanding for Rating (SRDB)	Total number of URLs outstanding for Static Rating Database rating.
Firewall/NAT Subscribers:	
Firewall IPv4 Enabled	The total and the active number of subscribers with IPv4 Firewall enabled.
Firewall IPv6 Enabled	The total and the active number of subscribers with IPv6 Firewall enabled.
NAT44 Enabled	The total and the active number of subscribers with NAT44 enabled.
NAT64 Enabled	The total and the active number of subscribers with NAT64 enabled.
NAT Enabled	The total and the active number of subscribers with NAT enabled. **NOTE:** This statistic is available only from releases 11.0 to 12.1.

Field	Description
IPv4-PDN-NAT Enabled	The total and the active number of IPv4 PDN subscribers with NAT44 enabled.
IPv6-PDN-NAT Enabled	The total and the active number of IPv6 PDN subscribers with NAT64 enabled.
IPv4v6-PDN-NAT Enabled	The total and the active number of IPv4v6 PDN subscribers with either NAT44 or NAT64 enabled, or both NAT44 and NAT64 enabled.
IPv4-PDN with NAT IP	The total and the active number of IPv4 PDN subscribers with NAT44 enabled and using at least one NAT IP.
IPv6-PDN with NAT IP	The total and the active number of IPv6 PDN subscribers with NAT64 enabled and using at least one NAT IP.
IPv4v6-PDN with NAT IP	The total and the active number of IPv4v6 PDN subscribers with either NAT44 or NAT64 enabled, or both, and using at least one NAT IP.
Firewall and NAT Enabled	The total and the active number of subscribers with IPv4 or IPv6 Firewall and NAT enabled.
NAT flows processed	The total and active number of NAT44 and NAT64 flows processed.
NAT44 flows processed	The total and active number of NAT44 flows processed.
NAT44 N-1 flows processed	The total and active number of NAT44 N-1 flows processed.
NAT44 1-1 flows processed	The total and active number of NAT44 1-1 flows processed.
NAT64 flows processed	The total and active number of NAT64 flows processed.
NAT64 N-1 flows processed	The total and active number of NAT64 N-1 flows processed.
NAT64 1-1 flows processed	The total and active number of NAT64 1-1 flows processed.
NAT44 bypass flows	The total and active number of NAT44 bypass flows.
NAT64 bypass flows	The total and active number of NAT64 bypass flows.
NAT flow-mappings	The total and active number of NAT flow mappings.
NAT Packet Statistics:	
Total NAT Bypass packets	The total and active number of NAT bypass packets.
Total NAT44 Bypass packets	The total and active number of NAT44 bypass packets.
Total NAT64 Bypass packets	The total and active number of NAT64 bypass packets.
Total NAT packets	The total and active number of NAT packets.
Total NAT44 packets	The total and active number of NAT44 packets.
Total NAT64 packets	The total and active number of NAT64 packets.
SIP ALG Calls:	

Field	Description
Total SIP ALG calls	Total number of active SIP calls processed by SIP ALG.
Current SIP ALG calls	Current number of active SIP calls processed by SIP ALG.
Total UDP SIP ALG calls	Total number of SIP UDP calls processed by SIP ALG.
Current UDP SIP ALG calls	Current number of SIP UDP calls processed by SIP ALG.
Total TCP SIP ALG calls	Total number of SIP TCP calls processed by SIP ALG.
Current TCP SIP ALG calls	Current number of SIP TCP calls processed by SIP ALG.
Total Number of Unsolicited Downlink packets received	The total mumber of unsolicited downlink packets received.
Total Number of ICMP-HU packets sent	The total number of ICMP-HU packets sent.
Fair Usage Statistics:	
CPU Credits (used/max)	Number of CPU credits used and maximum number of CPU credits.
Dynamic Transrating Statistics:	
Flows being Transrated	The number of flows being transrated.
Transrating Rejected Due to Lack of Session Mgr Resources:	The number of transrating rejects due to lack of session mgr resources.
Total Accepted Flows:	The total number of accepted flows.
Total Supported Flows:	The total number of supported flows.
Total Sh263 flv:	The total number of Sh263 flv flows.
Total H264 flv:	The total number of H264 flv flows.
Total H264 mp4:	The total number of H264 mp4 flows.
Total Not Suported Flows:	The total number of non supported flows.
Total Active Flows:	The total number of active flows.
Total Active sh263:	The total number of active sh263 flows.
Total Active h264	The total number of active h264 flows.
Total Inactive Flows:	The total number of inactive flows.
Total Inactive sh263:	The total number of inactive sh263 flows.
Total Inactive h264	The total number of inactive h264 flows.
Total Transrated Flows:	The total number of transrated flows
Total Transrated sh263 flv:	The total number of transrated sh263 .flv flows

Field	Description
Total Transrated h264 flv:	The total number of transrated h264 .flv flows
Total Transrated h264 mp4:	The total number of transrated h264 .mp4 flows
Total Never Transrated flows:	The total number of never transrated flows
Total Never Transrated Due To No Resource:	The total number of never transrated flows due to no resource
Total Never Transrated Due To No Congestion:	The total number of never transrated flows due to no congestion
RADIUS Prepaid Statistics	Indicates the group of statistics for RADIUS prepaid session.
Total prepaid sess	Total number of active/dormant/inactive prepaid sessions.
Current prepaid sess	Total number of prepaid sessions currently active.
Total prepaid auth req	Total number of AAA authorization requests for prepaid sessions.
Total prepaid auth success	Total number of successful AAA authorization for prepaid sessions.
Total prepaid auth fail	Total number of failed AAA authorization for prepaid sessions.
Total prepaid errors	Total number of errors occurred in prepaid sessions.
Content Filtering URL Cache Statistics	Indicates URL caching statistics for Content Filtering.
Total cached entries	Total number of cached entries in memory.
Total hits	Total number of attempts to access URLs which are cached in memory with rating.
Total misses	Total number of attempts failed to access URLs which are cached in memory with rating.
Total has-path hits	Total number of attempts to access URLs which are cached in memory with rating with specified path.
Total flushes	Total number of flushing of URL cache to clear memory with stale URL list and rating.
Total Cache size	Total cache size adding maximum cache size for all volume provided for URLs caching.
Percentage Full	Indicates the percentage of memory used out of allocated space for URL caching.
Charging-Update Statistics	
Total Charging Updates Received	Total number of charging updates received
Total Charging Updates Active	Total number of charging updates that are active
Total Sessions with Charging-Updates Received	Total number of sessions with charging updates received

Field	Description
Total Sessions with Charging-Updates Active	Total number of sessions with charging updates active
Total Sessions with Charging-Updates Enforced	Total number of sessions with charging updates enforced
BW Limit Drop Upl Pkts	Total number of uplink packets dropped due to bearer bandwidth limiting.
BW Limit Drop Dnl Pkts	Total number of downlink packets dropped due to bearer bandwidth limiting.
BW Limit Drop Upl Bytes	Total number of uplink bytes dropped due to bearer bandwidth limiting.
BW Limit Drop Dnl Bytes	Total number of downlink bytes dropped due to bearer bandwidth limiting.
BW Limit Mark Upl Pkts	Total number of uplink packets marked due to bearer bandwidth limiting.
BW Limit Mark Dnl Pkts	Total number of downlink packets marked due to bearer bandwidth limiting.
CC Dropped Uplink Packets	Total number of packets dropped by credit control in uplink direction at a system level.
CC Dropped Uplink Bytes	Total number of bytes dropped by credit control in uplink direction at a system level
CC Dropped Downlink Packets	Total number of packets dropped by credit control in downlink direction at a system level.
CC Dropped Downlink Bytes	Total number of bytes dropped by credit control in downlink direction at a system level.
FlowStatus Readdress Upl Bytes	
FlowStatus Readdress Dnl Bytes	
FlowStatus Term Sess Upl Pkts	
FlowStatus Term Sess Dnl Pkts	
FlowStatus Term Flow Upl Pkts	
FlowStatus Term Flow Dnl Pkts	
FlowStatus Term Flow Upl Bytes	
FlowStatus Term Flow Dnl Bytes	
FlowStatus Readdress Upl	
FlowStatus Readdress Dnl Pkts	
FlowStatus Readdress Upl Bytes	
FlowStatus Readdress Dnl Bytes	

Field	Description
Total Control Pkts	Total number of control packets received.
Total Control Pkts Tx	Total number of control packets transmitted..
PCP Service Statistics: **Important** The PCP Service statistics are customer specific. For more information, contact your Cisco account representative.	
Total PCP Subscribers	Total number of PCP enabled subscribers.
Current PCP Subscribers	Current number of PCP enabled subscribers.
IPv4	
Total PCP Requests	Total number of request packets received for the PCP service.
Total PCP Responses	Total number of PCP Responses sent by the PCP service.
Total Unknown Requests	Total number of PCP Responses sent by the PCP service for unknown PCP Requests.
Total Invalid Requests	Total number of PCP Responses sent by the PCP service for invalid PCP Requests.
Opcode Statistics	
Total Requests	Total number of PCP MAP/PEER/ANNOUNCE requests received for the PCP service.
Valid Requests	Total number of valid PCP MAP/PEER/ANNOUNCE requests received for the PCP service.
Invalid Requests	Total number of invalid PCP MAP/PEER/ANNOUNCE requests received for the PCP service.
Total Responses	Total number of PCP MAP/PEER/ANNOUNCE responses sent by the PCP service.
Success Responses	Total number of successful PCP MAP/PEER/ANNOUNCE responses sent for the PCP service.
Error Responses	Total number of error PCP MAP/PEER/ANNOUNCE responses sent by the PCP service.
Data statistics	Statistics of data flow.
Receive Pkts	Total number of packets received in different size based frequency
Transmit pkts	Total number of packets transmitted in different size based frequency
User Data statistics	Indicates the group of statistics of user data traffic.
Data octets from User	Total number of bytes originated from user.
Data packets from User	Total number of data packets originated from user.

Field	Description
Data octets to User	Total number of bytes sent to user.
Data packets to User	Total number of data packets sent to user.

show active-charging subscribers callid override-control

The output of this command includes the following fields:

Override Control:

- Extended MBR UL—This AVP defines the maximum bit rate in kbps that is allowed for the uplink direction.
- Extended MBR DL—This AVP defines the maximum bit rate in kbps that is allowed for the downlink direction .
- Extended GBR UL—This AVP defines the guaranteed bit rate in kbps that is allowed for Uplink direction. This AVP is included only for rules on dedicated bearers.
- Extended GBR DL—This AVP defines the guaranteed bit rate in kbps that is allowed for downlink direction. This AVP is included only for rules on dedicated bearers.

show active-charging subsystem facility acsmgr instance

Table 94: show active-charging subsystem facility acsmgr instance Command Output Descriptions

Field	Description
ACSMgr Instance	The ACS Manager instance.
Card/CPU	The card and CPU ID.
Session Creation Succ	Total number of sessions created successfully.
Session Creation Fail	Total number of session creation failures.
Total subscribers	Total number of subscribers configured on system.
Current subscribers	Total number of subscriber active on system.
Total CF subscribers	Total number of Content Filtering subscribers configured on the system.
Current CF subscribers	Total number of Content Filtering subscribers active on the system.
Total Flows Connected	Total number of flows connected.
Total Flows Disconnected	Total number of flows disconnected.
Total Uplink Pkts	Total number of packets uplinked.

Field	Description
Total Uplink Bytes	Total number of bytes uplinked.
Total Downlink Pkts	Total number of packets downlinked.
Total Downlink Bytes	Total number of bytes downlinked.
Total ICMP flows	Total number of ICMP flows.
Current ICMP flows	Total number of current ICMP flows.
Total ICMPv6 flows	Total number of ICMPv6 flows.
Current ICMPv6 flows	Total number of current ICMPv6 flows.
Total TCP flows	Total number of TCP flows.
Current TCP flows	Total number of current TCP flows.
Total UDP flows	Total number of UDP flows.
Current UDP flows	Total number of current UDP flows.
Total DNS flows	Total number of DNS flows.
Current DNS flows	Total number of current DNS flows.
Total FTP flows	Total number of FTP flows.
Current FTP flows	Total number of current FTP flows.
Total HTTP flows	Total number of HTTP flows.
Current HTTP flows	Total number of current HTTP flows.
Total HTTPS flows	Total number of HTTPS flows.
Current HTTPS flows	Total number of current HTTPS flows.
Total POP3 flows	Total number of POP3 flows.
Current POP3 flows	Total number of current POP3 flows.
Total SMTP flows	Total number of SMTP flows.
Current SMTP flows	Total number of current SMTP flows.
Total SIP flows	Total number of SIP flows.
Current SIP flows	Total number of current SIP flows.
Total RTSP flows	Total number of RTSP flows.
Current RTSP flows	Total number of current RTSP flows.
Total RTP flows	Total number of RTP flows.

Field	Description
Current RTP flows	Total number of current RTP flows.
Total RTCP flows	Total number of RTCP flows.
Current RTCP flows	Total number of current RTCP flows.
Total IMAP flows	Total number of IMAP flows.
Current IMAP flows	Total number of current IMAP flows.
Total WSP-CO flows	Total number of WSP-CO flows.
Current WSP-CO flows	Total number of current WSP-CO flows.
Total WSP-CL flows	Total number of WSP-CL flows.
Current WSP-CL flows	Total number of current WSP-CL flows.
Total MMS flows	Total number of MMS flows.
Current MMS flows	Total number of current MMS flows.
Total TFTP flows	Total number of TFTP flows.
Current TFTP flows	Total number of current TFTP flows.
Total PPTP flows	Total number of PPTP flows.
Current PPTP flows	Total number of current PPTP flows.
Total PPTP-GRE flows	Total number of PPTP-GRE flows.
Current PPTP-GRE flows	Total number of current PPTP-GRE flows.
Total H323 flows	Total number of H323 flows.
Current H323 flows	Total number of current H323 flows.
Total P2P flows	Total number of P2P flows.
Current P2P flows	Total number of current P2P flows.
Total Rule-Hits	Total number of rule hits.
In releases prior to StarOS 21.26: Blacklisted URL hits From StarOS 21.26 and later releases: Blockedlisted URL hits	The number of Blockedlisted URL hits.

Field	Description
In releases prior to StarOS 21.26: Blacklisted URL misses From StarOS 21.26 and later releases: Blockedlisted URL misses	The number of Blockedlisted URL misses.
Total URLs Outstanding for Rating (SRDB)	Total number of URLs outstanding for Static Rating Database rating.
Total Fastpath Firewall pkts	Total number of packets processed by Firewall in fast path.
Total Fastpath Bypass NAT pkts	Total number of NAT bypass packets processed in fast path.
Firewall/NAT Subscribers:	
Firewall IPv4 Enabled	Displays the total and the active number of subscribers with IPv4 Firewall enabled.
Firewall IPv6 Enabled	Displays the total and the active number of subscribers with IPv6 Firewall enabled.
NAT44 Enabled	Displays the total and the active number of subscribers with NAT44 enabled.
NAT64 Enabled	Displays the total and the active number of subscribers with NAT64 enabled.
IPv4-PDN-NAT Enabled	Displays the total and the active number of IPv4 PDN subscribers with NAT44 enabled.
IPv6-PDN-NAT Enabled	Displays the total and the active number of IPv6 PDN subscribers with NAT64 enabled.
IPv4v6-PDN-NAT Enabled	Displays the total and the active number of IPv4v6 PDN subscribers with either NAT44 or NAT64 enabled, or both NAT44 and NAT64 enabled.
IPv4-PDN with NAT IP	Displays the total and the active number of IPv4 PDN subscribers with NAT44 enabled and using at least one NAT IP.
IPv6-PDN with NAT IP	Displays the total and the active number of IPv6 PDN subscribers with NAT64 enabled and using at least one NAT IP.
IPv4v6-PDN with NAT IP	Displays the total and the active number of IPv4v6 PDN subscribers with either NAT44 or NAT64 enabled, or both, and using at least one NAT IP.
Firewall and NAT Enabled	Displays the total and the active number of subscribers with IPv4 or IPv6 Firewall and NAT enabled.
NAT flows processed	Displays the total and active number of NAT44 and NAT64 flows processed.
NAT44 flows processed	Displays the total and active number of NAT44 flows processed.
NAT44 N-1 flows processed	Displays the total and active number of NAT44 N-1 flows processed.
NAT44 1-1 flows processed	Displays the total and active number of NAT44 1-1 flows processed.
NAT64 flows processed	Displays the total and active number of NAT64 flows processed.

Field	Description
NAT64 N-1 flows processed	Displays the total and active number of NAT64 N-1 flows processed.
NAT64 1-1 flows processed	Displays the total and active number of NAT64 1-1 flows processed.
NAT44 bypass flows	Displays the total and active number of NAT44 bypass flows.
NAT64 bypass flows	Displays the total and active number of NAT64 bypass flows.
RADIUS Prepaid Statistics: Indicates the group of statistics for RADIUS prepaid session.	
Total prepaid sess	Total number of active/dormant/inactive prepaid sessions.
Current prepaid sess	Total number of prepaid sessions currently active.
Total prepaid auth req	Total number of AAA authorization requests for prepaid sessions.
Total prepaid auth success	Total number of successful AAA authorization for prepaid sessions.
Total prepaid auth fail	Total number of failed AAA authorization for prepaid sessions.
Total prepaid errors	Total number of errors occurred in prepaid sessions.
Max flows per-session Statistics: Indicates the group of statistics for the maximum number of simultaneous flows seen per session.	
Max Flows seen	The maximum number of simultaneous flows seen by the instance on a session.
IMSI	Indicates the International Mobile Subscriber Identity (IMSI).
Max Flows seen at	Lists the date and time at which the flows were seen.
Content Filtering Policy <*policy*> **for Service** <*service*> **Matched**	
Content Filtering URL Cache Statistics	Indicates the group of statistics of URL caching for content filtering service.
Total cached entries	Total number of cached entries in memory.
Total hits	Total number of attempts to access URLs which are cached in memory with rating.
Total misses	Total number of attempts failed to access URLs which are cached in memory with rating.
Total has-path hits	Total number of attempts to access URLs which are cached in memory with rating with specified path.
Total flushes	Total number of flushing of URL cache to clear memory with stale URL list and rating.
Total Cache size (all volumes)	Total cache size adding maximum cache size for all volume provided for URLs caching.
Percentage Full	Indicates the percentage of memory used out of allocated space for URL caching.

Field	Description
Last Flush request received time	Indicates the time of last flush request received for cache flushing.
Volume - *<volume>*	The volume.
Cached entries	For the volume, indicates the total number of cached entries in memory.
Hits	For the volume, indicates the total number of attempts failed to access URLs which are cached in memory with rating.
Misses	For the volume, indicates the total number of attempts failed to access URLs which are cached in memory with rating.
has-path hits	For the volume, indicates the total number of attempts to access URLs which are cached in memory with rating with specified path.
Flushes	For the volume, indicates the total number of times the URL cache has been flushed to clear memory with stale URL list and rating.
Percentage Full	For the volume, indicates the percentage of memory used out of allocated space for URL caching.
Last Access Time	For the volume, indicates the last access time.
Last Flush Time	For the volume, indicates the last flush time.
Data statistics	
Receive Pkts	Total number of packets received.
Transmit Pkts	Total number of packets transmitted.

show tcp-acceleration statistics sessmgr all

Table 95: show tcp-acceleration statistics sessmgr all Command Output Descriptions

Field	Description
TCP acceleration Statistics	Specifies the TCP Acceleration Statistics
Total Accelerated Flows	Specifies the total number of accelerated flows.
Current Accelerated Flows	Specifies the current number of accelerated flows.
Released Accelerated Flows	Specifies the total number of released accelerated flows.
Rejected Accelerated Flows	Specifies the total number of accelerated flows rejected.

Field	Description
Feature Not Supported	Specifies the flow rejected with the "Feature Not Supported" reason
RAT Type Not Supported	Specifies the flow rejected with the "RAT Type Not Supported" reason
Bearer Not Supported	Specifies the flow rejected with the "Bearer Not Supported" reason
Resource Not Available (Memory)	Specifies the flow rejected with the "Resource Not Available (Memory)" reason
Resource Not Available (CPU)	Specifies the flow rejected with the "Resource Not Available (CPU)" reason
Others	Specifies the flow rejected for other reasons.
Data Statistics	
IPv4 (User-Side and Inet Side)	
Total Pkts Rx	Indicates the total number of IPv4 TCP accelerated packets received from the UE and internet.
Total Bytes Rx	Indicates the total number of IPv4 TCP accelerated bytes received from the UE and internet.
Total Pkts Tx	Indicates the total number of IPv4 TCP accelerated packets sent towards the UE and internet.
Total Bytes Tx	Indicates the total number of IPv4 TCP accelerated bytes sent towards the UE and internet.
IPv4 (User-Side and Inet Side)	
Total Pkts Rx	Indicates the total number of IPv6 TCP accelerated packets received from the UE and internet.
Total Bytes Rx	Indicates the total number of IPv6 TCP accelerated bytes received from the UE and internet.
Total Pkts Tx	Indicates the total number of IPv6 TCP accelerated packets sent towards the UE and internet.
Total Bytes Tx	Indicates the total number of IPv6 TCP accelerated bytes sent towards the UE and internet.
Data Statistics > IPv4 HTTP (User Side and Inet Side)	
Total Pkts Rx	Indicates the total number of IPv4 HTTP TCP accelerated packets received from the UE and internet.

Field	Description
Total Bytes Rx	Indicates the total number of IPv4 HTTP TCP accelerated bytes received from the UE and internet.
Total Pkts Tx	Indicates the total number of IPv4 TCP accelerated HTTP packets sent towards the UE and internet.
Total Bytes Tx	Indicates the total number of IPv4 HTTP TCP accelerated bytes sent towards the UE and internet.
Retrans Pkts Rx	Indicates the total number of retransmitted packets received from the UE and internet for TCP accelerated IPV4 HTTP flows.
Retrans Bytes Rx	Indicates the total number of retransmitted bytes received from the UE and internet for TCP accelerated IPV4 HTTP flows.
Retrans Pkts Tx	Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV4 HTTP flows.
Retrans Bytes Tx	Indicates the total number of bytes retransmitted towards the UE and internet for TCP accelerated IPV4 HTTP flows.
Data Statistics > IPv4 HTTPS (User Side and Inet Side)	
Total Pkts Rx	Indicates the total number of IPv4 HTTPS TCP accelerated packets received from the UE and internet.
Total Bytes Rx	Indicates the total number of IPv4 HTTPS TCP accelerated bytes received from the UE and internet.
Total Pkts Tx	Indicates the total number of IPv4 TCP accelerated HTTPS packets sent towards the UE and internet.
Total Bytes Tx	Indicates the total number of IPv4 HTTPS TCP accelerated bytes sent towards the UE and internet.
Retrans Pkts Rx	Indicates the total number of retransmitted packets received from the UE and internet for TCP accelerated IPV4 HTTPS flows.
Retrans Bytes Rx	Indicates the total number of retransmitted bytes received from the UE and internet for TCP accelerated IPV4 HTTPS flows.
Retrans Pkts Tx	Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV4 HTTPS flows.

Field	Description
Retrans Bytes Tx	Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV4 HTTPS flows.
Data Statistics > IPv6 HTTP (User Side and Inet Side)	
Total Pkts Rx	Indicates the total number of IPv6 HTTP TCP accelerated packets received from the UE and internet.
Total Bytes Rx	Indicates the total number of IPv6 HTTP TCP accelerated bytes received from the UE and internet.
Total Pkts Tx	Indicates the total number of IPv6 TCP accelerated HTTP packets sent towards the UE and internet.
Total Bytes Tx	Indicates the total number of IPv6 HTTP TCP accelerated bytes sent towards the UE and internet.
Retrans Pkts Rx	Indicates the total number of retransmitted packets received from the UE and internet for TCP accelerated IPV6 HTTP flows.
Retrans Bytes Rx	Indicates the total number of retransmitted bytes received from the UE and internet for TCP accelerated IPV6 HTTP flows.
Retrans Pkts Tx	Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV6 HTTP flows.
Retrans Bytes Tx	Indicates the total number of bytes retransmitted towards the UE and internet for TCP accelerated IPV6 HTTP flows.
Data Statistics > IPv6 HTTPS (User Side and Inet Side)	
Total Pkts Rx	Indicates the total number of IPv6 HTTPS TCP accelerated packets received from the UE and internet.
Total Bytes Rx	Indicates the total number of IPv6 HTTPS TCP accelerated bytes received from the UE and internet.
Total Pkts Tx	Indicates the total number of IPv6 TCP accelerated HTTPS packets sent towards the UE and internet.
Total Bytes Tx	Indicates the total number of IPv6 HTTPS TCP accelerated bytes sent towards the UE and internet.
Retrans Pkts Rx	Indicates the total number of retransmitted packets received from the UE and internet for TCP accelerated IPV6 HTTPS flows.

Field	Description
Retrans Bytes Rx	Indicates the total number of retransmitted bytes received from the UE and internet for TCP accelerated IPV6 HTTPS flows.
Retrans Pkts Tx	Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV6 HTTPS flows.
Retrans Bytes Tx	Indicates the total number of packets retransmitted towards the UE and internet for TCP accelerated IPV6 HTTPS flows.

show active-charging tcp-proxy statistics all verbose

Table 96: show active-charging tcp-proxy statistics all verbose Command Output Descriptions

Field	Description
TCP Proxy Stack Statistics	
Statistics	
Cumulative Statistics	
Total Pkts to Stack	Total number of packets received by stack.
Total Bytes to Stack	Total number of bytes received by stack.
Total Pkts from Stack	Total number of packets sent from stack.
Total Bytes from Stack	Total number of bytes sent from stack.
API Statistics	
Total Sockets Opened	Total number of sockets opened.
Socket Open Failed	Total number of sockets open failures.
Total Connect Attempts	Total number of connection attempts.
Total Listening Sockets	Total number of sockets listening.
Socket Listening Failed	Total number of sockets listening failures.
Socket Bind Success	Total number of socket binds successful.
Socket Accept Success	Total number of socket accepts successful.
Socket Accept Failed	Total number of socket accept failures.
Total Send Success	Total number of sends successful.

Field	Description
Total Send Failed	Total number of send failures.
Total Send Partial Succ	Total number of sends partially successful.
Total SendTo Success	Total number of send to successful.
Total SendTo Failed	Total number of send to failures.
Total SendTo Partil Succ	Total number of send to partially successful.
Total Recv Attempted	Total number of Recv attempted.
Total Recv Fail	Total number of Recv failures.
Total RecvFrom Attempted	Total number of RecvFrom attempted.
Total RecvFrom Fail	Total number of RecvFrom failures.
Current Open Sockets	Total number of sockets currently open.
IP Layer Statistics	
Total Pkts Recvd at IP	Total number of packets received at IP layer.
Header Errors	Total number of IP header errors.
Unknown Protocol	Total number of unknown IP protocol errors.
Incoming Discarded Pkts	Total number of incoming packets discarded.
Outgoing Requests	Total number of outgoing requests.
Outgoing Discarded Pkts	Total number of outgoing discarded packets.
Reassembly Timeouts	Total number of reassembly timeouts.
Reassembly Success	Total number of IP datagrams that were reassembled successfully.
Fragmentation Success	Total number of IP datagrams that were fragmented successfully.
Fragmentation Fails	Total number of IP datagrams that were discarded due to fragmentation failures.
Fragments Created	Total number of fragments created.
TCP Layer Statistics	
Incoming TCP Segments	Total number of incoming segments received at TCP layer.
Incoming TCP Bytes	Total number of incoming bytes received at TCP layer.
Incoming TCP Error Seg	Total number of incoming segments containing some error.
In TCP Retrans Seg	Total number of incoming TCP retransmitted segments.

Field	Description
In TCP Retrans Byte	Total number of incoming TCP retransmitted bytes.
Outgoing TCP Data Seg	Total number of outgoing TCP segments having some data.
Outgoing TCP Reset Seg	Total number of outgoing TCP resets.
Outgoing TCP Retrans Seg	Total number of packets retransmitted by the stack.
In TCP Partial Retr Seg	Total number of incoming TCP partial retransmitted segments.
In TCP Partial Retr Byte	Total number of incoming TCP partial retransmitted bytes.
In TCP OOO Segments	Total number of incoming TCP Out-of-Order segments.
In TCP OOO Bytes	Total number of incoming TCP Out-of-Order bytes.
In TCP OOO+Retrans Seg	Total number of incoming TCP Out-of-Order+retransmitted segments.
In TCP OOO+Retrans Bytes	Total number of incoming TCP Out-of-Order+retransmitted bytes.
In TCP OOO Succ Seg	Total number of incoming TCP Out-of-Order Succ segments.
In TCP OOO Succ Bytes	Total number of incoming TCP Out-of-Order Succ bytes.
In TCP Csum Err Seg	Total number of incoming TCP checksum error segments.
In TCP Csum Err Bytes	Total number of incoming TCP checksum error bytes.
Active Open	Total number of active connections initiated by the stack.
Passive Open	Total number of connections accepted by the stack.
Connection Failure	Total number failed connections.
Reset in Est State	Total number of resets received in Established state.
Current Est Connections	Total number of active established connections.
TCP Proxy Statistics for Rulebase	
Cumulative TCP proxy Statistics for Rulebase:	
Total Proxy Flows	Total number of TCP Proxy flows in this rulebase.
Current Proxy Flows	Total no of current TCP Proxy flows in this rulebase.
Uplink TCP Proxy:	
Pkts received from uplink	Total number of uplink packets on Gn interface.
Pkts forwarded to application	Total number uplink packets forwarded by stack to TCP Proxy application.
Pkts received from application	Total number uplink packets received from TCP Proxy application to stack.
Pkts for transmission to uplink	Total number uplink packets sent by stack on Gi interface.

Field	Description
Pkts received after connection with server	Total number uplink packets received after connection with server.
Pkts received before connection with server	Total number uplink packets received before connection with server.
Number of connect tried	Total number times the connect was called.
Downlink TCP Proxy:	
Pkts received from downlink	Total number of downlink packets on Gi interface.
Pkts forwarded to application	Total number downlink packets forwarded by stack to TCP Proxy application.
Pkts received from application	Total number downlink packets received from TCP Proxy application to stack.
Pkts for transmission to downlink	Total number downlink packets from application on Gn interface.
Pkts received after connection with client	Total number of downlink packets received after connection with client.
Pkts received before connection with client	Total number downlink packets received before connection with client.
Number of connect tried	Total number times the connect was called.
Downlink and uplink TCP proxy events:	
Total received failed	Total number of Recv calls failed.
Total error received	Total number of socket errors.
Total reset received	Total number of RESETs received (both from Gn and Gi side).
Total remote closed received	Total number of Remote Close events occurred (both from Gn and Gi side).
Total close complete received	Total number of Remote Close Complete events occurred (both from Gn and Gi side).
Total accept received	Total number of accept events received (both from Gn and Gi side).
Total accept failed	Total number of accept requests failed.
Total registerCB failed	Total number of calls to registerCB function failed.
Total recv occurred	Total number of Recv events occured.
Total connect complete received	Total number of connect complete events occurred.
Total send failed	Total number of calls to send function failed.
Proxy Session counters:	

Field	Description
Current Connecting Conn (AO on GN)	Total number of current connecting connections active open on GN.
Current Connecting Conn (AO on GI)	Total number of current connecting connections active open on GI.
Current Connected Conn (AO on GN)	Total number of current connected connections active open on GN.
Current Connected Conn (AO on GI)	Total number of current connected connections active open on GI.
Current Un-Accepted Conn (PO on GN)	Total number of current unaccepted connections passive open on GN.
Current Un-Accepted Conn (PO on GI)	Total number of current unaccepted connections passive open on GI.
Current Accepted Conn (PO on GN)	Total number of current accepted connections passive open on GN.
Current Accepted Conn (PO on GI)	Total number of current accepted connections passive open on GI.
Current EST conn on both side	Total number of current EST connections on both side.
Total PO Succ on GN	Total number of passive open successful on GN.
Total AO Succ on GI	Total number of active open successful on GI.
Total PO Succ on GI	Total number of passive open successful on GI.
Total AO Succ on GN	Total number of active open successful on GN.
Flows not proxied - Proxy flow limit	Total number of flows not proxied due to proxy flow limit.
Flows not proxied - Backlog limit	Total number of flows not proxied due to backlog limit.
Flows not proxied - Gn sock limit	Total number of flows not proxied due to Gn sock limit.
Flows not proxied - Gi sock limit	Total number of flows not proxied due to Gi sock limit.
Flows cleared - incomplete active open	Total number of flows cleared due to incomplete active open.
Flows cleared - incomplete passive open	Total number of flows cleared due to incomplete passive open.
Proxy Error counters:	
Socket Open Failed	Socket open failed statistics on Gn and Gi.
Socket Error Events	Socket error event statistics on Gn and Gi.

show active-charging tcp-proxy statistics socket-migration

Table 97: show active-charging tcp-proxy statistics socket-migration Command Output Descriptions

Field	Description
Socket Migration Statistics	
Cumulative Statistics	
Total Flows Initialized	Total number of flows for which Socket Migration was initialized.
Total Flows Migration Attempt	Total number of flows for which socket migration was started.
Total Flows Success	Total number of flows for which socket migration was successful.
Total Flows Failed	Total number of flows for which socket migration failed with reason.
Memory Alloc Failed	Total number of flows for which socket migration failed due to memory allocation failure.
Permission Denied	Total number of flows for which socket migration failed due to permission denials.
Possible TCP State Change	Total number of flows for which socket migration failed due to possible TCP state change.
Pkt Trimming Failed	Total number of flows for which socket migration failed due to packet trimming failures.
Others	Total number of flows for which socket migration failed due to other reasons.
Total Pkts Trimmed	Total number of packets trimmed during stabilization phase.
Current Statistics	
Current Socket Migrated Flows	Number of current flows for which socket migration is activated.
Flows in Init State	Number of current flows that are in Init state.
Flows in Pre-mig State	Number of current flows that are in Pre-migration state.
Flows in Mig Started State	Number of current flows that are in Migration Started state.
Flows in Post-Mig State	Number of current flows that are in Post Migration state.
Flows in Mig-Done State	Number of current flows that are in Migration Completed state.
Flows in Cant-Do State	Number of current flows that are in Migration Can't be Done state.

show active-charging tethering-detection database sessmgr all

Table 98: show active-charging tethering-detection database sessmgr all Command Output Descriptions

Field	Description
SMgr Instance	Instance number of the session manager.
TAC Database	
Source File	Location of the TAC database file.
Database Status	Status of the database.
Version	Version of the database used.
Number of entries in DB	Total number of entried in the TAC database.
Last Upgrade Status	Last upgrade status of the TAC database.
OS Database	
Source File	Location of the IPv4 OS Signature database file.
Database Status	Status of the database.
Version	Version of the database used.
Number of signatures in DB	Total number of IPv4 OS signatures in the database.
Last Upgrade Status	Last upgrade status of the IPv4 OS signature database.
OS Database-IPv6	
Source File	Location of the IPv6 OS Signature database file.
Database Status	Status of the database.
Version	Version of the database used.
Number of signatures in DB	Total number of IPv6 OS signatures in the database.
Last Upgrade Status	Last upgrade status of the IPv6 OS signature database.
UA Database	
Source File	Location of the UA signature database file.
Database Status	Status of the database.
Version	Version of the database used.
Number of signatures in DB	Total number of UA signatures in the database.

Field	Description
Last Upgrade Status	Last upgrade status of the UA signature database.

show active-charging tethering-detection statistics

Table 99: show active-charging tethering-detection statistics Command Output Descriptions

Field	Description
Current Tethered Subscribers	Total number of tethered subscribers at a particular time.
Total flows scanned	Total number of flows scanned.
Total Tethered flows detected	Total number of tethered flows detected.
Total Tethered flows recovered	Total number of tethered flows recovered.
Total flows bypassed for scanning	Total number of flows that were bypassed for tethering with the configured interface ID.
Tethering Detection Statistics (os-ua)	
TAC ID lookups	Total number of TAC ID lookups.
TAC ID matches	Total number of TAC ID matches.
OS signature lookups	Total number of OS signature lookups.
OS signature matches	Total number of OS signature matches.
IPv6 OS signatures lookups	Total number of IPv6 OS signature lookups.
IPv6 OS signatures matches	Total number of IPv6 OS signature matches.
UA signature lookups	Total number of UA signature lookups.
UA signature matches	Total number of UA signature matches.
Total flows scanned	Total number of flows scanned.
Tethered flows detected	Total number of tethered flows detected.
Non-tethered flows detected	Total number of non-tethered flows detected.
Tethered Uplink Packets	Total number of uplink packets for tethered flows.
Tethered Downlink Packets	Total number of downlink packets for tethered flows.
Current tethering-detected indications sent	Current number of tethering-detected indications sent.

Field	Description
Total tethering-detected indications sent	Total number of tethering-detected indications sent.
Tethering Detection Statistics (ip-ttl)	
Total flows scanned	Total number of flows scanned.
Tethered flows detected	Total number of tethered flows detected.
Tethered uplink packets	Total number of uplink packets for tethered flows.
Tethered downlink packets	Total number of downlink packets for tethered flows.
Change Statistics for Multiple SYN in Flow:	
Tethered to Non-Tethered	This counter is updated when previous SYN has tethered signature and new SYN has non-tethered signature.
Non-Tethered to Tethered	This counter is updated when previous SYN has non-tethered signature and new SYN has tethered signature.
Tethered to Tethered	This counter is updated when previous SYN has tethered signature and new SYN also has tethered signature.
Non-Tethered to Non-Tethered	This counter is updated when previous SYN has non-tethered signature and new SYN also has non-tethered signature.

show active-charging timedef all

Table 100: show active-charging timedef all Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Timedef Name	Name of the time definition.
Start Day	Start day configured for each timeslot in the timedef. If the day is not configured, shows "Daily".
Start Time	Start time configured for each timeslot in the timedef.
End Day	End day configured for each timeslot in the timedef. If the day is not configured, shows "Daily".
End Time	End time configured for each timeslot in the timedef.
Total timedef(s) found	The total number of timedefs found.

show active-charging tpo profile statistics name

The Traffic Performance Optimization (TPO) in-line service is not supported in this release.

show active-charging traffic-optimization policy

Table 101:

Field	Description
Policy Name	Identifies the configured policy name
Policy-Id	Identifies the policy ID value prertaing to a policy
Bandwidth-Mgmt	Displays the bandwidth management parameters.
Backoff-Profile	Displays the overall aggressiveness of the back off rates.
Min-Effective-Rate	Displays the effective shaping rate in Kbps.
Min-Flow-Control-Rate	Displays the minimum rate allowed in Kbps, to control the flow of heavy session flows during congesiton.
Curbing-Control	Displays the curbing control related parameters.
Time	Displays the duration of the flow control phase.
Rate	Displays the curbing flow control at a fixed rate in Kbps.
Max-phases	Displays the maximum phases where the target shaping rate is below threshold-rate to trigger curbing flow control.
Threshold-Rate	Displays the minimum target shaping rate in Kbps
Heavy-Session	Displays heavy-session detection parameters.
Threshold	Displays heavy-session detection threshold in bytes. On reaching the threshold, flows will be monitored and potentially managed.
Standard-Flow-Timeout	Displays the idle-timeout in milliseconds.
Link-Profile	Displays the link profile parameters.
Initial-Rate	Displays the initial seed value of the acquired peak rate in Kbps for a traffic session.

Field	Description
Max-Rate	Displays the maximum peak rate in Kbps for a traffic session.
Peak-Lock	Displays the link peak rate.
Session-Params	Displays session parameters.
Tcp-Ramp-Up	Displays the ramp up phase duration for TCP traffic.
Udp-Ramp-Up	Displays the ramp up phase duration for UDP traffic.

show active-charging trigger-action all

Table 102: show active-charging trigger-action all Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Trigger-Action	Name of the configured trigger action.
HTTP Response Based TRM	Display the specified HTTP method(s) that has response-based TRM applied. Else displays "all" if all HTTP methods are configured and "none" if no HTTP method is configured.
HTTP Response Based Charging	Displays the specified HTTP method(s) that has response-based charging applied. Else displays "all" if all HTTP methods are configured and "none" if no HTTP method is configured.
Throttle Suppress	Indicates whether suppress throttling is enabled or disabled.
Flow recovery	Indicates whether flow recovery is enabled or disabled.
Traffic Optimization	Indicates whether traffic optimization is enabled or disabled.
Step Up GBR	Indicates the step-up value of GBR.
Step Down GBR	Indicates the step-down value of GBR.
TCP Acceleration	Indicates whether the TCP acceleration is enabled or disabled.
TCP Acceleration Threshold	Indicates if the TCP acceleration threshold is enabled or disabled.
Service-Chain	Indicates the name of the assigned service chain.
Total trigger action(s) found	Total number of configured trigger actions.

show active-charging trigger-condition all

Table 103: show active-charging trigger-condition all Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
Trigger-Condition	Name of the configured trigger condition.
Trigger Action Delay	Displays the delay (in seconds)for application of action
Any-Match	Displays the condition specified for any-match.
Local-policy Rule Name	Displays the name of the configured local-policy (LP) rule.
Rule-name/GOR	Displays the condition specified for a particular rule/GoR for flow checkpoint.
Multi-line-OR All lines	Indicates whether the OR operator applied to all lines in a trigger-condition is enabled or disabled.
Total trigger condition(s) found	Total number of configured trigger conditions.
Post-Processing Rule-name/GOR	Specifies the post processing rule name.
Flow-Length Threshold exceed	Indicates when the flow-length of a TCP flow has exceeded the configured threshold value.

show active-charging udr-format all

Table 104: show active-charging udr-format all Command Output Descriptions

Field	Description
Service Name	Name of the Active Charging Service.
UDR Format Name	Name of the configured UDR format.
Attribute	Attribute information configured in specific UDR format.
Total udr-format(s) found	The total number of the configured UDR formats.

show active-charging url-blockedlisting statistics

Table 105: show active-charging url-blacklisting statistics Command Output Descriptions

Field	Description
Service name	Name of the Active Charging Service.
Cumulative URL-Blacklisting Statistics	
In releases prior to StarOS 21.26: Total Blacklisted URL hits From StarOS 21.26 and later releases: Total Blockedlisted URL hits	The total number of Blockedlisted URL hits.
In releases prior to StarOS 21.26: Total Blacklisted URL misses From StarOS 21.26 and later releases: Total Blockedlisted URL misses	The total number of Blockedlisted URL misses.

show active-charging url-blockedlisting statistics rulebase name

Table 106: show active-charging url-blockedlisting statistics rulebase name Command Output Descriptions

Field	Description
Service name	Name of the Active Charging Service.
Rulebase name	Name of the rulebase.
In releases prior to StarOS 21.26: Blacklisted URL hits From StarOS 21.26 and later releases: Blockedlisted URL hits	The total number of Blockedlisted URL hits.
In releases prior to StarOS 21.26: Blacklisted URL misses From StarOS 21.26 and later releases: Blockedlisted URL misses	The total number of Blockedlisted URL misses.
Total rulebases matched	The total number of rulebases matching the specified criteria.

show active-charging video detailed-statistics

Table 107: show active-charging video detailed-statistics Command Output Descriptions

Field	Description
RAT (Radio Access Type)	
GPRS Del. Rate	The average video delivery rate for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
GPRS Enc. Rate	The average video encoding rate for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
GPRS Tot. Bytes	The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
GPRS %download	The average percentage (in terms of bytes) of video files downloaded for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
GPRS Tot. Video	The total number of video clips for GPRS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
UMTS Del. Rate	The average video delivery rate for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
UMTS Enc. Rate	The average video encoding rate for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
UMTS Tot. Bytes	The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
UMTS %download	The average percentage (in terms of bytes) of video files downloaded for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
UMTS Tot. Video	The total number of video clips for UMTS Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
LTE Del. Rate	The average video delivery rate for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
LTE Enc. Rate	The average video encoding rate for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
LTE Tot. Bytes	The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.

Field	Description
LTE %download	The average percentage (in terms of bytes) of video files downloaded for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
LTE Tot. Video	The total number of video clips for LTE Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
HSPA Del. Rate	The average video delivery rate for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
HSPA Enc. Rate	The average video encoding rate for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
HSPA Tot. Bytes	The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
HSPA %download	The average percentage (in terms of bytes) of video files downloaded for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
HSPA Tot. Video	The total number of video clips for HSPA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
CDMA Del. Rate	The average video delivery rate for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
CDMA Enc. Rate	The average video encoding rate for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
CDMA Tot. Bytes	The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
CDMA %download	The average percentage (in terms of bytes) of video files downloaded for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
CDMA Tot. Video	The total number of video clips for CDMA Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
WLAN Del. Rate	The average video delivery rate for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
WLAN Enc. Rate	The average video encoding rate for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
WLAN Tot. Bytes	The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.

Field	Description
WLAN %download	The average percentage (in terms of bytes) of video files downloaded for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
WLAN Tot. Video	The total number of video clips for WLAN Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
Other Del. Rate	The average video delivery rate for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
Other Enc. Rate	The average video encoding rate for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
Other Tot. Bytes	The total payload bytes (excluding IP and TCP headers) transferred to the RAN side for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
Other %download	The average percentage (in terms of bytes) of video files downloaded for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
Other Tot. Video	The total number of video clips for other Radio Access Type for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
Container (File Format)	
MP4 Enc. Rate	The average video encoding rate for MP4 container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
MP4 Tot. Bytes	The total bytes transferred to RAN side for MP4 container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
MP4 Tot. Video	The total number of video clips for MP4 container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
FLV Enc. Rate	The average video encoding rate for FLV (Flash Video) container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
FLV Tot. Bytes	The total bytes transferred to RAN side for FLV (Flash Video) container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
FLV Tot. Video	The total number of video clips for FLV (Flash Video) container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
Other Enc. Rate	The average video encoding rate for other container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
Other Tot. Bytes	The total bytes transferred to RAN side for other container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.
Other Tot. Video	The total number of video clips for other container file format for iPhone/iPad/iPod (iOS) devices, Android devices, laptops, and other devices.

show active-charging video detailed-statistics container mp4

Note that there are additional **container** options for this command, as follows: **container flv** and **container others**.

Table 108: show active-charging video detailed-statistics container mp4 Command Output Descriptions

Field	Description
Device Type iOS	
Total Content Size of the Videos	The total size of the video clips in bytes for iOS User Device Type for MP4 Container Type.
Total Duration of the Videos	The total duration of the video clips, in seconds, for iOS User Device Type for MP4 Container Type.
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for iOS User Device Type for MP4 Container Type.
Total Video Object Count	The total number of video objects for iOS User Device Type for MP4 Container Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for iOS User Device Type for MP4 Container Type.
Device Type Android	
Total Content Size of the Videos	The total size of the video clips in bytes for Android User Device Type for MP4 Container Type.
Total Duration of the Videos	The total duration of the video clips, in seconds, for Android User Device Type for MP4 Container Type.
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for Android User Device Type for MP4 Container Type.
Total Video Object Count	The total number of video objects for Android User Device Type for MP4 Container Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for Android User Device Type for MP4 Container Type.
Device Type Laptop	
Total Content Size of the Videos	The total size of the video clips in bytes for Laptop User Device Type for MP4 Container Type.
Total Duration of the Videos	The total duration of the video clips, in seconds, for Laptop User Device Type for MP4 Container Type.

Field	Description
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for Laptop User Device Type for MP4 Container Type.
Total Video Object Count	The total number of video objects for Laptop User Device Type for MP4 Container Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for Laptop User Device Type for MP4 Container Type.
Device Type Others	
Total Content Size of the Videos	The total size of the video clips in bytes for other User Device Type for MP4 Container Type.
Total Duration of the Videos	The total duration of the video clips, in seconds, for other User Device Type for MP4 Container Type.
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for other User Device Type for MP4 Container Type.
Total Video Object Count	The total number of video objects for other User Device Type for MP4 Container Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for other User Device Type for MP4 Container Type.

show active-charging video detailed-statistics rat cdma

Note that there are additional **rat** options for this command, as follows: **rat gprs**, **rat hspa**, **rat lte**, **rat others**, **rat umts**, and **rat wlan**.

Table 109: show active-charging video detailed-statistics rat cdma Command Output Descriptions

Field	Description
User Device Type iOS	
Total Content Size of the Videos	The total size of the video clips in bytes for iOS User Device Type for CDMA Radio Access Type.
Total Duration of the Videos	The total duration of the video clips, in seconds, for iOS User Device Type for CDMA Radio Access Type.
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for iOS User Device Type for CDMA Radio Access Type.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for iOS User Device Type for CDMA Radio Access Type.

Field	Description
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download a video for iOS User Device Type for CDMA Radio Access Type.
Total Video Object Count	The total number of video objects for iOS User Device Type for CDMA Radio Access Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for iOS User Device Type for CDMA Radio Access Type.
Average Delivery Bit Rate	The average delivery bit rate for iOS User Device Type for CDMA Radio Access Type.
Percentage of Video Downloaded	The percentage of bytes downloaded for video for iOS User Device Type for CDMA Radio Access Type.
User Device Type Android	
Total Content Size of the Videos	The total size of the video clips in bytes for Android User Device Type for CDMA Radio Access Type.
Total Duration of the Videos	The total duration of the video clips, in seconds, for Android User Device Type for CDMA Radio Access Type.
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for Android User Device Type for CDMA Radio Access Type.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for Android User Device Type for CDMA Radio Access Type.
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download a video for Android User Device Type for CDMA Radio Access Type.
Total Video Object Count	The total number of video objects for Android User Device Type for CDMA Radio Access Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for Android User Device Type for CDMA Radio Access Type.
Average Delivery Bit Rate	The average delivery bit rate for Android User Device Type for CDMA Radio Access Type.
Percentage of Video Downloaded	The percentage of bytes downloaded for video for Android User Device Type for CDMA Radio Access Type.
User Device Type Laptop	
Total Content Size of the Videos	The total size of the video clips in bytes for Laptop User Device Type for CDMA Radio Access Type.
Total Duration of the Videos	The total duration of the video clips, in seconds, for Laptop User Device Type for CDMA Radio Access Type.

Field	Description
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for Laptop User Device Type for CDMA Radio Access Type.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for Laptop User Device Type for CDMA Radio Access Type.
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download a video for Laptop User Device Type for CDMA Radio Access Type.
Total Video Object Count	The total number of video objects for Laptop User Device Type for CDMA Radio Access Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for Laptop User Device Type for CDMA Radio Access Type.
Average Delivery Bit Rate	The average delivery bit rate for Laptop User Device Type for CDMA Radio Access Type.
Percentage of Video Downloaded	The percentage of bytes downloaded for video for Laptop User Device Type for CDMA Radio Access Type.
User Device Type Others	
Total Content Size of the Videos	The total size of the video clips in bytes for other User Device Type for CDMA Radio Access Type.
Total Duration of the Videos	The total duration of the video clips, in seconds, for other User Device Type for CDMA Radio Access Type.
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for other User Device Type for CDMA Radio Access Type.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for other User Device Type for CDMA Radio Access Type.
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download a video for other User Device Type for CDMA Radio Access Type.
Total Video Object Count	The total number of video objects for other User Device Type for CDMA Radio Access Type. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for other User Device Type for CDMA Radio Access Type.
Average Delivery Bit Rate	The average delivery bit rate for other User Device Type for CDMA Radio Access Type.
Percentage of Video Downloaded	The percentage of bytes downloaded for video for other User Device Type for CDMA Radio Access Type.

show active-charging video detailed-statistics ue laptop

Note that there are additional **ue** options for this command, as follows: **ue android**, **ue ios**, and **ue others**.

Table 110: show active-charging video detailed-statistics ue laptop Command Output Descriptions

Field	Description
Radio Type GPRS	
Total Content Size of the Videos	The total size in payload bytes (HTTP content length) of the video clips for GPRS Radio Access Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for GPRS Radio Access Type for laptops.
Total Bytes Sent to the User	The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for GPRS Radio Access Type for laptops.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for GPRS Radio Access Type for laptops.
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download all videos for GPRS Radio Access Type for laptops.
Total Video Object Count	The total number of video objects for GPRS Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for GPRS Radio Access Type for laptops.
Average Delivery Bit Rate	The average delivery bit rate for GPRS Radio Access Type for laptops.
Percentage of Video Downloaded	The average percentage (in terms of bytes) of video files downloaded for GPRS Radio Access Type for laptops.
Radio Type UMTS	
Total Content Size of the Videos	The total size in payload bytes (HTTP content length) of the video clips for UMTS Radio Access Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for UMTS Radio Access Type for laptops.
Total Bytes Sent to the User	The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for UMTS Radio Access Type for laptops.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for UMTS Radio Access Type for laptops.
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download all videos for UMTS Radio Access Type for laptops.

Field	Description
Total Video Object Count	The total number of video objects for UMTS Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for UMTS Radio Access Type for laptops.
Average Delivery Bit Rate	The average delivery bit rate for UMTS Radio Access Type for laptops.
Percentage of Video Downloaded	The average percentage (in terms of bytes) of video files downloaded for UMTS Radio Access Type for laptops.
Radio Type LTE	
Total Content Size of the Videos	The total size in payload bytes (HTTP content length) of the video clips for LTE Radio Access Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for LTE Radio Access Type for laptops.
Total Bytes Sent to the User	The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for LTE Radio Access Type for laptops.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for LTE Radio Access Type for laptops.
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download all videos for LTE Radio Access Type for laptops.
Total Video Object Count	The total number of video objects for LTE Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for LTE Radio Access Type for laptops.
Average Delivery Bit Rate	The average delivery bit rate for LTE Radio Access Type for laptops.
Percentage of Video Downloaded	The average percentage (in terms of bytes) of video files downloaded for LTE Radio Access Type for laptops.
Radio Type HSPA	
Total Content Size of the Videos	The total size in payload bytes (HTTP content length) of the video clips for HSPA Radio Access Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for HSPA Radio Access Type for laptops.
Total Bytes Sent to the User	The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for HSPA Radio Access Type for laptops.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for HSPA Radio Access Type for laptops.

Field	Description
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download all videos for HSPA Radio Access Type for laptops.
Total Video Object Count	The total number of video objects for HSPA Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for HSPA Radio Access Type for laptops.
Average Delivery Bit Rate	The average delivery bit rate for HSPA Radio Access Type for laptops.
Percentage of Video Downloaded	The average percentage (in terms of bytes) of video files downloaded for HSPA Radio Access Type for laptops.
Radio Type CDMA	
Total Content Size of the Videos	The total size in payload bytes (HTTP content length) of the video clips for CDMA Radio Access Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for CDMA Radio Access Type for laptops.
Total Bytes Sent to the User	The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for CDMA Radio Access Type for laptops.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for CDMA Radio Access Type for laptops.
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download all videos for CDMA Radio Access Type for laptops.
Total Video Object Count	The total number of video objects for CDMA Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for CDMA Radio Access Type for laptops.
Average Delivery Bit Rate	The average delivery bit rate for CDMA Radio Access Type for laptops.
Percentage of Video Downloaded	The average percentage (in terms of bytes) of video files downloaded for video for CDMA Radio Access Type for laptops.
Radio Type WLAN	
Total Content Size of the Videos	The total size in payload bytes (HTTP content length) of the video clips for WLAN Radio Access Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for WLAN Radio Access Type for laptops.
Total Bytes Sent to the User	The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for WLAN Radio Access Type for laptops.

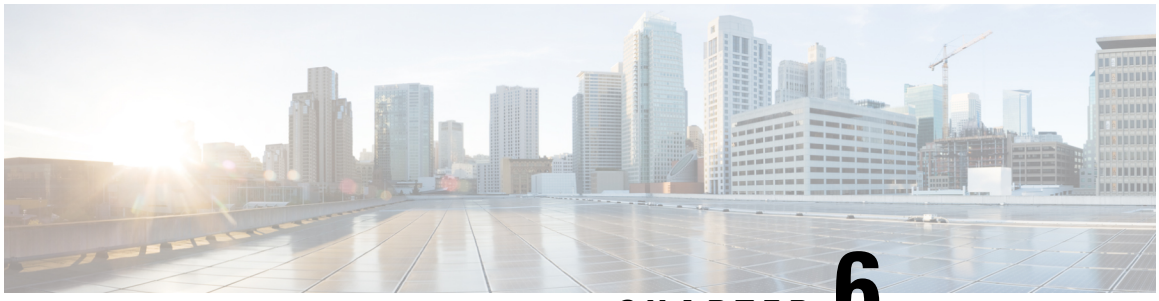
Field	Description
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for WLAN Radio Access Type for laptops.
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download all videos for WLAN Radio Access Type for laptops.
Total Video Object Count	The total number of video objects for WLAN Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for WLAN Radio Access Type for laptops.
Average Delivery Bit Rate	The average delivery bit rate for WLAN Radio Access Type for laptops.
Percentage of Video Downloaded	The average percentage (in terms of bytes) of video files downloaded for video for WLAN Radio Access Type for laptops.
Radio Type Others	
Total Content Size of the Videos	The total size in payload bytes (HTTP content length) of the video clips for other Radio Access Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for other Radio Access Type for laptops.
Total Bytes Sent to the User	The total payload bytes (excluding IP and TCP headers) of video data sent to the subscriber UE for other Radio Access Type for laptops.
Total Duration of Video Sessions	The total duration, in seconds, of the video sessions for other Radio Access Type for laptops.
Total Number of TCP Flows for Video Sessions	The total number of TCP flows used to download all videos for other Radio Access Type for laptops.
Total Video Object Count	The total number of video objects for other Radio Access Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for other Radio Access Type for laptops.
Average Delivery Bit Rate	The average delivery bit rate for other Radio Access Type for laptops.
Percentage of Video Downloaded	The average percentage (in terms of bytes) of video files downloaded for other Radio Access Type for laptops.
Container Type MP4	
Total Content Size of the Videos	The total size of the video clips in bytes for MP4 Container Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for MP4 Container Type for laptops.
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for MP4 Container Type for laptops.

Field	Description
Total Video Object Count	The total number of video objects for MP4 Container Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for MP4 Container Type for laptops.
Container Type FLV	
Total Content Size of the Videos	The total size of the video clips in bytes for FLV Container Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for FLV Container Type for laptops.
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for FLV Container Type for laptops.
Total Video Object Count	The total number of video objects for FLV Container Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for FLV Container Type for laptops.
Container Type Others	
Total Content Size of the Videos	The total size of the video clips in bytes for other Container Type for laptops.
Total Duration of the Videos	The total duration of the video clips, in seconds, for other Container Type for laptops.
Total Bytes Sent to the User	The total bytes of video data sent to the subscriber UE for other Container Type for laptops.
Total Video Object Count	The total number of video objects for other Container Type for laptops. A video object exists from the creation of the first flow to the deletion of the last flow comprising each video.
Average Video Encoding Bit Rate	The average video encoding bit rate for other Container Type for laptops.

show active-charging xheader-format name

Table 111: show active-charging xheader-format name Command Output Descriptions

Field	Description
Xheader Format Name	Specfies the Xheader Format Name
Total xheader-format(s) found	Specifies the total number of xheader formats found.



CHAPTER 6

show administrators

This chapter includes the **show administrators** command output tables.

- show administrators, on page 443
- show administrators session id, on page 444

show administrators

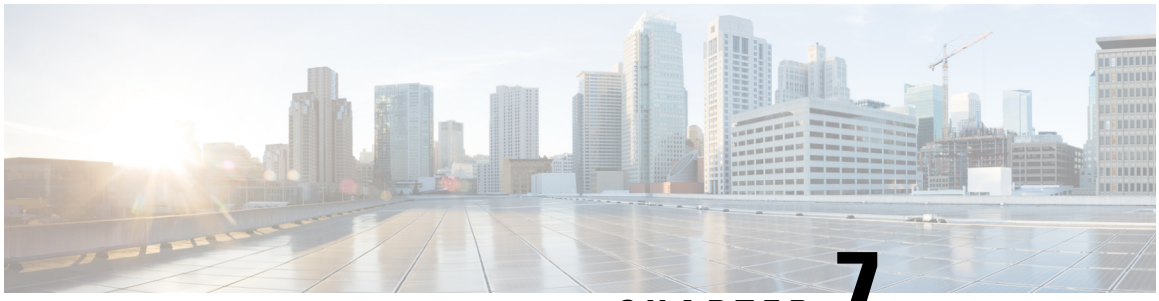
Table 112: show administrators Command Output Descriptions

Field	Description
Administrator/Operator Name	Displays the name of the administrative user currently accessing the system.
M	The M (Lock Mode) characters are defined as follows: • [blank] – Administrator is in Exec mode • **c** – Administrator session is currently in Config Mode (shared-lock) • **s** – Administrator session is currently saving the config • **f** – Administrator session is currently loading the config file • **L** – Administrator session is currently in Config Mode with the exclusive-lock
Type	Displays the administrative user's type: • admin = Security Administrator • cfgadm = Administrator • inspect = Inspector • oper = Operator
TTY	Displays a reference for the virtual console device for the CLI instance.
Start Time	Displays the time and date that the administrative user's session started.

show administrators session id

Table 113: show administrators session id Command Output Descriptions

Field	Description
Administrator/Operator Name	Displays the name of the administrative user currently accessing the system.
M	The M (Lock Mode) characters are defined as follows: • [blank] – Administrator is in Exec mode • **c** – Administrator session is currently in Config Mode (shared-lock) • **s** – Administrator session is currently saving the config • **f** – Administrator session is currently loading the config file • **L** – Administrator session is currently in Config Mode with the exclusive-lock
Login Context	Displays the context in which the CLI user is working.
Remote Addr	Displays the IP address from which the CLI user is accessing the system.
Session ID	Displays the assigned session ID.
Mode	Displays the user's value: • TACACS+ User • Local User • Context User
Idle	The total number of sessions currently idle in seconds.



CHAPTER 7

show alarm

This chapter includes the **show alarm** command output tables.

- show alarm all, on page 445
- show alarm audible, on page 446
- show alarm central-office, on page 446
- show alarm facility, on page 447
- show alarm outstanding all verbose, on page 447
- show alarm statistics, on page 448

show alarm all

Table 114: show alarm all Command Output Descriptions

Field	Description
Audible Alarm	Indicates status of Audible Central Office (CO) Alarm on the SMC (ASR 5000) or SSC (ASR 5500): OFF = audible alarm disabled; ON = audible alarm enabled.
Alarm Statistics:	

Field	Description
Cumulative Totals	Indicates the number of alarms that have occurred since the system was last booted: • **Total:** The total number of currently outstanding alarms. • **Critical (CR):** This alarm is triggered when events cause a degradation in service. • **Major (MJ)**: This alarm is triggered on the following conditions: • A hardware failure was detected on a card that will cause it to be taken off-line. • One of the Power Filter Units has failed or was removed. • One or more of the fans on either the upper or lower fan tray have failed. • The upper or lower fan tray has been removed. • **Minor (MN):** This alarm is triggered when a high temperature is detected on a card causing the fan tray to switch to high speed.
Outstanding Alarms:	
Sev	Indicates the severity of the alarm indicated as **CR** (critical), **MJ** (major) or **MI** (minor).
Object	Indicates the source of the alarm.
Event	Displays information about the type of alarm.

show alarm audible

Indicates the current state of the Audible CO Alarm on the SMC (ASR 5000) or SSC (ASR 5500) as:

- "Audible Alarm OFF" (Disabled)
- "Audible Alarm ON" (Enabled)

show alarm central-office

Indicates the current state of the Central Office Alarm contacts on the SPIO card (ASR 5000) or SSC (ASR 5500) as:

- "All Central Office (CO) alarms are off" (Disabled)
- "All Central Office (CO) alarms are on" (Enabled)

show alarm facility

Indicates the current state of the Audible CO Alarm and CO alarm contacts on the SMC/SPIO (ASR 5000) or SSC (ASR 5500) as:

- "Audible Alarm OFF"

  "All Central Office (CO) alarms are off" (Disabled)

- "Audible Alarm ON"

  "All Central Office (CO) alarms are on" (Enabled)

show alarm outstanding all verbose

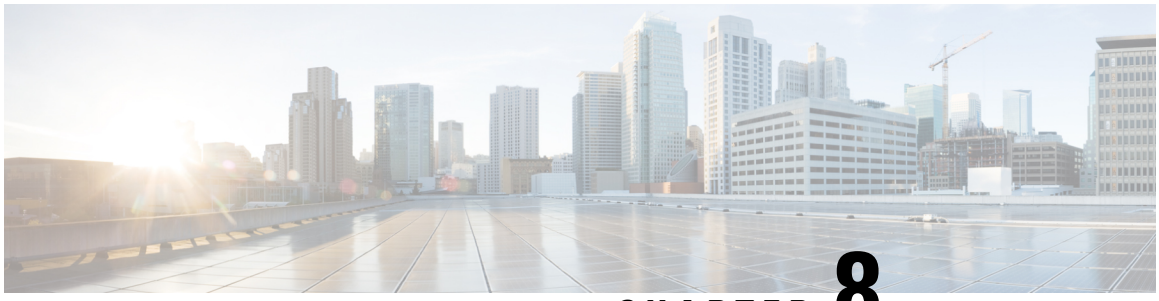
Table 115: show alarm outstanding all verbose Command Output Descriptions

Field	Description
Severity (Sev)	If an alarm is present, the system indicates that one of the following alarm levels has been triggered: • **Critical (CR):** This alarm is triggered when events cause a degradation in service (i.e. the system is supporting a large number of subscribers and Processing Cards are removed thus reducing the amount of available CPU and memory resources). • **Major (MJ)**: This alarm is triggered on the following conditions: • A hardware failure was detected on a card that will cause it to be taken off-line. • One of the Power Filter Units has failed or was removed. • One or more of the fans on either the upper or lower fan tray have failed. • Either the upper or lower fan trays have been removed. • **Minor (MN):** This alarm is triggered when a high temperature is detected on a card causing the fan tray to switch to high speed.
Object	Describes the source and type of the alarm event.
Timestamp	Lists the date and time that the alarm condition was triggered, in the format: <day-of-week> <month> <day> <hh:mm:ss> <timezone>.
Alarm ID	The internal system ID of the alarm.

show alarm statistics

Table 116: show alarm statistics Command Output Descriptions

Field	Description
Current Outstanding Alarms	Indicates the alarm conditions that are currently active: • **Total:** The total number of currently outstanding alarms. • **Critical (CR):** This alarm is triggered when events cause a degradation in service. • **Major (MJ)**: This alarm is triggered on the following conditions: • A hardware failure was detected on a card that will cause it to be taken off-line. • One of the Power Filter Units has failed or was removed. • One or more of the fans on either the upper or lower fan tray have failed. • The upper or lower fan tray has been removed. • **Minor (MN):** This alarm is triggered when a high temperature is detected on a card causing the fan tray to switch to high speed.
Cumulative Totals	Indicates the number of alarms that have occurred since the system was last booted: • **Total:** The total number of currently outstanding alarms. • **Critical (CR):** This alarm is triggered when events cause a degradation in service. • **Major (MJ)**: This alarm is triggered on the following conditions: • A hardware failure was detected on a card that will cause it to be taken off-line. • One of the Power Filter Units has failed or was removed. • One or more of the fans on either the upper or lower fan tray have failed. • The upper or lower fan tray has been removed. • **Minor (MN):** This alarm is triggered when a high temperature is detected on a card causing the fan tray to switch to high speed.



CHAPTER 8

show alcap

This chapter includes the **show alcap** command output tables.

- show alcap counters, on page 449
- show alcap-service all, on page 450
- show alcap-service full, on page 451

show alcap counters

Table 117: show alcap counters Command Output Descriptions

Field	Description
AAL2 Channels Counters	This group displays the counter statistics of AAL2 channels in ALCAP service.
Number of AAL2 channels in IDLE state	Indicates the total number of AAL2 channels in IDLE state in ALCAP service instance.
Number of AAL2 channels in CONNECTED state	Indicates the total number of AAL2 channels in CONNECTED state in ALCAP service instance.
Number of AAL2 channels in CONNECTING state	Indicates the total number of AAL2 channels in CONNECTING state.
Number of AAL2 channels in RELEASE PENDING state	Indicates the total number of AAL2 channels in RELEASE PENDING state.
Number of AAL2 channels in RESET PENDING state	Indicates the total number of AAL2 channels in RESET PENDING state.
AAL2 Paths Counters	This group displays the counter statistics of AAL2 paths in paticular AAL2 channel in ALCAP service.
Number of AAL2 Paths in LOCALLY BLOCKED state	Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked locally.
Number of AAL2 Paths in REMOTE BLOCKED state	Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked by remote peer node.

Field	Description
Number of AAL2 Paths in BLOCKED state	Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked. This includes both, local and remote blocks.
Number of AAL2 Paths in RESET PENDING state	Indicates the total number of AAL2 Paths in RESET PENDING state.

show alcap-service all



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 118: show alcap-service all Command Output Descriptions

Field	Description
Aal2 node	The name of the ALCAP service node in which the ALCAP service is configured.
Aal2 node id	The identity number of the ALCAP node in which ALCAP service is configured.
Point code	Point code of adjacent AAL2 node in SS7 format address.
AESA	Specifies the ATM Endpoint Service Address (AESA) in an ATM (or AAL2) network to map with adjacent AAL2 node. The AESA is based on the generic network service access point (NSAP) format. The ATM connection from HNB-GW terminates at this point.
Total Aal2 Path	Indicates the total number of AAL2 paths configured for this ALCAP service on an AAL2 node.
Total Aal2 Path Blocked	Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked. This includes both, local and remote blocks.
Total Aal2 Path Locally Blocked	Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked locally.
Total Aal2 Path Remote Blocked	Indicates the total number of AAL2 paths in the AAL2 node that are currently blocked by remote peer node.
Aal2 Path info	This group displays the AAL2 path related information.
Aal2 Path id	Indicates the identity number of AAL2 path configured on this AAL2 node under ALCAP service.
ATM Port Bound	Indicates the status if the Aal2 path is bound to a physical ATM port or not.

Field	Description
LPort Id	Indicates the logical port Id identifying an Aal2 path binding to an ATM port.
Path FSM State	Indicates the current state of this AAL2 path FSM. Possible states are: • **Idle**: The Path FSM is in Idle state • **Pending Reset Confirm**: A path reset procedure is in process and waiting for a conformation from the peer node. • **Pending Block Confirm**: A path block procedure is in process and waiting for a conformation from the peer node. • **Pending Un-Block Confirm**: A path Un-block procedure is in process and waiting for a conformation from the peer node. • **Pending Reset and Block Confirm**: Path reset and path block procedure is in process and waiting for a conformation from the peer node. • **Pending Reset and Un-Block Confirm**: Path reset and path un-block procedure is in process and waiting for a conformation from the peer node.
Locally Blocked	Indicates whether an AAL2 path on AAL2 node under ALCAP service is locally blocked or not.
Remote Blocked	Indicates whether an AAL2 path on AAL2 node under ALCAP service is remotely bolcked by peer node or not.

show alcap-service full

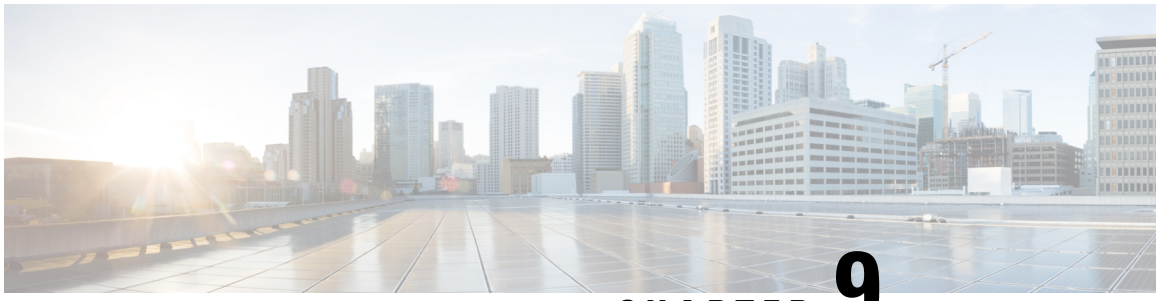
Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 119: show alcap-service full Command Output Descriptions

Field	Description
alcap service	The name of the ALCAP service of which statistics are displayed.
service id	The identity number of the ALCAP service of which statistics are displayed.
Context	Indicates the system context name in which ALCAP service is configured.
state	Indicates the state of the ALCAP service.
self point code	Indicates the address of this ALCAP service in SS7 point code notation.

Field	Description
ss7 routing domain id	Indicates the routing domain id in which ALCAP service is associated.
AAL2 Nodes	This group displays the information related to AAL2 node configured in ALCAP service.
Node name	Indicates the name of the AAL2 node configured in ALCAP service.
Point Code	Indicates the address of AAL2 node in SS7 point code notation.
Path id	Indicates the identity number of AAL2 path configured on this AAL2 node under ALCAP service.
Routes	This group displays the information related to AAL2 routes configured for AAL2 path.
AESA	Specifies the ATM Endpoint Service Address (AESA) in an ATM (or AAL2) network to map with adjacent AAL2 node. The AESA is based on the generic network service access point (NSAP) format. The ATM connection from HNB-GW terminates at this point.
Node id	Indicates the AAL2 node identity number used for routes in AAL2 path FSM.
ERQ timer	Indicates the maximum time, in seconds, configured for Timer_ERQ on the system to wait for response from adjacent AAL2 node before reporting the failure of AAL2 Establish Request procedure. Configurable range is from 5 through 30 seconds and default is 5 seconds.
REL timer	Indicates the maximum time, in seconds, configured for Timer_REL on the system to waits for response from adjacent AAL2 node before reporting the failure of AAL2 Release Request procedure. Configurable range is from 2 through 60 seconds and default is 2 seconds.
RES timer	Indicates the maximum time, in seconds, configured for Timer_RES on the system to waits for response from adjacent AAL2 node before reporting the failure of AAL2 Reset Request procedure. Configurable range is from 2 through 60 seconds and default is 2 seconds.
BLO timer	Indicates the maximum time, in seconds, configured for Timer_BLO on the system to waits for response from adjacent AAL2 node before reporting the failure of AAL2 Path Block procedure. Configurable range is from 2 through 60 seconds and default is 2 seconds.
UBL timer	Indicates the maximum time, in seconds, configured for Timer_UBL on the system to waits for response from adjacent AAL2 node before reporting the failure of AAL2 Path Un-Block procedure. Configurable range is from 2 through 60 seconds and default is 2 seconds.

Field	Description
MOD timer	Indicates the maximum time, in seconds, configured for Timer_MOD on the system to waits for response from adjacent AAL2 node before reporting the failure of AAL2 Path ModifyRequest procedure. Configurable range is from 5 through 30 seconds and default is 5 seconds.
STC long timer	Indicates the configured duration value in millinseconds for STC long timer. This timer is used by the congestion indication procedure. Receipt of a repeated congestion indication from MTP3B before the expiry of this timer is interpreted as the congestion situation. On the other hand, if no congestion indication is received from MTP3B before expiry of this timer, the congestion situation is considered to have improved. Configurable range is from 5000 ms through 10000 ms and default value is 5000 ms.
STC short timer	Indicates the configured duration value in millinseconds for STC long timer. This timer is used by the congestion indication procedure. The role of this timer is to avoid overreacting if multiple congestion indications are received from MTP3B in quick succession. Configurable range is from 300 ms through 600 ms and default value is 300 ms.
Max-reset-retransmission	Indicates maximum number of retries allowed for transmission of RESET message to reset the AAL2 path by ALCAP service. Configurable range is 0 to 4 and default is 1. A "0" value indicates that retransmission of RESET message is disabled.



CHAPTER 9

show apimgr statistics ise-server

This chapter includes the **show apimgr statistics ise-server** command output table.

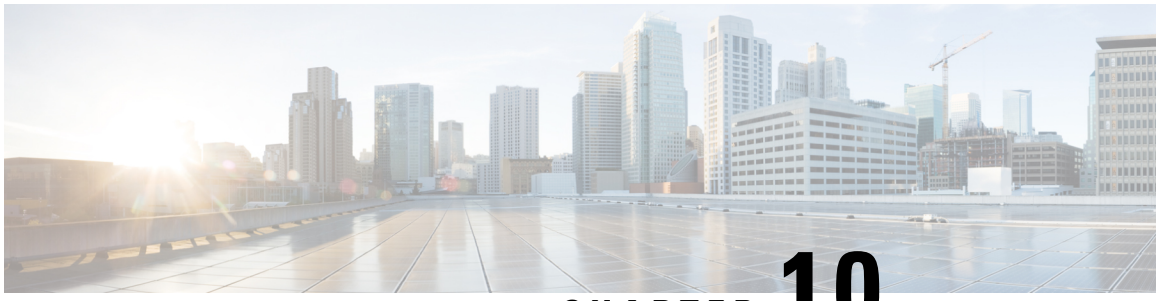
- show apimgr statistics ise-server, on page 455

show apimgr statistics ise-server

Table 120: show apimgr statistics ise-server Command Output Descriptions

Field	Description
Ise-Server Connection Statistics	
Request sent	Specifies the number of requests sent to the ISE server.
Response Success	Specifies the number of sucessful responses received from the ISE server.
Response Fail	Specifies the number of failed responses from the ISE server.

show apimgr statistics ise-server



CHAPTER 10

show apn

This chapter includes the **show apn** command output tables.

- show apn all, on page 457
- show apn counter ip-allocation all, on page 471
- show apn name, on page 471
- show apn statistics all hsgw-only, on page 473
- show apn statistics, on page 474
- show apn statistics name, on page 474
- show apn statistics name qci, on page 484

show apn all

Table 121: show apn all Command Output Descriptions

Field	Description
access point name (APN)	Indicates the name of the access point name (APN) for which counters are displayed.
authentication context	Name of the system context used for authentication for this APN.
pdp type	Indicates the type of PDP context. Possible types are: • IPv4 • IPv6 • PPP
ehrpd access	Specifies whether **ehrpd-access** option is configured in this APN or not. If enabled, the P-GW excludes IPv6 traffic from being delivered to UEs on the eHRPD network that do not have IPv6 capabilities.
emergency	Specifies whether **emergency-apn** option is configured in this APN or not. If enabled, this APN is an emergency APN for VoLTE based E911 support.

Field	Description
Selection Mode	Indicates the APN selection mode applicable for this APN. Possible selection modes are: • Chosen by SGSN • Sent by MS • Subscribed
ip source violation	Indicates whether check for IPv4 source validation violations enabled or not. Possible status are: • Checked • Ignored
drop limit	Indicates the IP source-violation drop limit configured for the subscriber. The drop-limit is the number of invalid packets that can be received from a subscriber prior to their session being deleted. Refer to the **ip source-violation** command in the APN configuration mode.
ip source violation no accounting	The IP source validation violations that were detected but not included in the statistics.
accounting mode	Indicates the accounting mode configured for this APN. Possible modes are: • gtpp - GTPP CDR accounting • none - No accounting • radius-diameter - RADIUS or Diameter accounting
No early PDUs	Specifies whether "**no-early-pdu**" option configured in this APN or not. If "no-early-PDUs" is enabled, the chassis shall not send uplink/downlink data from/to a MS till it receives the Acct-Rsp Start for the same from the AAA device. On receiving the Acct-Rsp, pending PDUs are sent out.
no-interims	Specifies whether "**no-interims**" option configured in this APN or not. If "no-interims" is enabled, the chassis shall not send any interim message to the AAA device.
Bearer Control Mode	Specifies whether Bearer Control Mode is enabled in this APN or not.
max-primary-pdp-contexts	Specifies the maximum primary PDP contexts allowed in this APN.
total-pdp-contexts	Specifies the total primary and secondary PDP contexts allowed in this APN.
primary contexts	Specifies the total primary contexts allowed in this APN.
total contexts	Specifies the total primary and secondary contexts allowed in this APN.
max secondary contexts per-subscriber	Specifies the maximum secondary contexts allowed in this APN for a subscriber.
IMS Authorization	Specifies whether IMS authorization support is enabled in this APN or not.

Field	Description
Credit Control	Specifies whether Diameter pre-paid credit control support is enabled in this APN or not.
Credit Control Service Name	Specifies the name of credit control service configured on the chassis.
Accounting Policy Name	Specifies the name of accounting policy associated with the configured APN. If no accounting policy is associated, this field will display as N/A.
PCO Options	Specifies which customized PCO (Protocol Configuration Options) options are sent in the network to MS GTP messages.
Mode	Indicates whether customized PCO options are sent in the network to MS GTP messages for all UEs regardless of support, only UEs that request customized PCO options, or no UEs.
mbms bearer absolute timeout	Indicates the absolute timeout duration in seconds for Multimedia Broadcast-Multicast Service (MBMS) bearer context.
mbms bearer idle timeout	Indicates the idle timeout duration in seconds for Multimedia Broadcast-Multicast Service (MBMS) bearer context.
mbms ue absolute timeout	Indicates the absolute timeout duration in seconds for Multimedia Broadcast-Multicast Service (MBMS) UE context.
local ip	Specifies the local IP address of the interface assigned to this APN.
nexthop gateway addr	Specifies the IP address of the next hop gateway configured in this APN.
ignore-alt-config (no-dns)	Specifies if preference is given to dns server address configured in APN. If name server addresses is not found in APN configuration, it is not provisioned from SGi context even if it is configured there.
ignore-alt-config (no-s6b)	Specifies if alternate service level configuration for s6b authorization is ignored when S6b authorization is disabled at APN.
Authorization with S6b	Specifies if the S6b authorization has been enabled.
primary dns	Indicates the IP address of primary Domain Name Server (DNS).
secondary dns	Indicates the IP address of secondary Domain Name Server (DNS).
primary nbns	Indicates the IP address of primary NetBIOS Name Server (NBNS).
secondary nbns	Indicates the IP address of secondary NetBIOS Name Server (NBNS).
ppp keep alive period	Indicates the duration in seconds to transmit LCP keep-alive packet.
ppp mtu	Indicates the maximum size of transmission units in bytes configured for this APN.
absolute timeout	Indicates the absolute timeout duration in seconds for session configured in this APN.
emergency inactivity timeout	Indicates the emergency inactive timeout duration in seconds for session configured in this APN.

Field	Description
idle timeout	Indicates the idle timeout duration in seconds for session configured in this APN.
bearer inactivity timeout (GBR Bearers)	Indicates the bearer inactivity timeout configuration for gbr bearers in seconds.
bearer inactivity timeout (Non GBR Bearers)	Indicates the bearer inactivity timeout configuration for non-gbr bearers in seconds.
emergency inactivity timeout	Indicates the emergency inactivity timeout duration in seconds for session configured in this emergency APN for VoLTE based E911 support.
idle-timeout-activity ignore-downlink	Indicates whether idle timeout activity configured in this APN to consider downlink traffic as activity for idle-timeout or not.
long duration timeout	Indicates the timeout duration in seconds for long duration timeout support configured in this APN.
long dur inactivity time	Indicates the inactivity duration in seconds for long duration timeout support configured in this APN.
long duration action	Indicates the action configured in this APN for long duration timeout support. Possible actions are: • Detection • Disconnection
ip header compression	Indicates the IP header compression method configured in this APN for RObust Header Compression (ROHC) support. Supported method is Van Jacobsen (VJ).
ip hide service address	Indicates whether APN is configured to hide service IP address from the subscriber (for security reasons) or not.
ip output access-group	The IPv4 access control list (ACL) configured in this APN for outward traffic.
ip input access-group	The IPv4 access control list (ACL) configured in this APN for inward traffic.
ipv6 output access-group	The IPv6 access control list (ACL) configured in this APN for outward traffic.
ipv6 input access-group	The IPv6 access control list (ACL) configured in this APN for inward traffic.
policy-group in	The traffic policy group configured in this APN for inward traffic.
policy-group out	The traffic policy group configured in this APN for outward traffic.
permit ip multicast	Indicates whether APN is configured to discard or permit the IP multicast.
ppp authentication	Indicates the type of PPP authentication configured for this APN.
eap authentication initial-access-request	Indicates the type of initial access request to be used in Diameter EAP request.
allow noauthentication	Indicates whether PPP session is allowed without authentication in this APN or not.

Field	Description
imsi authentication	Indicates whether PPP session authentication in this APN is configured for IMSI authentication or not.
msisdn authentication	Indicates whether PPP session authentication in this APN is configured for MSISDN authentication or not.
radius returned-username	Indicates which Username to use in the RADIUS accounting messages. When "override-constructed-username" is configured, the Username sent by RADIUS in Access-Accept is used. When "prefer-constructed-username" is configured, the Username sent by RADIUS is ignored and the constructed Username is used.
ip destination context	Indicates the name of the configured destination context for this APN.
Rule Base	Indicates the name of the configured rulebase for this APN.
Credit-Control Session	Displays one of the following values based on the credit-control-client override CLI command used in APN mode configuration. • per-subscriber • per-sub-session • Default (fallback to config mode 'require ecs credit-control' CLI)
Gy Rule Base List	Indicates the name of the configured Gy rulebase list for this APN.
Content-Filtering Policy-Id	Indicates whether inline content filtering policy is configured for this APN or not.
mediation accounting	Indicates whether mediation device is configured for accounting in this APN or not.
mediation-device context	Indicates the name of the system context to use for mediation device for accounting in this APN.
mediation no early PDUs	Specifies whether "**no-early-pdu**" option configured for this subscriber or not. If "no-early-PDUs" is enabled, the chassis shall not send uplink/downlink data from/to a MS till it receives the Acct-Rsp Start for the same from the mediation device. On receiving the Acct-Rsp, pending PDUs are sent out.
mediation no-interims	Specifies whether "**no-interims**" option configured for this subscriber or not. If "no-interims" is enabled, the chassis shall not send any interim message to the mediation device.
mediation delay-GTP-response	Specifies whether "**delay-GTP-response**" option configured for this subscriber or not. When enabled, this option delays the Create PDP Context response until an Accounting Start response is received from the mediation device.
outbound username	Name of the user for outbound traffic.
ip address pools	Indicates the IP address pool used for this APN.
access-link ip-frag	Indicates the IP packet fragmentation setting for access link.

Field	Description
ignore DF-bit data-tunnel	Indicates whether "ignore df-bit" is set for data tunnel or not.
ip allocation type	Specifies the type of IP allocation method used for IP address allocation. Possible types are: • DHCP-Proxy • DHCP-Relay • Local • Dynamic • Static
allow user specified ip addr	Indicates whether user specified IP address is allowed or not for IP allocation.
prefer dhcp options	Indicates whether support for DHCP supplied parameters, like DNS/NBNS addresses, in subscriber session is configured for this APN. This support can be enabled with **ip address alloc-method dhcp-proxy prefer-dhcp-options** command in APN Configuration mode.
Custom1-10 value	Indicates the action value for multiple operator-specific PCOs.The value can range from 1 to 10.
UE-Requested	Specifies PCO to the UE, which requested for new PCO option.
3gpp qos to dscp mapping	This group indicates the 3GPP QoS to DSCP mapping information.
qci 1: ef	Indicates the DSCP configured for QCI1 type of traffic.
qci 2: ef	Indicates the DSCP configured for QCI2 type of traffic.
qci 3: af11	Indicates the DSCP configured for QCI3 type of traffic.
qci 4: af11	Indicates the DSCP configured for QCI4 type of traffic.
qci 5: ef	Indicates the DSCP configured for QCI5 type of traffic.
qci 6: ef	Indicates the DSCP configured for QCI6 type of traffic.
qci 7: af21	Indicates the DSCP configured for QCI7 type of traffic.
qci 8: af21	Indicates the DSCP configured for QCI8 type of traffic.
qci 9: be	Indicates the DSCP configured for QCI9 type of traffic.
3GPP Qos to DSCP Mapping based on Alloc. Prio	This group indicates the 3GPP QoS to DSCP mapping information based on allocation priority.
qci 5 (Alloc.P 1): ef	Indicates the DSCP configured for QCI5 type of traffic with allocation priority 1.
qci 5 (Alloc.P 2): ef	Indicates the DSCP configured for QCI5 type of traffic with allocation priority 2.

Field	Description
qci 5 (Alloc.P 3): ef	Indicates the DSCP configured for QCI5 type of traffic with allocation priority 3.
qci 6 (Alloc.P 1): ef	Indicates the DSCP configured for QCI6 type of traffic with allocation priority 1.
qci 6 (Alloc.P 2): ef	Indicates the DSCP configured for QCI6 type of traffic with allocation priority 2.
qci 6 (Alloc.P 3): ef	Indicates the DSCP configured for QCI6 type of traffic with and allocation priority 3.
qci 7 (Alloc.P 1): af21	Indicates the DSCP configured for QCI7 type of traffic with allocation priority 1.
qci 7 (Alloc.P 2): af21	Indicates the DSCP configured for QCI7 type of traffic with allocation priority 2.
qci 7 (Alloc.P 3): af21	Indicates the DSCP configured for QCI7 type of traffic with allocation priority 3.
qci 8 (Alloc.P 1): af21	Indicates the DSCP configured for QCI8 type of traffic with allocation priority 1.
qci 8 (Alloc.P 2): af21	Indicates the DSCP configured for QCI8 type of traffic with allocation priority 2.
qci 8 (Alloc.P 3): af21	Indicates the DSCP configured for QCI8 type of traffic with allocation priority 3.
Copy user-datagram IP TOS	Indicates whether copying of IP TOS octet value from user IPv4 datagrams to IP header of tunnel encapsulation is enabled or not.
APN defined Charging Characteristics	This group displays the APN defined charging characteristics for various types of subscribers.
Home Subscribers	This sub-group displays the APN defined charging characteristics for home subscribers.
Behavior Bits	Indicates the behavior bits configured for home subscribers in APN defined charging characteristics.
Profile Value	Indicates the profile value configured for home subscribers in APN defined charging characteristics.
Visiting Subscribers	This sub-group displays the APN defined charging characteristics for visiting subscribers.
Behavior Bits	Indicates the behavior bits configured for visiting subscribers in APN defined charging characteristics.
Profile Value	Indicates the profile value configured for visiting subscribers in APN defined charging characteristics.
Roaming Subscribers	This sub-group displays the APN defined charging characteristics for roaming subscribers.
Behavior Bits	Indicates the behavior bits configured for roaming subscribers in APN defined charging characteristics.
Profile Value	Indicates the profile value configured for roaming subscribers in APN defined charging characteristics.
All (Home/Visiting/Roaming) Subscribers	This sub-group displays the APN defined charging characteristics for all subscribers (including home, visiting, and roaming).

Field	Description
Behavior Bits	Indicates the behavior bits configured for all subscribers (including home, visiting, and roaming) in APN defined charging characteristics.
Profile Value	Indicates the profile value configured for all subscribers (including home, visiting, and roaming) in APN defined charging characteristics.
Subscribers to use APN defined charging characteristics	Indicates the number of subscriber to use APN defined charging characteristics.
Subscribers to use RADIUS returned charging characteristics	Indicates whether subscribers in this APN are configured to use charging characteristics returned from RADIUS server.
Subscribers to use GX returned charging characteristics	Indicates whether subscribers in this APN are configured to use Gx-returned charging characteristics.
dhcp service name	Specifies the name of the DHCP service configured for IP address allocation.
dhcp context name	Specifies the name of the DHCP context where DHCP service is configured for IP address allocation.
dhcp lease expiry policy	Specifies the DHCP address lease expiry policy. Possible actions are: • autoconnect • disconnect
mobile-ip	Specifies the whether Mobile IP is configured in this APN or not.
mobile-ip home-agent	Specifies the IP address of home agent (HA) to use for Mobile IP session in this APN.
mobile-ip alternate-home-agent(s)	Specifies the IP address of alternate home agent (HA) to use for Mobile IP session in this APN.
mobile-ip reverse-tunnel	Specifies the whether Mobile IP reverse tunnel is enabled for Mobile IP session in this APN or not.
mobile-ip mn-aaa-removal-indication	Specifies the whether "mn-aaa-removal-indication" parameter is configured for Mobile IP session in this APN or not.
mobile-ip mn-ha-spi	Specifies the security parameter index (SPI) configured between MN and HA for Mobile IP session in this APN.
mobile-ip mn-ha-hash-algorithm	Specifies the hash algorithm configured for Mobile IP session in this APN. Possible hash algorithms are: • hmac-md5 • md5 • rfc2002-md5
proxy-mip	Specifies the whether Proxy-Mobile IP is configured in this APN or not.

Field	Description
proxy-mip null-username static home address	Specifies the whether handling of RRQ to enable the acceptance without NAI extension in this APN is enabled or not.
Tunnel peer load-balancing	Specifies the tunnel peer selection method in this APN for load balancing between tunnel-peers. Possible selection methods are: • balanced • prioritized • random
L3-to-L2 tunnel address-policy no-alloc-validate	Specifies whether this APN is configured, to not to allocate or validate subscriber addresses locally for such sessions, it passes the address between remote tunnel terminator to the Mobile Node, or not.
tunnel address-policy alloc-validate	Specifies whether this APN is configured, to allocate addresses for cases in which IP addresses are dynamically assigned, or not.
NPU QoS Traffic Priority	Indicates the configured NPU QoS priority queue for packets facilitated by the APN. Possible priorities are: • best-effort • bronze • derive-from-packet-dscp • gold • silver.
APN QoS Attributes	Specifies the QoS attribute configured in this APN.
Newcall Policy	Indicates the policy for action on new calls coming on this APN. Possible actions are: • Accept • Reject
SDU Error Ratio	Indicates the QoS attribute reliability class based on Service Data Unit (SDU) Error Ratio attributes configured in this APN.
Residual BER	Indicates the QoS attribute reliability class based on Residual Bit Error Ratio (BER) attributes configured in this APN.
QCI n	Specifies the statistics for use traffic of QoS QCI class along with traffic status. Here n (qci-val) is the QCI for which the negotiate limit is being set, it ranges from 1 to 9.
Downlink Negotiate Limit	Specifies whether traffic data QoS negotiation limit in downlink direction is enabled or not for this class of QoS in this APN. By default it's disabled.
Uplink Negotiate Limit	Specifies whether traffic data QoS negotiation limit in uplink direction is enabled or not for this class of QoS in this APN. By default it's disabled.

Field	Description
Peak Data Rate (in bps)	The peak data rate in bit per seconds for this class of QoS in this APN.
Committed Data Rate(in bps)	The committed data rate in bit per seconds for this class of QoS in this APN.
Downlink Rate Limit	Specifies whether traffic data rate limit in downlink direction is enabled or not for this class of QoS in this APN.
Uplink Rate Limit	Specifies whether traffic data rate limit in uplink direction is enabled or not for this class of QoS in this APN.
Burst Size	This group indicates the static/dynamic burst size in bytes for peak and guaranteed rate limiting for this class of QoS in this APN.
Auto Readjust	Indicates whether auto readjustment of burst size is enabled or not. Possible states are: • Enabled • Disabled
Auto Readjust Duration	Indicates the configured auto readjust duration in a seconds. If auto readjust is enabled and no readjust duration is specified the default value is 1 second.
Peak Burst Size(bytes)	Indicates the peak burst size in bytes calculated dynamically by auto readjust duration and rate limit value.
Guaranteed Burst Size(bytes)	Indicates the guaranteed burst size in bytes calculated dynamically by auto readjust duration (seconds) and rate limit value (bytes). This counter is applicable only when auto readjustment is enabled.
Exceed Action	Specifies the action on downlink/uplink data rate when exceeds the allowed rate limit for this class of QoS. Possible actions are: • **drop**: drop the packets. • **lower-ip-precedence**: transmit the packet after lowering the ip-precedence. • **transmit**: transmit the packet.

Field	Description
Violate Action	Specifies the action on downlink/uplink data rate violation of allowed rate limit for this class of QoS. Possible actions are: • **drop**: drop the packets. • **lower-ip-precedence**: transmit the packet after lowering the ip-precedence. • **shape**: enables the traffic shaping and provides the buffering of user packets when subscriber traffic violates the allowed peak/committed data rate. • **shape-transmit-when-buffer-full**: enables the traffic shaping and allows the packet to be transmitted when buffer memory is full. • **transmit**: transmit the packet.
APN-AMBR	Specifies the traffic statistics for APN Maximum Bit Rate.
Downlink Apn Ambr	Specifies whether traffic data QoS negotiation limit in downlink direction is enabled or not for this class of QoS in this APN. By default it's disabled. Possible states are: • Enabled • Disabled
Uplink Apn Ambr	Specifies whether traffic data QoS negotiation limit in uplink direction is enabled or not for this class of QoS in this APN. By default it's disabled. Possible states are: • Enabled • Disabled
Burst Size	This group indicates the static/dynamic burst size in bytes for peak and guaranteed rate limiting for this class of QoS in this APN.
Auto Readjust	Indicates whether auto readjustment of burst size is enabled or not. Possible states are: • Enabled • Disabled
Auto Readjust Duration	Indicates the configured auto readjust duration in a seconds. If auto readjust is enabled and no readjust duration is specified the default value is 1 second.

Field	Description
Violate Action	Specifies the action on downlink/uplink data rate violation of allowed rate limit for this class of QoS. Possible actions are: • **drop**: drop the packets. • **lower-ip-precedence**: transmit the packet after lowering the ip-precedence. • **shape**: enables the traffic shaping and provides the buffering of user packets when subscriber traffic violates the allowed peak/committed data rate. • **shape-transmit-when-buffer-full**: enables the traffic shaping and allows the packet to be transmitted when buffer memory is full. • **transmit**: transmit the packet.
ppp accept peer ipv6 ifid	Indicates the IPv6 interface id of peer to accept PPP session.
ipv6 init router advt interval	Indicates the initial IPv6 router advertisement interval in seconds for this APN.
ipv6 init router number of advts	Indicates the total number of initial IPv6 router advertisement for this APN.
ipv6 address prefix	Indicates the IPv6 address prefix configured for sessions facilitated by this APN.
ipv6 address prefix pool	Indicates the IPv6 address prefix pool name configured for sessions facilitated by this APN.
ipv6 interface id	Indicates the IPv6 interface id configured for sessions facilitated by this APN.
ipv6 dns primary server	Indicates the IPv6 address of primary DNS server configured for sessions facilitated by this APN.
ipv6 dns secondary server	Indicates the IPv6 address of secondary DNS server configured for sessions facilitated by this APN.
ipv6 egress address filtering	Indicates whether egress address filtering configured in this APN or not to filter out packets not meant for the mobile interface ID.
p-cscf fqdn	Indicates the FQDN server name of P-CSCF configured for sessions facilitated by this APN.
p-cscf primary ip	Indicates the IPv4 address of primary P-CSCF configured for sessions facilitated by this APN.
p-cscf secondary ip	Indicates the IPv4 address of secondary P-CSCF configured for sessions facilitated by this APN.
p-cscf primary ipv6	Indicates the IPv6 address of primary P-CSCF configured for sessions facilitated by this APN.
p-cscf secondary ipv6	Indicates the IPv6 address of secondary P-CSCF configured for sessions facilitated by this APN.
ipv6 dns proxy	Indicates whether IPv6 DNS proxy server configured for sessions facilitated by this APN or not.

Field	Description
ipv6 minimum link MTU	Indicates the size of packet in bytes configured for access-link MTU for fragment.
Radius Group	Indicates the AAA server group associated with this APN.
Radius Secondary Group	If the secondary Accounting group is configured in the APN configuration, this field displays the corresponding group name. Otherwise, it displays *none*.
Radius Returned Framed IP Address	This group specifies the action and policy to handle the framed IP address returned from RADIUS server.
Policy	Specifies the policy to handle the framed IP address returned from RADIUS server. Possible actions are: • accept-call-when-ms-ip-not-supplied • reject-call-when-ms-ip-not-supplied
Access-flow traffic-validation	Specifies whether traffic validation for access flow is enabled for this APN or not.
Virtual APN Configuration	Indicates whether virtual APN is configured with APN or not.
Preference	Specifies the configured preference value of the rule for the virtual apn. It is an integer value which ranges from 1 to 1000.
Rule-Definition	Specifies the configured rule definition(s) for the virtual apn. Rule definitions include: • access-gw-address • bearer-access-service • cc-profile: charging characteristics profile index ranging from 0 to 15 • domain • mcc: mobile country code ranging from 100 to 999 • msisdn-range • rat-type: eutran, gan, geran, hspa, utran, and wlan • roaming-mode: home, roaming, and visiting
Selected-APN	Specifies the access point name (APN) in the VPN context to allow configuration of virtual APN related parameters.
IPv6 Configuration	This group displays the configuration related to IPv6 parameters.
IPv6 initial number of router advertisements	Indicates the total number of initial IPv6 router advertisement for this APN.
IPv6 initial router advertisements interval	Indicates the initial IPv6 router advertisement interval in seconds for this APN.

Field	Description
IPv6 initial router advertisements option MTU	Indicates if the **option mtu** setting is enabled/disabled for IPv6 initial router advertisements. When this feature is enabled and configured in *APN Configuration Mode*, the RA messages will contain the IPv6 MTU option for IPv6/Ipv4v6 PGW/SAEGW/GGSN calls. As a result, the UE will send uplink data packets based on the configured MTU and perform data fragmentation at the source, if required. This feature also reduces the number of ICMPv6 *Packet Too Big Error* messages in the operator's network.
IPv6 Prefix Pool	Indicates the IPv6 address prefix pool name configured for sessions facilitated by this APN.
IPv6 Egress address filtering	Indicates whether egress address filtering configured in this APN or not to filter out packets not meant for the mobile interface ID.
IPv6 Primary DNS server address	Indicates the IPv6 address of primary DNS server configured for sessions facilitated by this APN.
IPv6 Secondary DNS server address	Indicates the IPv6 address of secondary DNS server configured for sessions facilitated by this APN.
GTPP Group	Displays all the configured GTPP server groups associated with this APN.
GTPP Accounting Context	Specifies the name of all configured GTPP accounting contexts associated with this APN.
Firewall Policy	Indicates whether stateful firewall policy is applicable with this APN or not.
Mobile IPv6 Tunnel MTU	Indicates the configured maximum transmission unit of packet in bytes for Mobile IPv6 tunnel traffic.
Mobile IPv6 Tunnel MTU Exceed Action	Indicates the action to take on packets which exceeds the maximum transmission unit of packet in bytes for Mobile IPv6 tunnel traffic. Possible actions are: • Normal processing • Ignore defragment bit • Fragment and forward the packet and notify the sender
Mobile IPv6 Home Agent	Specifies the IPv6 address of home agent (HA) to use for Mobile IP session in this APN.
Mobile IPv6 Home Link Prefix	Specifies the home link prefix for to use for Mobile IP session in this APN.
Mobile IPv6 Home Address	Specifies the home IPv6 address of subscriber to use for Mobile IP session in this APN.
APN QCI Stats	Displays bulk statistics per APN QCI.
Event Reporting	Specifies whether event reporting to a log has been Enabled or Disabled.

Field	Description
Qci-qos-mapping Name for RAT-type	Displays the QCI QoS mapping table name associated with a specific APN profile configuration. The mapping table displays DSCP marking for the following RAT-types: • EUTRAN • GERAN • UTRAN • LTE-M

show apn counter ip-allocation all

Table 122: show apn counter ip-allocation all Command Output Descriptions

Field	Description
APN	Indicates the name of the access point name (APN) for which counters are displayed.
UE PROVID.	Indicates the total number of cumulative sessions which used UE provided IP allocation method through this APN.
LOCAL POOL	Indicates the total number of cumulative sessions which used Local Pool method for IP allocation through this APN.
AAA	Indicates the total number of cumulative sessions which used AAA provided IP allocation method through this APN.
DHCP	This group indicates the total number of cumulative sessions which used DHCP method for IP allocation through this APN. Possible groups are: CLIENT: Indicates the number of cumulative sessions which used DHCP client method for IP allocation through this APN. RELAY: Indicates the number of cumulative sessions which used DHCP relay method for IP allocation through this APN.
PASSTHRU	Indicates the total number of cumulative sessions which used PASSTHRU IP allocation method through this APN.

show apn name

Table 123: show apn name Command Output Descriptions

Field	Description
APN-AMBR	Specifies the traffic statistics for APN Maximum Bit Rate.

Field	Description
Downlink Apn Ambr	Specifies whether traffic data QoS negotiation limit in downlink direction is enab or not for this class of QoS in this APN. By default it's disabled. Possible states are: • Enabled • Disabled
Uplink Apn Ambr	Specifies whether traffic data QoS negotiation limit in uplink direction is enabled not for this class of QoS in this APN. By default it's disabled. Possible states are: • Enabled • Disabled
Burst Size	This group indicates the static/dynamic burst size in bytes for peak and guaranteed limiting for this class of QoS in this APN.
Auto Readjust	Indicates whether auto readjustment of burst size is enabled or not. Possible states are: • Enabled • Disabled
Auto Readjust Duration	Indicates the configured auto readjust duration in a seconds. If auto readjust is enabled and no readjust duration is specified the default value i second.
Violate Action	Specifies the action on downlink/uplink data rate violation of allowed rate limit fo class of QoS. Possible actions are: • **drop**: drop the packets. • **lower-ip-precedence**: transmit the packet after lowering the ip-precedence. • **shape**: enables the traffic shaping and provides the buffering of user packets v subscriber traffic violates the allowed peak/committed data rate. • **shape-transmit-when-buffer-full**: enables the traffic shaping and allows th packet to be transmitted when buffer memory is full. • **transmit**: transmit the packet.
Token Replenishment Interval	Indicates the token-replenishment-interval.
Access Point Name (APN)	Indicates the name of the access point name (APN) for which counters are displa
Authentication Context	Name of the system context used for authentication for this APN.

Field	Description
Pdp Type	Indicates the type of PDP context. Pdp type are as follows: • IPv4 • IPv6
Emergency	Specifies whether **emergency-apn** option is configured in this APN or not.
Delay Tolerant	Specifies whether Delay Tolerant behavior for PDN connection is available f Power Saving Mode or not.
PCO Options	Specifies which customized PCO (Protocol Configuration Options) options ar the network to MS GTP messages. PCO Options are as follows: • Custom1 • Mode • Link MTU • Non-link MTU • ePDG Selection FQDN
Online Charging without Wait	Shows that the Online charging without Wait is defined at the APN level is di
pra-profile Name	Specifies the PRA name to be associated in APN for differentiating 5G traffi
Virtual APN Configuration:	
RAT Type	Shows that the Virtual-APN is selected based on the LTE-M RAT type during Session setup.

show apn statistics all hsgw-only

Table 124: show apn statistics all hsgw-only Command Output Descriptions

Field	Description
HSGW Static FQDN Statistics:	
Attempts:	Total primary FQDN Selection attempts.
Success:	Total primary FQDN Selection attempts that were successful.
Tiimeout:	Total number of PBU sent to primary FQDN that timed out.
Total Failures:	Total primary FQDN Selection attempts that failed.
Attempts:	Total secondary FQDN Selection attempts.
Success:	Total secondary FQDN Selection attempts that were successful.

Field	Description
Tiimeout:	Total number of PBU sent to the secondary FQDN that timed out.
Total Failures:	Total secondary FQDN Selection attempts that failed.

show apn statistics

Table 125: show apn statistics Command Output Descriptions

Field	Description
HSGW Static FQDN Statistics:	
Attempts:	Total primary FQDN Selection attempts.
Success:	Total primary FQDN Selection attempts that were successful.
Tiimeout:	Total number of PBU sent to primary FQDN that timed out.
Total Failures:	Total primary FQDN Selection attempts that failed.
Attempts:	Total secondary FQDN Selection attempts.
Success:	Total secondary FQDN Selection attempts that were successful.
Tiimeout:	Total number of PBU sent to the secondary FQDN that timed out.
Total Failures:	Total secondary FQDN Selection attempts that failed.

show apn statistics name

Table 126: show apn statistics name Command Output Descriptions

Field	Description
Data Statistics ('uplink'=to PDN, 'downlink'=from PDN):	
uplink bytes	The current total number of bytes sent on the Gi interface for the APN.
downlink bytes	The current total number of bytes received on the Gi interface for the APN.
uplink pkts	The current total number of IP packets sent from the Gi interface for the APN.
downlink pkts	The current total number of IP packets received from the Gi interface for the APN.
uplink pkts dropped	The current total number of IP packets for the APN that were dropped prior to sending over the Gi interface.

Field	Description
downlink pkts dropped	The current total number of IP packets received from the Gi interface for the APN and dropped.
uplink bytes dropped	The current total number of IP bytes for the APN that were dropped prior to sending over the Gi interface.
downlink bytes dropped	The current total number of IP bytes received from the Gi interface for the APN and dropped.
uplink Flow MBR excd byte drop	Number of exceeded uplink bytes dropped due to maximum bit rate.
downlink Flow MBR excd byte drop	Number of exceeded downlink bytes dropped due to maximum bit rate.
uplink Flow MBR excd packet drop	Number of exceeded uplink packets dropped due to maximum bit rate.
downlink Flow MBR excd packet drop	Number of exceeded uplink packets dropped due to maximum bit rate.
uplink Flow GBR excd byte drop	Number of exceeded uplink bytes dropped due to guaranteed bit rate.
downlink Flow GBR excd byte drop	Number of exceeded downlink bytes dropped due to guaranteed bit rate.
uplink Flow GBR excd packet drop	Number of exceeded uplink packets dropped due to guaranteed bit rate.
downlink Flow GBR excd packet drop	Number of exceeded downlink packets dropped due to guaranteed bit rate.
uplink AMBR excd byte drop	Number of exceeded uplink bytes dropped due to APN Maximum bit rate.
downlink AMBR excd byte drop	Number of exceeded downlink bytes dropped due to APN Maximum bit rate.
uplink AMBR excd packet drop	Number of exceeded uplink packets dropped due to APN Maximum bit rate.
downlink AMBR excd packet drop	Number of exceeded downlink packets dropped due to APN Maximum bit rate.
uplink misc byte drop	Number of uplink bytes dropped due to miscellaneous reasons.
downlink misc byte drop	Number of downlink bytes dropped due to miscellaneous reasons.
uplink misc packet drop	Number of uplink packets dropped due to miscellaneous reasons.
downlink misc packet drop	Number of downlink packets dropped due to miscellaneous reasons.
ip bad hdr	The current total number IP packets received and dropped due to bad headers.
ip ttl exceeded	The current total number of IP packets dropped because they were received with TTL values of 0.
ip fragments sent	The current total number of number of times IP packets were fragmented before being sent over the Gi interface.
ip could not fragment	The current total number of IP packets which failed in fragmentation.
ip input acl drop	The current total number IP packets that were received and then dropped due to ACL filtering. **NOTE:** This counter may increment even if no ACL is configured.

Field	Description
ip output acl drop	The current total number of IP packets that were dropped prior to sending due to ACL filtering.
ip input css down drop	The current total number of IP packets the CSS received and then dropped.
ip output css down drop	The current total number of IP packets that were dropped prior to sending due to CSS filtering.
ip early pdu rcvd	The current total number of early IP packet data units (PDUs) received.
IP bad length trim	
ip source violations	The current total number of IP packets received for which source violations were detected and then dropped.
ip source violations no accounting	The IP packets received for source violations that were detected but not included in the statistics.
ip source violation ignored	The IP source validation violations that were detected and then ignored.
802.1p priority marking statistics	
Uplink: Priority 0-7	The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority.
Downlink: Priority 0-7	The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority.
Subscriber Session Statistics	
Default bearers active	The total number of active default bearers.
Dedicated bearers active	The total number of active dedicated bearers.
Default bearers setup	The total number of setup default bearers.
Dedicated bearers setup	The total number of setup dedicated bearers.
Default bearers released	The total number of default bearers released.
Dedicated bearers released	The total number of dedicated bearers released.
Default bearers rel fail	The total number of default bearer release failed.
Dedicated bearers rel fail	The total number of dedicated bearer release failed.
Default bearers rejected	The total number of default bearers rejected.
Dedicated bearers rejected	The total number of dedicated bearers rejected.
UE-init mod	The total number of UE initiated bearer modifications.
Network-init mod	The total number of network initiated bearer modifications.

Field	Description
UE-init mod fail	The total number of ue initiated modifications failed.
Network-init mod fail	The total number of network initiated modifications failed.
Total PDN-Type stats	
PDN-Type IPv4 sessions active	The total number of pdn ipv4 active sessions.
PDN-Type IPv4 sessions setup	The total number pdn ipv4 setup sessions.
PDN-Type IPv4 sessions released	The total number of pdn ipv4 sessions released.
PDN-Type IPv6 sessions active	The total number of pdn ipv6 active sessions.
PDN-Type IPv6 sessions setup	The total number pdn ipv6 setup sessions.
PDN-Type IPv6 sessions released	The total number pdn ipv6 sessions released.
PDN-Type IPv4v6 sessions active	The total number of pdn ipv4v6 active sessions.
PDN-Type IPv4v6 sessions setup	The total number pdn ipv4v6 setup sessions.
PDN-Type IPv4v6 sessions released	The total number pdn ipv4v6 sessions released.
Initiated Sessions per RAT Type	
EUTRAN	The total number of sessions initiated by EUTRAN.
UTRAN	The total number of sessions initiated by UTRAN.
GERAN	The total number of sessions initiated by GERAN.
EHRPD	The total number of sessions initiated by EHRPD.
S2A GTP	The total number of sessions initiated by S2A GTP.
S2B GTP	The total number of sessions initiated by S2B GTP.
S2B PMIP	The total number of sessions initiated by S2B PMIP.
Inter Technology Handovers	The Inter-Technology key performance indicators (KPIs) monitor RAT Initiated Sessions and inter-technology handovers so that operators can gauge 2G/3G/4G/WiFi/eHRPD coverage and determine how WiFi is penetrating as the first attach choice. The KPIs identify how a session is initiated and how many handoffs occur.
GNGP-to-LTE handover Attempted	The total number of GNGP-to-LTE handovers that have been attempted.
GNGP-to-LTE handover Succeeded	The total number of GNGP-to-LTE handovers that have succeeded.
GNGP-to-LTE handover Failed	The total number of GNGP-to-LTE handovers that have failed
LTE-to-GNGP handover Attempted	The total number of LTE-to-GNGP handovers that have been attempted.
LTE-to-GNGP handover Succeeded	The total number of LTE-to-GNGP handovers that have succeeded.

Field	Description
LTE-to-GNGP handover Failed	The total number of LTE-to-GNGP handovers that have failed.
GNGP-to-S4SGSN handover Attempted	The total number of GNGP-to-S4SGSN handovers that have been attempted.
GNGP-to-S4SGSN handover Succeeded	The total number of GNGP-to-S4SGSN handovers that have succeeded.
GNGP-to-S4SGSN handover Failed	The total number of GNGP-to-S4SGSN handovers that have failed.
S4SGSN-to-GNGP handover Attempted	The total number of S4-SGSN-to-GNGP handovers that have been attempted.
S4SGSN-to-GNGP handover Succeeded	The total number of S4SGSN-to-GNGP handovers that have succeeded.
S4SGSN-to-GNGP handover Failed	The total number of S4SGSN-to-GNGP handovers that have failed.
S4SGSN-to-LTE handover Attempted	The total number of S4SGSN-to-LTE handovers that have been attempted.
S4SGSN-to-LTE handover Succeeded	The total number of S4SGSN-to-LTE handovers that have succeeded.
S4SGSN-to-LTE handover Failed	The total number of S4SGSN-to-LTE handovers that have failed.
LTE-to-S4SGSN handover Attempted	The total number of LTE-to-S4SGSN handovers that have been attempted.
LTE-to-S4SGSN handover Succeeded	The total number of LTE-to-S4SGSN handovers that have succeeded.
LTE-to-S4SGSN handover Failed	The total number of LTE-to-S4SGSN handovers that have failed.
LTE-to-eHRPD handover Attempted	The total number of LTE-to-eHRPD handovers that have been attempted.
LTE-to-eHRPD handover Succeeded	The total number of LTE-to-eHRPD handovers that have succeeded.
LTE-to-eHRPD handover Failed	The total number of LTE-to-eHRPD handovers that have failed.
eHRPD-to-LTE handover Attempted	The total number of eHRPD-to-LTE handovers that have been attempted.
eHRPD-to-LTE handover Succeeded	The total number of eHRPD-to-LTE handovers that have succeeded.
eHRPD-to-LTE handover Failed	The total number of eHRPD-to-LTE handovers that have failed.
LTE-to-S2bPMIP handover Attempted	The total number of LTE-to-S2bPMIP handovers that have been attempted.
LTE-to-S2bPMIP handover Succeeded	The total number of LTE-to-S2bPMIP handovers that have succeeded.
LTE-to-S2bPMIP handover Failed	The total number of LTE-to-S2bPMIP handovers that have failed.
S2bPMIP-to-LTE handover Attempted	The total number of S2bPMIP-to-LTE handovers that have been attempted.
S2bPMIP-to-LTE handover Succeeded	The total number of S2bPMIP-to-LTE handovers that have succeeded.
S2bPMIP-to-LTE handover Failed	The total number of S2bPMIP-to-LTE handovers that have failed.
eHRPD-to-S2bPMIP handover Attempted	The total number of eHRPD-to-S2bPMIP handovers that have been attempted.
eHRPD-to-S2bPMIP handover Succeeded	The total number of eHRPD-to-S2bPMIP handovers that have succeeded.
eHRPD-to-S2bPMIP handover Failed	The total number of eHRPD-to-S2bPMIP handovers that have failed.

Field	Description
S2bPMIP-to-eHRPD handover Attempted	The total number of S2bPMIP-to-eHRPD handovers that have been attempted.
S2bPMIP-to-eHRPD handover Succeeded	The total number of S2bPMIP-to-eHRPD handovers that have succeeded.
S2bPMIP-to-eHRPD handover Failed	The total number of S2bPMIP-to-eHRPD handovers that have failed.
S2bGTP-to-LTE handover Attempted	The total number of S2bGTP-to-LTE handovers that have been attempted.
S2bGTP-to-LTE handover Succeeded	The total number of S2bGTP-to-LTE handovers that have succeeded.
S2bGTP-to-LTE handover Failed	The total number of S2bGTP-to-LTE handovers that have failed.
LTE-to-S2bGTP handover Attempted	The total number of LTE-to-S2bGTP handovers that have been attempted.
LTE-to-S2bGTP handover Succeeded	The total number of LTE-to-S2bGTP handovers that succeeded.
LTE-to-S2bGTP handover Failed	The total number of LTE-to-S2bGTP handovers that failed.
S2bGTP-to-eHRPD handover Attempted	The total number of S2bGTP-to-eHRPD handovers that have been attempted.
S2bGTP-to-eHRPD handover Succeeded	The total number of S2bGTP-to-eHRPD handovers that have succeeded.
S2bGTP-to-eHRPD handover Failed	The total number of S2bGTP-to-eHRPD handovers that have failed.
eHRPD-to-S2bGTP handover Attempted	The total number of eHRPD-to-S2bGTP handovers that have been attempted.
eHRPD-to-S2bGTP handover Successful	The total number of eHRPD-to-S2bGTP handovers that have succeeded.
eHRPD-to-S2bGTP handover Failed	The total number of eHRPD-to-S2bGTP handovers that have failed.
S2aGTP-to-LTE handover Attempted	The total number of S2aGTP-to-LTE handovers that have been attempted.
S2aGTP-to-LTE handover Succeeded	The total number of S2aGTP-to-LTE handovers that have succeeded.
S2aGTP-to-LTE handover Failed	The total number of S2aGTP-to-LTE handovers that have failed.
LTE-to-S2aGTP handover Attempted	The total number of LTE-to-S2aGTP handovers that have been attempted.
LTE-to-S2aGTP handover Succeeded	The total number of LTE-to-S2aGTP handovers that have succeeded.
LTE-to-S2aGTP handover Failed	The total number of LTE-to-S2aGTP handovers that have failed.
LTE-to-S2bGTP handover Succeeded on First Uplink Data on S2b tunnel	Specifies the number of handover due to Uplink packets.
LTE-to-S2bGTP handover Succeeded on Timer Expiry	Specifies the number of handover due to Timer Expiry.
IP Address Allocation Statistics	
Total IPv4 addrs allocated: Local pool add assign	The current total number of PDP contexts facilitated by the APN that were dynamically assigned IP addresses from pools configured locally on the system.
Total IPv4 addrs allocated: Static addr assign	The current total number of PDP contexts facilitated by the APN that used static IP address.

Field	Description
Total IPv4 addrs allocated: aaa provided addr	The current total number of PDP contexts facilitated by the APN that were dynamically assigned IP addresses from a AAA server.
Total IPv4 addrs allocated: skipped ip validation for L3 tunnels	The current total number of PDP contexts facilitated by the APN that were skipped validation for L3 tunnels.
Total IPv4 addrs allocated: DHCP proxy assign	The current total number of PDP contexts facilitated by the APN that were dynamically assigned IP addresses by the system using the DHCP client mode.
Total IPv4 addrs allocated: DHCP relay assign	The current total number of PDP contexts facilitated by the APN that were dynamically assigned IP addresses by the system using the DHCP relay mode.
Total IPv4 addrs allocated: No allocation	The current total number of PDP contexts facilitated by the APN that were not dynamically allocated IP addresses. This counters is relevant for a multicast sessions (MBMS) where IP allocation is not applicable.
Total IPv6 addrs allocated: Stateless auto config	The current total number ipv6 address allocation by stateless auto configuration.
Total IPv6 addrs allocated: Local pool add assign	The current total number of PDP contexts facilitated by the APN that were dynamically assigned IPv6 addresses from pools configured locally on the system.
Total IPv6 addrs allocated: Static addr assign	The current total number of PDP contexts facilitated by the APN that used static IPv6 address.
Total IPv6 addrs allocated: No allocation	The current total number of PDP contexts facilitated by the APN that were not dynamically allocated IPv6 addresses. This counters is relevant for a multicast sessions (MBMS) where IPv6 allocation is not applicable.
Total IPv6 addrs allocated: skipped ip validation for L3 tunnels	The current total number of PDP contexts facilitated by the APN that were skipped validation for L3 tunnels.
Total IPv6 addrs allocated: DHCPv6 proxy assign	The current total number of PDP contexts facilitated by the APN that were dynamically assigned IPv6 addresses by the system using the DHCP client mode.
Total IPv6 addrs allocated: aaa provided addr	The current total number of PDP contexts facilitated by the APN that were dynamically assigned IPv6 addresses from a AAA server.
No allocation	The current total number of PDP contexts facilitated by the APN that were not allocated IPv6 addresses.
skipped ip validation for L3 tunnels	The current total number of PDP contexts facilitated by the APN IP validation was skipped for L3 tunnels.
4G Bearers Released by Reason	
Admin disconnect: QCI n	The number of administrative disconnects of sessions for QCI n. Where n is a QCI value from 1 to 9, or 65, 66, 68, or 69.
Subscriber QoS Statistics	

Field	Description
QCI n: Bearer Active	The current total number of bearers with qci n active. Here n (qci-val) is the QCI for which the negotiate limit is being set, it ranges from 1 to 9 , or is a new standard QCI value of 65, 66, 69 or 70).
QCI n: Bearer Setup	The current total number of bearers with qci n setup.
QCI n: Bearer Released	The current total number of bearers with qci n released.
QCI n: Bearer Rejected	The current total number of bearers with qci n rejected.
QCI n: Uplink Bytes Forwarded	The current total number of uplink bytes forwarded for qci n.
QCI n: Downlink Bytes Forwarded	The current total number of downlink bytes forwarded for qci n.
QCI n: Uplink Packets Forwarded	The current total number of uplink packets forwarded for qci n.
QCI n: Downlink Packets Forwarded	The current total number of downlink packets forwarded for qci n.
QCI n: Uplink Bytes Dropped	The current total number of uplink bytes dropped for qci n.
QCI n: Downlink Bytes Dropped	The current total number of downlink bytes dropped for qci n.
QCI n: Uplink Packets Dropped	The current total number of uplink packets dropped for qci n.
QCI n: Downlink Packets Dropped	The current total number of downlink packets dropped for qci n.
QCI n: Uplink Bytes dropped(MBR Excd)	The current total number of uplink bytes dropped for qci n due to exceeded MBR.
QCI n: Downlink Bytes dropped(MBR Excd)	The current total number of downlink bytes dropped for qci n due to exceeded MBR.
QCI n: Uplink pkts dropped(MBR Excd)	The current total number of uplink packets dropped for qci n due to exceeded MBR.
QCI n: Downlink pkts dropped(MBR Excd)	The current total number of downlink packets dropped for qci n due to exceeded MBR.
Non-Std QCI(Non-GBR): Bearer Active	The current total number of active bearers with non-standard (non-GBR) qci.
Non-Std QCI(Non-GBR): Bearer setup	The current total number of setup bearers with non-standard (non-GBR) qci.
Non-Std QCI(Non-GBR): Bearer Released	The current total number of released bearers with non-standard (non-GBR) qci.
Non-Std QCI(Non-GBR): Uplink Bytes forwarded	The current total number of uplink bytes forwarded for non-standard (non-GBR) qci.
Non-Std QCI(Non-GBR): Downlink Bytes forwarded	The current total number of downlink bytes forwarded for non-standard (non-GBR) qci.
Non-Std QCI(Non-GBR): Uplink pkts forwarded	The current total number of uplink packets forwarded for non-standard (non-GBR) qci.
Non-Std QCI(Non-GBR): Downlink pkts forwarded	The current total number of downlink packets forwarded for non-standard (non-GBR) qci.

Field	Description
Non-Std QCI(Non-GBR): Uplink Bytes dropped	The current total number of uplink bytes dropped for non-standard (non-GBR) qci.
Non-Std QCI(Non-GBR): Downlink Bytes dropped	The current total number of downlink bytes dropped for non-standard (non-GBR) qci.
Non-Std QCI(Non-GBR): Uplink pkts dropped	The current total number of uplink packets dropped for non-standard (non-GBR) qci.
Non-Std QCI(Non-GBR): Downlink pkts dropped	The current total number of downlink packets dropped for non-standard (non-GBR) qci.
Non-Std QCI(GBR): Bearer Active	The current total number of active bearers with non-standard (non-GBR) qci.
Non-Std QCI(GBR): Bearer setup	The current total number of setup bearers with non-standard (non-GBR) qci.
Non-Std QCI(GBR): Bearer Released	The current total number of released bearers with non-standard (non-GBR) qci.
Non-Std QCI(GBR): Uplink Bytes forwarded	The current total number of uplink bytes forwarded for non-standard (GBR) qci.
Non-Std QCI(GBR): Downlink Bytes forwarded	The current total number of downlink bytes forwarded for non-standard (GBR) qci.
Non-Std QCI(GBR): Uplink pkts forwarded	The current total number of uplink packets forwarded for non-standard (GBR) qci.
Non-Std QCI(GBR): Downlink pkts forwarded	The current total number of downlink packets forwarded for non-standard (GBR) qci.
Non-Std QCI(GBR): Uplink Bytes dropped	The current total number of uplink bytes dropped for non-standard (GBR) qci.
Non-Std QCI(GBR): Downlink Bytes dropped	The current total number of downlink bytes dropped for non-standard (GBR) qci.
Non-Std QCI(GBR): Uplink pkts dropped	The current total number of uplink packets dropped for non-standard (GBR) qci.
Non-Std QCI(GBR): Downlink pkts dropped	The current total number of downlink packets dropped for non-standard (GBR) qci.
Invalid/ Not-Configured QCI: Bearer Rejected	The current total number of bearers rejected with invalid or non-configures qci.
Session statistics	
current contexts (selected APN(s))	The current total number of PDP contexts facilitated by the APN.
current contexts (system wide)	The current total number of PDP contexts facilitated by the entire system.
cumulative contexts (selected APN(s))	The cumulative number of PDP contexts facilitated by the APN.
cumulative contexts (system wide)	The cumulative number of PDP contexts facilitated by the entire system.
Current APN context load	Current APN context load = (current contexts (selected APN(s)) / current contexts (system wide)) * 100.

Field	Description
Cumulative APN context load	The cumulative percent utilization of the APN as function of the APN's configured maximum number of supported PDP contexts and the cumulative number of PDP contexts facilitated by the APN.
Pilot packet statistics	
NAT-Alloc	The total number of Pilot Packets sent per APN for every IP/Port allocation for all NAT enabled calls.
NAT-De-Alloc	The total number of Pilot Packets sent per APN for every IP/Port deallocation for all NAT enabled calls.
Non-NAT-Alloc	The total number of Pilot Packets sent per APN for every IP/Port allocation for all non-NAT calls.
Non-NAT-De-Alloc	The total number of Pilot Packets sent per APN for every IP/Port deallocation for all non-NAT calls.
Total-Alloc	The total number of Pilot Packets sent per APN for every IP/Port allocation for all call types.
Total-De-Alloc	The total number of Pilot Packets sent per APN for every IP/Port deallocation for all call types.
RAT-Change-User-Info	The total number of Pilot Packets sent for every subscriber IP allocation on RAT type change.
RAT-Change-NAT-Info	The total number of Pilot Packets sent for every NAT port chunk allocation on RAT type change.
AAA-Counters	
Authentication Counters	
Access-Request Sent	The total number of access requests that were sent.
Access-Request Timeouts	The total number of access request timeouts.
Accounting Counters	
Accounting-Request Sent	The total number of accounting requests that were sent.
Accounting-Response Received	The total number of accounting responses that were received.
Accounting-Request Timeouts	The total number of accounting request timeouts.
RADIUS Acct-Req purged	The total number of RADIUS accounting requests purged.
GTPP Acct-req purged	The total number of GTTP accounting requests purged.

Field	Description
GTPP sec Acct-req purged	The total number of secondary G-CDR accounting requests being processed and purged by this AAAMgr instance for which the GTPP protocol is being used to deliver the accounting message to the Charging Gateway Function (CGF) . It counts total secondary G-CDR accounting requests purged by this AAAMgr instance
GTPP Chrg-req purged	The total number of GTTP charging requests purged.
GTPP sec Chrg-req purged	The total number of secondary eG-CDR charging requests being processed and purged by this AAAMgr instance for which the GTPP protocol is being used to deliver the charging message to the Charging Gateway Function (CGF). It counts total secondary eG-CDR charging requests purged by this AAAMgr instance

Table 127: show apn statistics all name Command Output Descriptions

Field	Description
Active Sessions per RAT Type:	
LTE-M	Dsplays number of initiated sessions and active sessions with LTE-M RAT Type per APN.

show apn statistics name qci

Table 128: show apn statistics name qci Command Output Descriptions

Field	Description
Data Statistics	
Uplink Bytes	The total number of uplink bytes received.
Uplink Packets	The total number of uplink packets received.
Uplink Bytes dropped	The total number of uplink bytes dropped for any reason.
Uplink Pkts dropped	The total number of uplink packets dropped for any reason.
Downlink Bytes	The total number of downlink bytes.
Downlink Pkts	The total number of downlink packets.
Downlink Bytes dropped	The total number of downlink bytes dropped for any reason.
Downlink Pkts dropped	The total number of downlink packets dropped for any reason.

Field	Description
Uplink Dropped: This section provides detailed reasons for uplink byte and packet drops.	
MBR Exceeded (Bytes)	The total number of uplink IP bytes dropped due to exceeding the maximum bit rate (MBR).
MBR Exceeded (Pkts)	The total number of uplink IP packets dropped due to exceeding the maximum bit rate (MBR).
AMBR Exceeded (Bytes)	The total number of uplink IP bytes dropped due to exceeding the aggregate maximum bit rate (AMBR).
AMBR Exceeded (Pkts)	The total number of uplink IP packets dropped due to exceeding the maximum bit rate (MBR).
Miscellaneous (Bytes)	The total number of uplink IP bytes dropped for miscellaneous reasons.
Miscellaneous (Pkts)	The total number of uplink IP packets dropped for miscellaneous reasons.
Overcharge Prtctn (Bytes)	The total number of IP input bytes dropped due to Overcharging protection.
Overcharge Prtctn (Pkts)	The total number of IP input packets dropped due to overcharging protection.
SGW Restoration (Bytes)	The total number of IP input bytes dropped due to S-GW Restoration.
SGW Restoration (Pkts)	The total number of IP input packets dropped due to S-GW Restoration.
SDF Gate (Bytes)	The total number of IP input bytes dropped due to Dynamic Rule level throttling.
SDF Gate (Pkts)	The total number of IP input packets dropped due to Dynamic Rule level throttling.
ITC Gate (Bytes)	The total number of IP input bytes dropped due to flow limits exceeded.
ITC Gate (Pkts)	The total number of IP input packets dropped due to flow limits being exceeded.
Flow Terminated (Bytes)	The total number of IP input bytes dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS.
Flow Terminated (Pkts)	The total number of IP input packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS.

Field	Description
Subsession Terminated (Bytes)	The total number of IP input bytes dropped due to Bearer termination.
Subsession Terminated (Pkts)	The total number of IP input packets dropped due to Bearer termination.
Call Terminated (Bytes)	The total number of IP input bytes dropped due to session termination.
Call Terminated (Pkts)	The total number of IP input packets dropped due to session termination.
DCCA Discard (Bytes)	The total number of IP input bytes dropped due to DCCA not enabled but charging action has credit-control configured.
DCCA Discard (Pkts)	The total number of IP input packets dropped due to DCCA not enabled but charging action has credit-control configured.
No Rule Match (Bytes)	The total number of IP input bytes dropped due to no rule match.
No Rule Match (Pkts)	The total number of IP input packets dropped due to no rule match.
ICAP (Bytes)	The total number of IP input bytes dropped due to ICAP (Internet Content Adaption Protocol) action: discard or terminate flow.
ICAP (Pkts)	The total number of IP input packets dropped due to ICAP (Internet Content Adaption Protocol) action: discard or terminate flow.
SFW (Bytes)	The total number of IP input bytes dropped due to SFW (Software Firewall) action.
SFW (Pkts)	The total number of IP input packets dropped due to Software Firewall (SFW) action.
Hierarchical ENF (Bytes)	The total number of IP input bytes dropped due to Hierarchical enforcement flow status.
Hierarchical ENF (Pkts)	The total number of IP input packets dropped due to Hierarchical enforcement flow status.
Dynamic CA Gate (Bytes)	The total number of IP input bytes dropped due to dynamic CA gate.
Dynamic CA Gate (Pkts)	The total number of IP input packets dropped due to dynamic CA gate.

Field	Description
NAT64 Cancel (Bytes)	The total number of IP input bytes dropped because IPv6 packets received are translated to IPv4 by NAT.
NAT64 Cancel (Pkts)	The total number of IP input packets dropped because IPv6 packets received are translated to IPv4 by NAT.
Bearer Not Found (Bytes)	The total number of IP input bytes dropped because an associated bearer was not found.
Bearer Not Found (Pkts)	The total number of IP input packets dropped because no associated bearer was found.
Downlink Dropped: This section provides detailed reasons for downlink byte and packet drops.	
MBR Exceeded (Bytes)	The total number of downlink IP bytes dropped due to exceeding the maximum bit rate (MBR).
MBR Exceeded (Pkts)	The total number of downlink IP packets dropped due to exceeding the maximum bit rate (MBR).
AMBR Exceeded (Bytes)	The total number of downlink IP bytes dropped due to exceeding the aggregate maximum bit rate (AMBR).
AMBR Exceeded (Pkts)	The total number of downlink IP packets dropped due to exceeding the aggregate maximum bit rate (AMBR).
Miscellaneous (Bytes)	The total number of downlink IP bytes dropped for miscellaneous reasons.
Miscellaneous (Pkts)	The total number of downlink IP packets dropped for miscellaneous reasons.
Overcharge Prtctn (Bytes)	The total number of IP output bytes dropped due to Overcharging protection.
Overcharge Prtctn (Pkts)	The total number of IP output packets dropped due to Overcharging protection.
SGW Restoration (Bytes)	The total number of IP output bytes dropped due to SGW Restoration.
SGW Restoration (Pkts)	The total number of IP output packets dropped due to SGW Restoration.
SDF Gate (Bytes)	The total number of IP output bytes dropped due to Dynamic Rule level throttling.
SDF Gate (Pkts)	The total number of IP output packets dropped due to Dynamic Rule level throttling.

Field	Description
ITC Gate (Bytes)	The total number of IP output bytes dropped due to flow limits being exceeded.
ITC Gate (Pkts)	The total number of IP output packets dropped due to flow limits being exceeded.
Flow Terminated (Bytes)	The total number of IP output packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS.
Flow Terminated (Pkts)	The total number of IP output packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS.
Subsession Terminated (Bytes)	The total number of IP output bytes dropped due to bearer termination.
Subsession Terminated (Pkts)	The total number of IP output packets dropped due to bearer termination.
Call Terminated (Bytes)	The total number of IP output bytes dropped due to session termination.
Call Terminated (Pkts)	The total number of IP output packets dropped due to session termination.
DCCA Discard (Bytes)	The total number of IP output bytes dropped due to DCCA not enabled but charging action has credit-control configured.
DCCA Discard (Pkts)	The total number of IP output packets dropped due to DCCA not enabled but charging action has credit-control configured.
No Rule Match (Bytes)	The total number of IP output bytes dropped due to no rule match.
No Rule Match (Pkts)	The total number of IP output packets dropped due to no rule match.
ICAP (Bytes)	N/A
ICAP (Pkts)	N/A
SFW (Bytes)	The total number of IP output bytes dropped due to SFW (Software Firewall) action.
SFW (Pkts)	The total number of IP output packets dropped due to SFW (Software Firewall) action.

Field	Description
Hierarchical ENF (Bytes)	The total number of IP output bytes dropped due to Hierarchical enforcement flow status.
Hierarchical ENF (Pkts)	The total number of IP output packets dropped due to Hierarchical enforcement flow status.
Dynamic CA Gate (Bytes)	The total number of IP output bytes dropped due to dynamic CA gate.
Dynamic CA Gate (Pkts)	The total number of IP output packets dropped due to dynamic CA gate.
NAT64 Cancel (Bytes)	The total number of IP output bytes dropped because IPv6 packets received are translated to IPv4 by NAT.
NAT64 Cancel (Pkts)	The total number of IP output packets dropped because IPv6 packets received are translated to IPv4 by NAT.
Bearer Not Found (Bytes)	The total number of IP output bytes dropped because an associated bearer was not found.
Bearer Not Found (Pkts)	The total number of IP output packets dropped because an associated bearer was not found.
4G Bearers Released by Reasons	
Admin Disconnect	The total number of 4G bearers released for each QCI 1 through 9 due to an Administrative disconnect.
ARP level distribution of 4G Bearer Released by Reasons	
Admin Disconnect	The total number of administrative disconnects by QCI n/ARP n value. Where QCI n is a value from 1 through 9 and its associated ARP n values are from 1 to 15.
Subscriber QoS Statistics: Provides detailed packet/byte drop statistics for QCI n/ARP n. Where QCI is a value from 1 through 9 and its associated ARP n values are from 1 through 15;	
Bearer Active	
Bearer Released	
Bearer Setup	
Bearer Rejected	
Uplink Bytes forwarded	
Uplink Bytes forwarded	
Uplink Bytes dropped	

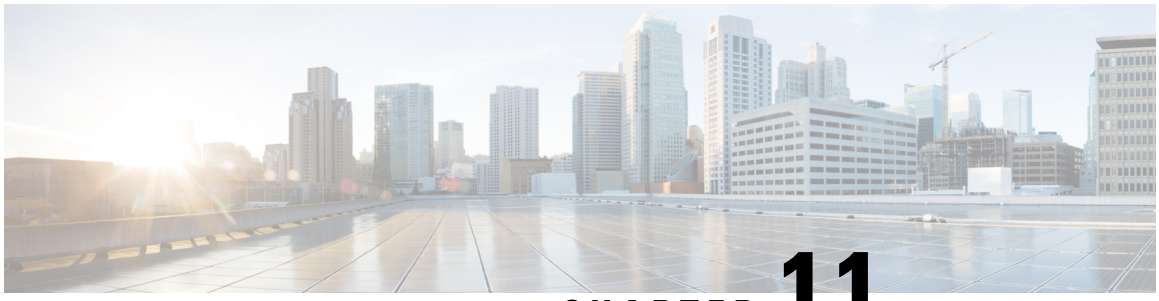
Field	Description
Uplink Pkts dropped	
Downlink Bytes forwarded	
Downlink Pkts forwarded	
Downlink Bytes dropped	
Downlink Pkts dropped	
Uplink Dropped: This section provides detailed uplink packet/byte drop information for all QCI n/ARP n values.	
MBR Exceeded (Bytes)	The total number of uplink IP bytes dropped due to exceeding the maximum bit rate (MBR).
MBR Exceeded (Pkts)	The total number of uplink IP packets dropped due to exceeding the maximum bit rate (MBR).
AMBR Exceeded (Bytes)	The total number of uplink IP bytes dropped due to exceeding the aggregate maximum bit rate (AMBR).
AMBR Exceeded (Pkts)	The total number of uplink IP packets dropped due to exceeding the aggregate maximum bit rate (AMBR).
Miscellaneous (Bytes)	The total number of uplink IP bytes dropped for miscellaneous reasons.
Miscellaneous (Pkts)	The total number of uplink IP packets dropped for miscellaneous reasons.
Overcharge Prtctn (Bytes)	The total number of IP input bytes dropped due to Overcharging protection.
Overcharge Prtctn (Pkts)	The total number of IP input packets dropped due to overcharging protection.
SGW Restoration (Bytes)	The total number of IP input bytes dropped due to S-GW Restoration.
SGW Restoration (Pkts)	SGW Restoration (Pkts): The total number of IP input packets dropped due to S-GW Restoration.
SDF Gate (Bytes)	The total number of IP input bytes dropped due to Dynamic Rule level throttling.
SDF Gate (Pkts)	The total number of IP input packets dropped due to Dynamic Rule level throttling.
ITC Gate (Bytes)	The total number of IP input bytes dropped due to flow limits exceeded.

Field	Description
ITC Gate (Pkts)	The total number of IP input packets dropped due to flow limits being exceeded.
Flow Terminated (Bytes)	The total number of IP input bytes dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS.
Flow Terminated (Pkts)	The total number of IP input packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS.
Subsession Terminated (Bytes)	The total number of IP input bytes dropped due to Bearer termination.
Subsession Terminated (Pkts)	The total number of IP input packets dropped due to Bearer termination.
Call Terminated (Bytes)	The total number of IP input bytes dropped due to session termination.
Call Terminated (Pkts)	The total number of IP input packets dropped due to session termination.
DCCA Discard (Bytes)	The total number of IP input bytes dropped due to DCCA not enabled but charging action has credit-control configured.
DCCA Discard (Pkts)	The total number of IP input packets dropped due to DCCA not enabled but charging action has credit-control configured.
No Rule Match (Bytes)	The total number of IP input bytes dropped due to no rule match.
No Rule Match (Pkts)	The total number of IP input packets dropped due to no rule match.
ICAP (Bytes)	The total number of IP input bytes dropped due to ICAP (Internet Content Adaption Protocol) action: discard or terminate flow.
ICAP (Pkts)	The total number of IP input packets dropped due to ICAP (Internet Content Adaption Protocol) action: discard or terminate flow.
SFW (Bytes)	The total number of IP input bytes dropped due to SFW (Software Firewall) action.
SFW (Pkts)	The total number of IP input packets dropped due to Software Firewall (SFW) action.

Field	Description
Hierarchical ENF (Bytes)	The total number of IP input bytes dropped due to Hierarchical enforcement flow status.
Hierarchical ENF (Pkts)	The total number of IP input packets dropped due to Hierarchical enforcement flow status.
Dynamic CA Gate (Bytes)	The total number of IP input bytes dropped due to dynamic CA gate.
Dynamic CA Gate (Pkts)	The total number of IP input packets dropped due to dynamic CA gate.
NAT64 Cancel (Bytes)	The total number of IP input bytes dropped because IPv6 packets received are translated to IPv4 by NAT.
NAT64 Cancel (Pkts)	The total number of IP input packets dropped because IPv6 packets received are translated to IPv4 by NAT.
Bearer Not Found (Bytes)	The total number of IP input bytes dropped because an associated bearer was not found.
Bearer Not Found (Pkts)	The total number of IP input packets dropped because an associated bearer was not found.
Downlink Dropped: This section provides detailed downlink packet/byte drop information for all QCI n/ARP n values.	
MBR Exceeded (Bytes)	The total number of downlink IP bytes dropped due to exceeding the maximum bit rate (MBR).
MBR Exceeded (Pkts)	The total number of downlink IP packets dropped due to exceeding the maximum bit rate (MBR).
AMBR Exceeded (Bytes)	The total number of downlink IP bytes dropped due to exceeding the aggregate maximum bit rate (AMBR).
AMBR Exceeded (Pkts)	The total number of downlink IP packets dropped due to exceeding the aggregate maximum bit rate (AMBR).
Miscellaneous (Bytes)	The total number of downlink IP bytes dropped for miscellaneous reasons.
Miscellaneous (Pkts)	The total number of downlink IP packets dropped for miscellaneous reasons.
Overcharge Prtctn (Bytes)	The total number of IP output bytes dropped due to Overcharging protection.
Overcharge Prtctn (Pkts)	The total number of IP output packets dropped due to Overcharging protection.

Field	Description
SGW Restoration (Bytes)	The total number of IP output bytes dropped due to S-GW Restoration.
SGW Restoration (Pkts)	The total number of IP output packets dropped due to S-GW Restoration.
SDF Gate (Bytes)	The total number of IP output bytes dropped due to Dynamic Rule level throttling.
SDF Gate (Pkts)	The total number of IP output packets dropped due to Dynamic Rule level throttling.
ITC Gate (Bytes)	The total number of IP output bytes dropped due to flow limits exceeded.
ITC Gate (Pkts)	The total number of IP output packets dropped due to flow limits being exceeded.
Flow Terminated (Bytes)	The total number of IP output bytes dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS.
Flow Terminated (Pkts)	The total number of IP output packets dropped due to Flow status redirect, Flow status remove, Flow status terminate, Flow action discard, Flow action redirect in charging action, and Redirection from OCS.
Subsession Terminated (Bytes)	The total number of IP output bytes dropped due to Bearer termination.
Subsession Terminated (Pkts)	The total number of IP output packets dropped due to Bearer termination.
Call Terminated (Bytes)	The total number of IP output bytes dropped due to session termination.
Call Terminated (Pkts)	The total number of IP output packets dropped due to session termination.
DCCA Discard (Bytes)	The total number of IP output bytes dropped due to DCCA not enabled but charging action has credit-control configured.
DCCA Discard (Pkts)	The total number of IP output packets dropped due to DCCA not enabled but charging action has credit-control configured.
No Rule Match (Bytes)	The total number of IP output bytes dropped due to no rule match.

Field	Description
No Rule Match (Pkts)	The total number of IP output packets dropped due to no rule match.
ICAP (Bytes)	N/A
ICAP (Pkts)	N/A
SFW (Bytes)	The total number of IP output bytes dropped due to SFW (Software Firewall) action.
SFW (Pkts)	The total number of IP output packets dropped due to SFW (Software Firewall) action.
Hierarchical ENF (Bytes)	The total number of IP output bytes dropped due to Hierarchical enforcement flow status.
Hierarchical ENF (Pkts)	The total number of IP output packets dropped due to Hierarchical enforcement flow status.
Dynamic CA Gate (Bytes)	The total number of IP output bytes dropped due to dynamic CA gate.
Dynamic CA Gate (Pkts)	The total number of IP output packets dropped due to dynamic CA gate.
NAT64 Cancel (Bytes)	The total number of IP output bytes dropped because IPv6 packets received are translated to IPv4 by NAT.
NAT64 Cancel (Pkts)	The total number of IP output packets dropped because IPv6 packets received are translated to IPv4 by NAT.
Bearer Not Found (Bytes)	The total number of IP output bytes dropped because an associated bearer was not found.
Bearer Not Found (Pkts)	The total number of IP output packets dropped because an associated bearer was not found.



CHAPTER 11

show apn-profile

This chapter describes the output of the **show apn-profile** command.

- show apn-profile full name, on page 495

show apn-profile full name

Table 129: show apn-profile full name Command Output Descriptions

Field	Description
APN Profile Name	Indicates the name of the Access Point Name (APN) profile.
Resolution Priority	Indicates the address-resolution-mode configured for this APN Profile. Possible values are dns-fallback and local.
Charging Characteristics Prefer Local	Indicates whether the APN profile prefers the charging characteristics settings from the APN profile instead of the charging characteristics received from the HLR.
Charging Characteristics Behavior	Indicates the behavior bit in charging characteristics provided by the APN profile when the HLR does not provide a value.
Charging Characteristics Profile-Index	Indicates the charging characteristics profile index specified by the APN profile, such as 4 for prepaid billing or 8 for normal billing.
3gpp qos to dscp Uplink mapping This group displays 3GPP QoS to Differentiated Services Code Point (DSCP) uplink mapping information.	
conversational	Indicates the DSCP configured for conversational type of traffic.
streaming	Indicates the DSCP configured for streaming type of traffic.
interactive (TP 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1.
interactive (TP 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2.
interactive (TP 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3.

Field	Description
3gpp qos to dscp Uplink mapping based on Allocation Priority This group displays 3GPP QoS to Differentiated Services Code Point (DSCP) uplink mapping information based on allocation priority.	
interactive (TP 1, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 1.
interactive (TP 1, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 2.
interactive (TP 1, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 3.
interactive (TP 2, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 1.
interactive (TP 2, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2.
interactive (TP 2, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 3.
interactive (TP 3, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 1.
interactive (TP 3, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 2.
interactive (TP 3, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 3.
3gpp qos to Downlink mapping This group displays 3GPP QoS to Differentiated Services Code Point (DSCP) downlink mapping information.	
conversational	Indicates the DSCP configured for conversational type of traffic.
streaming	Indicates the DSCP configured for streaming type of traffic.
interactive (TP 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1.
interactive (TP 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2.
interactive (TP 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3.
3gpp qos to dscp Downlink mapping based on Allocation Priority This group displays 3GPP QoS to Differentiated Services Code Point (DSCP) downlink mapping information based on allocation priority.	
interactive (TP 1, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 1.

Field	Description
interactive (TP 1, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 2.
interactive (TP 1, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 3.
interactive (TP 2, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 1.
interactive (TP 2, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2.
interactive (TP 2, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 3.
interactive (TP 3, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 1.
interactive (TP 3, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 2.
interactive (TP 3, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 3.
IP Source Validation	Indicates whether check for IP source validation violations is enabled.
Direct Tunnel	Indicates if the SGSN allows direct tunneling if the direct tunneling is supported by destination node.
Service Restriction for Access Type > UMTS	Indicates if the SGSN is configured to restrict the PDP context activation from Universal Mobile Telecommunications Systems (3G) network access.
Inactivity Idle timeout in seconds	Indicates the PDP inactivity timeout value in seconds.
Inactivity Idle timeout action	Indicates the action to be taken when the PDP inactivity timeout value is reached.
Inactivity Idle timeout action condition	Indicates the condition that warrants a PDP detach when PDP inactivity timeout value is reached.
Allocation OR Retention Priority	Indicates the QoS Allocation/Retention Priority.
Traffic Policing	
Traffic Policing Uplink	Indicates if traffic policing is configured for uplink traffic.
Traffic Policing Downlink	Indicates if traffic policing is configured for downlink traffic.
[SaMOG] IP ACL IN	
[SaMOG] IP ACL OUT	
[SaMOG] IP CONTEXT NAME	
[SaMOG] IP POOL NAME	

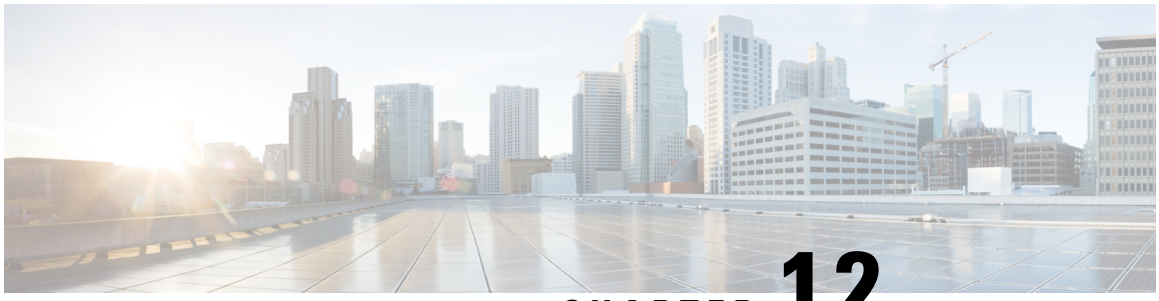
Field	Description
[SaMOG] IPv6 Prefix Pool Name	Indicates the IPv6 pool name to be used by SaMOG if the 'Framed-IPv6-Pool' AVP is unavailable in the Diameter AA-Answermessage.
[SaMOG] IPv6 Unsolicited Router Advertisement options:	
Number of router advts to deprecate prefix	Indicates the number of times unsolicited router advertisement must be sent to deprecate an IPv6 prefix.
Interval between router advts to deprecate prefix	Indicates the interval between each unsolicited router advertisement to deprecate an IPv6 prefix.
Number of router advts to advertise prefix	Indicates the number of times unsolicited router advertisement must be sent to advertise an IPv6 prefix.
Interval between router advts to advertise prefix	Indicates the interval between each unsolicited router advertisement to advertise an IPv6 prefix.
[SaMOG] IP RULEBASE	
[SaMOG] DNS PRIMARY	
[SaMOG] DNS SECONDARY	
[SaMOG] IPv6 DNS PRIMARY	
[SaMOG] IPv6 DNS Secondary	
[SaMOG] DHCP SHORT LEASE	Indicates the DHCP short lease time for web authorization sessions to force the UE to initiate DHCP request after the pre-authentication phase completes
[SaMOG] DHCP LEASE TIME	Indicates the lease time for the UE's IP address during the web authorization TAL phase.
[SaMOG] DF-SET FRAGMENTATION OPTION	
[SaMOG] FRAGMENTATION TYPE	
Idle Mode ACL (SGW)	
IPv4 ACL	Indicates the configuration of access control lists (ACLs) that define rules to apply to downlink data destined for UEs in an idle mode - IPv4.
IPv6 ACL	Indicates the configuration of access control lists (ACLs) that define rules to apply to downlink data destined for UEs in an idle mode - IPv6.
DNS Extension with MSISDN	Indicates whether the SGSN is configured to append an offset group of digits from the MSISDN to the APN string that is being sent in the DNS query.
DNS Extension with LAC-RAC	Indicates whether the SGSN is configured to append geographical information to the APN string that is being sent in the DNS query.
Fallback on DNS Failure	Indicates whether fallback on DNS failure is enabled or disabled.

Field	Description
DNS Extension with RNC-ID	Indicates whether the SGSN is configured to include the ID of the calling RNC in the APN string that is being sent in the DNS query.
DNS Extension with Charging Characteristics	Indicates whether the SGSN is configured to include the profile index value of the charging characteristics in the APN string that is being sent in the DNS query.
SNAPTR DNS Query for APN Resolution	Indicates whether the SGSN is configured to send Straightforward Name Authority Pointer (SNAPTR) type DNS query for APN resolution.
P-GW	
IP-Address	Indicates the IP address of the P-GW supporting APNs associated with this APN profile.
S5-S8-Protocol	Indicates the S5-S8 protocol configured for the this P-GW.
Weight	Indicates the weight assigned to this P-GW for load balancing purposes.
QOS APN-AMBR	
MAX uplink	Indicates the aggregate maximum bit rate (AMBR) for uplink (subscriber to network) traffic.
MAX downlink	Indicates the aggregate maximum bit rate (AMBR) for downlink (network to subscriber) traffic.
QOS Default BRR	
QCI	Indicates the QoS Class Identifier (QCI) for the default bearer.
ARP	Indicates the QoS address retention priority (ARP) value for the default bearer.
Preemption-Capability	Indicates the configuration of the QoS preemption capability flag for the default bearer.
Preemption-Vulnerability	Indicates the configuration of the QoS vulnerability capability flag for the default bearer.
QCI-QOS mapping table	If configured, the name of the QCI-QOS mapping table associated with this APN Profile.
Location Reporting	
Location Reporting UMTS	Indiates the configuration of the **location-reporting** command for UMTS access type.
Location Reporting GPRS	Indiates the configuration of the **location-reporting** command for GPRS access type.
APN Type	Indicates the configuration of the **apn-type** command, which identifies the APN is an IMS APN, allowing the SGSN to delay sending MBR to the S-GW until after receiving the Forward Relocation Complete Ack from the peer during SRNS procedure. By default this identification is disabled.
QOS upgrade from PGW for non-gbr	

Field	Description
Action	Indicates the configuration of the **qos pgw-upgrade non-gbr** command, which configures the action to be taken when the MME receives a QoS upgrade from P-GW for Non-GBR bearers Possible values: accept/reject/locally-cap/Not Configured.
Dedicated bearers	
GBR	Indicates the configuration of the **dedicated-bearers** command, which configures the MME to either accept or reject GBR dedicated bearers. Possible values: accept/reject/Not Configured.
Non-GBR	Indicates the configuration of the **dedicated-bearers** command, which configures the MME to either accept or reject Non-GBR dedicated bearers. Possible values: accept/reject/Not Configured.
Allow QoS Upgrade from GGSN	
QoS Upgrade From GGSN (UMTS)	Indicates if QoS upgrade from GGSN is enabled or disabled.
Capped with Subscribed QoS	Indicates if capping of QoS with Subscribed QoS (local/HLR) is enabled or disabled.
QoS Upgrade From GGSN (GPRS)	Indicates if QoS upgrade from GGSN is enabled or disabled.
Capped with Subscribed QoS	Indicates if capping of QoS with Subscribed QoS (local/HLR) is enabled or disabled.
Bearer Inactivity Timeout	
Exclude Default Bearer	Indicates if the application will ignore bearer inactivity handling for default/primary bearer.
GBR or non-GBR	Indicates that the system will check for low activity on a GBR or non-GBR bearer.
Timeout (Seconds)	The configured dedicated bearer timeout, in seconds.
Threshold (bytes)	The configured volume threshold for the dedicated bearer timeout (in bytes).
Direction	The traffic direction on which to execute the dedicated bearer timeout action (uplink, downlink, or bi-directional).
Associated Quality of Service Profile Name (UMTS)	Displays the name of the Quality of Service profile associated with the APN profile in a 3G network (access type "UMTS").
Associated Quality of Service Profile Name (GPRS)	Displays the name of the Quality of Service profile associated with the APN profile in a 2G network (access type "GPRS").
Validity	Displays the validity of the QoS profile associated with the APN profile as either "Valid" or "Invalid" based on whether or not such a QoS profile is created or exists in the system.
802.1p priority marking statistics	

Field	Description
Uplink: Priority 0-7	The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later.
Downlink: Priority 0-7	The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later.
Priority marking statistics	
Uplink: Priority 0-7	The total number of packets sent in the uplink direction marked with an internal QoS priority.
Downlink: Priority 0-7	The total number of packets sent in the downlink direction marked with an internal QoS priority.
APN Restoration Priority	Displays the locally configured priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN). If enabled, the configured restoration priority of 1 through 16 is displayed (1 is highest priority, 16 is lowest).
Service Restriction for Access Type UMTS	The restrict access-type command under the APN profile configuration mode is used to configure PDP activation restriction on the basis of access type. This field displays if service restriction is enabled for an UMTS service.
Service Restriction for Access Type GPRS	The restrict access-type command under the APN profile configuration mode is used to configure PDP activation restriction on the basis of access type. This field displays if service restriction is enabled for an GPRS service.
Service Restriction for Access Type EPS	The restrict access-type command under the APN profile configuration mode is used to configure PDP activation restriction on the basis of access type. This field displays if service restriction is enabled for an EPS service.
Complete APN restricted	This field indicates if complete APN restriction is enabled.
ESM-T3396 Timer	This fields displays "Not Configured" if the ESM T3396 timeout is not configured for any cause code.
If the ESM T3396 timeout is configured for a cause code, the following two fields display the configured values.	
Value for Cause Code UNKNOWN OR MISSING APN(27)	This fields displays the configured T3396 timeout value in seconds for cause code value 27.
Value for Cause Code INSUFFICIENT RESOURCES(26)	This fields displays the configured T3396 timeout value in seconds for cause code value 26.
CIoT:	
SCEF:	
Wait-Time	Displays the configured SCEF wait time, in seconds.
S-GW Restoration	
Session Hold (T-PDN Release) time	Specifies the maximum time to hold or release sessions at S-GW
UE Usage Type	Configures UE usage type for disconnecting PDN for up service area.

Field	Description
Collocated Node	Configures the Collocation name to select the collocated S/PGW node IP addresses and/or PGW Node name for 5GS Interworking. **Note** PGW Node name should be configured under **Collocated-node** for 5GS interworking with N26 interface. This configuration allows the **P-GW Node Name** to include the configured name in **Context Response** and **Forward relocation Request Response** messages from MME to AMF over N26 interface.
PGW-Address with SMF Combined Configuration	
SMF-combined	Configures a combined P-GW and SMF.



CHAPTER 12

show apn-remap-table

This chapter describes the output of the **show apn-remap-table** command.

- show apn-remap-table full name, on page 503

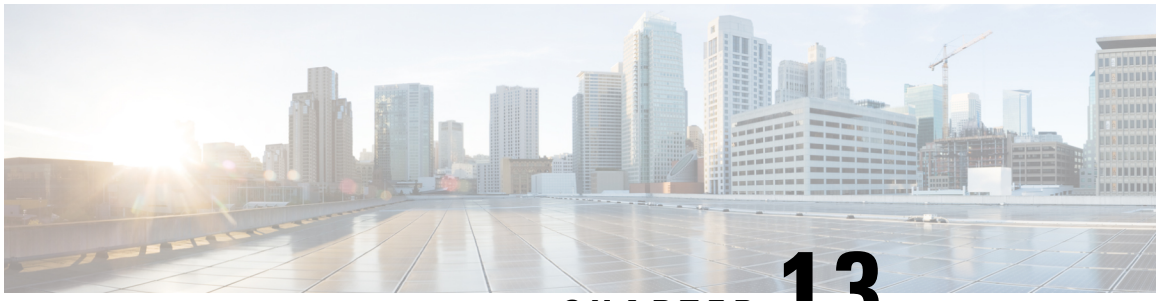
show apn-remap-table full name

This command provides detailed configuration and functional information for a specified apn-remap-table. Only those settings which are configured will be displayed in the output of this command.

Table 130: show apn-remap-table full name Command Output Descriptions

Field	Description
Default APN	Displays the network identifier to be used when the normal APN selection process fails. This setting is configured using the **apn-selection-default** command. Up to four individual default APN configurations will be displayed if configured.
Require Subscription APN	Indicates if this APN name must be included in the subscription data for the default APN feature to function.
Use Default APN when no APN is requested	Indicates that the default APN should be used if no APN is requested in the subscription record.
Use Default APN when DNS Query fails	Indicates that the default APN should be used if the DNS query fails.
Fallback APN to use when Default APN not present in subscription	Indicates the dummy APN to be used when the default APN is not present in the subscription.
Fallback APN in First subscription record when Default APN not present	Indicates whether to use the APN from the first subscription record when the configured default APN is not available.
Use APN from Single Subscription record	Indicates whether to use the APN from the subscription record if it is the only record available and normal APN selection fails.
APN selection mode when APN requested not present	Indicates the default APN selection mode, either first-in-subscription or lowest-context-id. This setting is configured using the **apn-selection-default** command.

Field	Description
APN to use when no APN is requested	Indicates the APN that will be used when no APN is requested. This setting is configured using the **blank-apn** command.
Charging Characteristic APN Override Entry *n*	Displays a charging characteristics-based APN override group entry and associated settings. This group of settings is configured using the **cc** command.
Match Charging Characteristics Behavior	Indicates the charging characteristic behavior bit value.
Match Charging Characteristics Profile-Index	Indicates the index value for this charging characteristic profile.
Match Requested APN	Identifies the "old" APN network identifier of that is configured to be overridden/remapped.
APN to use for overriding	Identifies the "new" APN network identifier to which the APN will be remapped.
Wildcard APN for IPv4	Identifies the configuration of the wildcard APN feature for IPv4 PDP contexts.
Wildcard APN for IPv6	Identifies the configuration of the wildcard APN feature for IPv6 PDP contexts.
Wildcard APN for IPv4v6	Identifies the configuration of the wildcard APN feature for dual IPv4v6 PDP contexts.
Wildcard APN for PPP	Identifies the configuration of the wildcard APN feature for PPP contexts.
APN remap Entry*n*	Displays an APN remap group entry and associated settings.
Match Input NI wildcard	Identifies the "old" APN network identifier that is being mapped for replacement.
Remap Input NI to	Identifies the new (target) network identifier to use.
Match Input OI wildcard	Identifies the "old" APN operator identifier that is being mapped for replacement.
Remap Input OI to	Identifies the new (target) operator identifier to use.
Replace wildcard MCC in Input OI with	Identifies the new (target) MCC value to use. This is specified using the **value-for-oi-mcc** keyword.
Replace wildcard MNC in Input OI with	Identifies the new (target) MNC value to use. This is specified using the **value-for-oi-mnc** keyword.



CHAPTER 13

show asngw-service

This chapter includes the **show asngw-service** command output tables.

- show asngw-service all, on page 505
- show asngw-service session all, on page 508
- show asngw-service session counters, on page 509
- show asngw-service session counters verbose, on page 511
- show asngw-service session full, on page 517
- show asngw-service session counters function-type data-path, on page 519
- show asngw-service session peer-address, on page 523
- show asngw-service session summary, on page 524
- show asngw-service statistics, on page 524
- show asngw-service statistics function-type ms-state-change, on page 527
- show asngw-service statistics function-type ms-state-change, on page 530
- show asngw-service statistics verbose, on page 532

show asngw-service all

Table 131: show asngw-service all Command Output Descriptions

Field	Description
Service name	The ASN GW service name.
Context	The context in which the service is configured.
Bind	The bind status.
Max Subscribers	The maximum number of subscribers.
IP address	IP address of ASN GW server where this service is located.
UDP Port	The UDP port number.
Service Status	Status of this service.

Field	Description
Authentication	The authentication mode. Possible modes are: • None • User (Single EAP) • Device (Single EAP) • Device-User (Double EAP) • Device-User (Single EAP)
Policy msid-dhcp-chaddr-mismatch	The status of the policy to handle the calls with mismatched DHCP Client Hardware (MAC) Address (CHADDR) and MSID of the ASN-GW session.
Policy ms-unexpected-network-reentry	The status of the policy to handle the unexpected network re-entry of an MS.
Policy asngw-initiated-reauth	The status of the policy to handle the ASN GW initiated reauthorization trigger.
Policy non-anchor-mode	The status of the policy to handle the ASN GW to accept the session in non-anchor mode.
Newcall Policy	Specify that the new call policy enabled or disabled to handle new calls. Possible values are: • NONE • REJECT
Policy Overload	Specify that the session overload policy enabled or disabled to handle new calls. Possible values are: • DROP • REJECT
Mobile IP FA context	The name of the context where MIP FA service is configured.
Maximum number of retransmissions	The maximum number of retransmissions.
Retransmission timeout	The retransmission timeout duration.
Setup timeout	The session setup timeout duration.
Active-relay timeout	The timeout duration for active relay of R4 or R6 messages.
Handover anchor data-path termination timeout	The timeout duration in seconds to keep the data path registration with previous anchored BS after completion of handover.
Handover anchor data-path pre-registration termination timeout	The timeout duration in seconds to keep the data path pre-registration termination information with anchored BS after completion of handover.
Handover non-anchor data-path termination timeout	The timeout duration in seconds to keep the data path registration with non-anchored BS after completion of handover.

Field	Description
Handover non-anchor data-path pre-registration termination timeout	The timeout duration in seconds to keep the data path pre-registration termination information with non-anchored BS after completion of handover.
Handover max number of data-path pre-registrations	The maximum number of data paths created during pre-registration for a handover.
Idle-mode entry timeout	The timeout duration in seconds for a session to enter the idle mode from active mode.
Idle-mode exit timeout	The timeout duration in seconds for a session to reenter the active mode from idle mode.
Idle-mode timeout	The total timeout duration in seconds.
Policy transaction-id-validation	The status of the policy to validate the transaction id.
Policy zero-function-type	The status of the policy to allow the zero function type of call.
Transaction Id. Seed	The transaction identifier seed.
Peer ASNGW addresses	The IP addresses of trusted ASN GW peers for handover.
BS Monitor Config	The status of BS monitoring support. Possible values are: • Enabled • Disabled
Interval	The configured amount of time in seconds between two ICMP ping message to an ASN BS.
Timeout	The number of seconds to wait for response from the ASN BS before re-sending the ICMP ping message.
Number of retries	The number of retries to sent ICMP ping messages to an ASN BS before the ASN BS is declared as dead/unreachable.
MTU size	The maximum transmission unit size configured in bytes.
Total BSs	The total number of BSs monitored.
Active BSs	The number of active BSs.
Alive BSs	The number of active and alive BSs.
ICMP Monitored BSs	The number of BSs which are monitored through ICMP ping messages.
Inactive BSs	The number of inactive BSs.
No Calls BSs	The total number of BSs which have no active calls or in idle mode.
Going Down BSs	The total number of BSs which are going down or terminating sessions.
BS	The IP address of BSs.

Field	Description
Status	The status of listed BSs.
Maximum Number of Secondary IP Hosts	The maximum number of secondary hosts connected behind a primary WiMAX CPE under multiple IP host support.
Ran Peer Map Name	The name of the RAN Peer Map this service is using to reconcile base station MAC address received in R6 protocol messages to the actual IPv4 address of the base station.

show asngw-service session all

Table 132: show asngw-service session all Command Output Descriptions

Field	Description
vv	Displays service and session state information. This column provides a code consisting of two characters. From left-to-right, the first character represents the **Call Type** that the subscriber is using. The possible call types are: • **A**: Anchor • **N**: Non-Anchor From left-to-right, the second character represents the **DP Status**. The possible data path status are: • **A**: Active • **I**: Idle
CALLID	The subscriber's call identification number.
MSID	The subscriber's Mobile Station Identification number.
NAI	The subscriber's Network Access Identifier.
Home Address	The IP address assigned to the subscriber's mobile node for the duration of the session.
Total Non-Anchor ASNGW Sessions	The total number of ASN GW sessions in non-anchor mode.
Total Anchor ASNGW Sessions	The total number of ASN GW sessions in anchor mode.
Total Active ASNGW Sessions	The total number of active ASN GW sessions including anchor and non-anchor mode.
Total Idle ASNGW Sessions	The total number of idle ASN GW sessions including anchor and non-anchor mode.
Total ASNGW Sessions	The total number of ASN GW sessions on chassis including all modes.

show asngw-service session counters

Table 133: show asngw-service session counters Command Output Descriptions

Field	Description
Username	The subscriber's user name.
Callid	The subscriber's call identification number.
MSID	The subscriber's Mobile Station Identification number.
Session Type	The type of session. Possible type of sessions are: • Anchor • Non-Anchor
Initial Network Entry Events	
MS Pre-Attach	Displays the MS pre-attach event statistics.
Attempted	The total number of attempts made for an event.
Success	The total number of successful attempts made for an event.
Failures	The total number of failed attempts made for an event.
Authentications	Displays the authentication event statistics.
EAP	The total number of authentication/re-authentication attempts failed due to EAP.
Misc. Reason	The total number of authentication/re-authentication attempts failed due to miscellaneous reasons.
MS Attach	Displays the MS attach event statistics.
DP Registrations	Displays the data path registration event statistics.
Re-Authentications	Displays the re-authentication event statistics.
Handover Events	
Intra ASN-GW Handovers	Displays the intra-ASN GW (inter BS) handover event statistics.
Inter ASN-GW Handovers	Displays the inter-ASN GW handover event statistics.
DP De-Registrations	Displays the data path de-registration event statistics.
Idle Mode entry events	Displays the idle mode entry event statistics.
Idle Mode exit events	Displays the idle mode exit event statistics.
Paging initiation events	Displays the paging initiation event statistics.

Field	Description
Total R6/R4 Control Messages	Displays the statistics of total R4 and R6 control messages.
Sent	Total number of R4/R6 control messages sent.
Retransmissions Sent	Total number of R4/R6 control messages retransmitted.
Received	The total number of R4/R6 control messages received.
Accepted	The total number of R4/R6 control messages received and accepted.
Relayed	The total number of R4/R6 control messages received and relayed.
Denied	The total number of R4/R6 control messages received and denied.
Discarded	The total number of R4/R6 control messages received and discarded.
Badly Formed	The total number of badly formed R4/R6 control messages messages.
Decode Error	The total number of decode errors found in the R4/R6 control messages.
Unspecified Error	The total number of unspecified errors found in the R4/R6 control messages.
Missing Mandatory TLV	The total number of R4/R6 control messages received with missing mandatory TLVs.
TLV Value Invalid	The total number of R4/R6 control messages received with invalid TLV value.
Unknown TLV	The total number of R4/R6 control messages received with unknown TLV value.
Duplicate TLV Found	The total number of R4/R6 control messages received with duplicate TLV value.
No Session Found	The total number of R4/R6 control messages received without session information.
Transaction Id. Error	The total number of R4/R6 control messages received with error in transaction id.
Key Change Success	The total number of R4/R6 control messages received with successful Key Change request.
Key Change Failure	The total number of R4/R6 control messages with failed Key Change request.
MS Initiated Re-Auth	The total number of R4/R6 control messages received with for MS initiated re-authentication.
BS Initiated Re-Auth	The total number of R4/R6 control messages received with for BS initiated re-authentication.
Total R4/R6 Data messages:	Displays the statistics of total R4 and R6 data messages.
GRE Receive:	
Packets Received	The total number of packets received by the system through GRE tunnel.
Bytes Received	The total number of bytes received by the system through GRE tunnel.
Protocol Type Error	The total number of encapsulated packets received through GRE tunnel with protocol type errors.

Field	Description
GRE Key Absent	Total number of GRE tunneled key absent errors received through GRE tunnel.
GRE Checksum Error	Total number of checksum errors that occurred in GRE tunnels received by this system.
Invalid Packet Length	Total number of encapsulated packets received with invalid packet lengths through GRE tunnel.
No Session found	Total number of errors that occurred due to no session being present in received tunnels.
Unspecified Error	Total number of data messages received with errors which are not specified in this table.
GRE Send:	
Packets Sent	The total number of packets sent by the system through GRE tunnel.
Bytes Sent	The total number of bytes sent by the system through GRE tunnel.
Send Error	The total number of errors that occurred while sending replies through GRE tunnel.
Unspecified Error	Total number of data messages sent with errors which are not specified in this table through GRE tunnel.
Total Non-Anchor ASNGW Sessions	The total number of ASN GW sessions in non-anchor mode.
Total Anchor ASNGW Sessions	The total number of ASN GW sessions in anchor mode.
Total ASNGW Sessions	The total number of ASN GW sessions including anchor and non-anchor mode.

show asngw-service session counters verbose

Table 134: show asngw-service session counters verbose Command Output Descriptions

Field	Description
Username	The subscriber's user name.
Callid	The subscriber's call identification number.
MSID	The subscriber's Mobile Station Identification number.
Session Type	The type of session. Possible type of sessions are: • Anchor • Non-Anchor
Message Groups	

Field	Description
R6 MS Pre-Attachment Request messages	Groups the statistics of the MS pre-attachment request messages on R6 interface.
R6 MS Pre-Attachment Response messages	Groups the statistics of the MS pre-attachment response messages on R6 interface.
R6 MS Pre-Attachment Ack messages	Groups the statistics of the MS pre-attachment ACK messages on R6 interface.
R6 Network Exit MS State Change Request messages	Groups the statistics of the MS state change request messages on network exit R6 interface.
R4 Network Exit MS State Change Request messages	Groups the statistics of the MS state change request messages on network exit R4 interface.
R6 Network Exit MS State Change Response messages	Groups the statistics of the MS state change response messages on network exit R6 interface.
R4 Network Exit MS State Change Response messages	Groups the statistics of the MS state change response messages on network exit R4 interface.
R6 Context Request messages	Groups the statistics of the context request messages on R6 interface.
R4 Context Request messages	Groups the statistics of the context request messages on R4 interface.
R6 Context Report messages	Groups the statistics of the context report messages on R6 interface.
R4 Context Report messages	Groups the statistics of the context report messages on R4 interface.
R6 Context Ack messages	Groups the statistics of the context ACK messages on R6 interface.
R4 Context Ack messages	Groups the statistics of the context ACK messages on R4 interface.
R6 Authentication Relay EAP Transfer messages	Groups the statistics of the EAP authentication relay transfer messages on R6 interface.
R4 Authentication Relay EAP Transfer messages	Groups the statistics of the EAP authentication relay transfer messages on R4 interface.
R6 Authentication Relay EAP Start messages	Groups the statistics of the EAP authentication relay start messages on R6 interface.
R4 Authentication Relay EAP Start messages	Groups the statistics of the EAP authentication relay start messages on R4 interface.
R6 MS Attachment Request messages	Groups the statistics of the MS attachment request messages on R6 interface.
R6 MS Attachment Response messages	Groups the statistics of the MS attachment response messages on R6 interface.
R6 MS Attachment Ack messages	Groups the statistics of the MS attachment ACK messages on R6 interface.
R6 Data-Path Pre-Registration Request messages	Groups the statistics of the data path pre-registration request messages on R6 interface.
R4 Data-Path Pre-Registration Request messages	Groups the statistics of the data path pre-registration request messages on R4 interface.

Field	Description
R6 Data-Path Pre-Registration Response messages	Groups the statistics of the data path pre-registration response messages on R6 interface.
R4 Data-Path Pre-Registration Response messages	Groups the statistics of the data path pre-registration response messages on R4 interface.
R6 Data-Path Pre-Registration Ack messages	Groups the statistics of the data path pre-registration ACK messages on R6 interface.
R4 Data-Path Pre-Registration Ack messages	Groups the statistics of the data path pre-registration ACK messages on R4 interface.
R6 Data-Path Registration Request messages	Groups the statistics of the data path registration request messages on R6 interface.
R4 Data-Path Registration Request messages	Groups the statistics of the data path registration request messages on R4 interface.
R6 Data-Path Registration Response messages	Groups the statistics of the data path registration response messages on R6 interface.
R4 Data-Path Registration Response messages	Groups the statistics of the data path registration response messages on R4 interface.
R6 Data-Path Registration Ack messages	Groups the statistics of the data path registration ACK messages on R6 interface.
R4 Data-Path Registration Ack messages	Groups the statistics of the data path registration ACK messages on R4 interface.
R6 Data-Path De-Registration Request messages	Groups the statistics of the data path de-registration request messages on R6 interface.
R4 Data-Path De-Registration Request messages	Groups the statistics of the data path de-registration request messages on R4 interface.
R6 Data-Path De-Registration Response messages	Groups the statistics of the data path de-registration response messages on R6 interface.
R4 Data-Path De-Registration Response messages	Groups the statistics of the data path de-registration response messages on R4 interface.
R6 Data-Path De-Registration Ack messages	Groups the statistics of the data path de-registration ACK messages on R6 interface.
R4 Data-Path De-Registration Ack messages	Groups the statistics of the data path de-registration ACK messages on R4 interface.
R6 Key Change Directive messages	Groups the statistics of the key change directive messages on R6 interface.
R4 Key Change Directive messages	Groups the statistics of the key change directive messages on R4 interface.
R6 Key Change Ack messages	Groups the statistics of the key change ACK messages on R6 interface.
R4 Key Change Ack messages	Groups the statistics of the key change ACK messages on R4 interface.

Field	Description
R6 Key Change Confirm messages	Groups the statistics of the key change confirm messages on R6 interface.
R4 Key Change Confirm messages	Groups the statistics of the key change confirm messages on R4 interface.
R6 Cmac Key Count Update Msg	Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count update messages on R6 interface.
R4 Cmac Key Count Update Msg	Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count update messages on R4 interface.
R6 Cmac Key Count Ack Msg	Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count ACK messages on R6 interface.
R4 Cmac Key Count Ack Msg	Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count ACK messages on R46 interface.
R6 Handoff Request Msg	Groups the statistics of the hand-off request messages on R6 interface.
R4 Handoff Request Msg	Groups the statistics of the hand-off request messages on R4 interface.
R6 Handoff Response Msg	Groups the statistics of the hand-off response messages on R6 interface.
R4 Handoff Response Msg	Groups the statistics of the hand-off response messages on R4 interface.
R6 Handoff Ack Msg	Groups the statistics of the hand-off ACK messages on R6 interface.
R4 Handoff Ack Msg	Groups the statistics of the hand-off ACK messages on R4 interface.
R6 Handoff Confirm Msg	Groups the statistics of the hand-off confirm messages on R6 interface.
R4 Handoff Confirm Msg	Groups the statistics of the hand-off confirm messages on R4 interface.
R6 Handoff Complete Msg	Groups the statistics of the hand-off complete messages on R6 interface.
R4 Handoff Complete Msg	Groups the statistics of the hand-off complete messages on R4 interface.
R4 IM Entry State Change Req Msg	Groups the statistics of the idle mode entry state change request messages on R4 interface.
R4 IM Entry State Change Rsp Msg	Groups the statistics of the idle mode entry state change response messages on R4 interface.
R4 IM Entry State Change Ack Msg	Groups the statistics of the idle mode entry state change ACK messages on R4 interface.
R4 Anchor PC Indication Msg	Groups the statistics of anchor paging controller (PC) indication messages on R4 interface.
R4 Anchor PC Ack Msg	Groups the statistics of anchor paging controller (PC) ACK messages on R4 interface.
R4 IM Exit State Change Req Msg	Groups the statistics of the idle mode exit state change request messages on R4 interface.

Field	Description
R4 IM Exit State Change Rsp Msg	Groups the statistics of the idle mode exit state change response messages on R4 interface.
R4 Initiate Paging Req Msg	Groups the statistics of the initiated paging request messages on R4 interface.
R4 Initiate Paging Rsp Msg	Groups the statistics of the initiated paging response messages on R4 interface.
R4 Delete MS Entry Req Msg	Groups the statistics of the request messages to delete the MS entry request on R4 interface.
R4 Delete MS Entry Rsp Msg	Groups the statistics of the messages sent in response of delete message for the MS entry request on R4 interface.
R6 Unknown messages	Groups the statistics of the unknown type of request messages on R6 interface.
R4 Unknown messages	Groups the statistics of the unknown type of request messages on R4 interface.
Message Statistics	
Total Sent	The total number of this type of message sent on specific interface.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Retransmissions Sent	The total number of this type of message re-transmitted on specific interface.
Total Received	The total number of this type of message received on specific interface.
Total Accepted	The total number of this type of message accepted on specific interface.
Total Relayed	The total number of this type of message relayed on specific interface.
Total Denied	The total number of this type of message denied on specific interface.
Total Discarded	The total number of this type of message discarded on specific interface.
Badly Formed	The total number of badly formed this type of message on specific interface.
Decode Error	The total number of this type of message on specific interface with decode error.
Unspecified Error	The total number of this type of message on specific interface with unspecified error.
Missing Mandatory TLV	The total number of this type of message on specific interface with missing mandatory TLVs.
TLV Value Invalid	The total number of this type of message on specific interface with invalid TLV value.
Unknown TLV	The total number of this type of message on specific interface with unknown TLVs.
Duplicate TLV Found	The total number of this type of message on specific interface with duplicate TLVs.

Field	Description
No session Found	The total number of this type of message on specific interface without any session information.
Transaction Id. Error	The total number of this type of message on specific interface. with transaction id error.
Key Change Success	The total number of successful Key Change Confirmation messages.
Key Change Failure	The total number of Key Change Confirmation messages failed.
Out Of Order Packet	The total number of authentication relay EAP transfer/start messages on R6 interface with out-of-order packets.
MS Initiated Re-Auth	The total number of authentication relay EAP start messages on specific interface with MS initiated reauthorization.
BS Initiated Re-Auth	The total number of authentication relay EAP start messages on specific interface with BS initiated reauthorization.
ASNGW Initiated Re-Auth	Total number of the re-authentications initiated from the ASN GW.
Data messages	
GRE R6 Receive	The total number of data message received with through GRE tunnel on R6 interface.
GRE R4 Receive	The total number of data message received through GRE tunnel on R4 interface.
Packets Received	The total number of data packets received/sent through GRE tunnel on R4/R6 interface.
Bytes Received	The total number of data bytes received/sent through GRE tunnel on R4/R6 interface.
Protocol Type Error	The total number of data message received/sent with protocol type error through GRE tunnel on R4/R6 interface.
GRE Key Absent	The total number of data message received/sent without GRE key through GRE tunnel on R4/R6 interface.
GRE Checksum Error	The total number of data message received/sent with checksum error through GRE tunnel on R4/R6 interface.
Invalid Packet Length	The total number of data message received/sent with invalid packet length through GRE tunnel on R4/R6 interface.
No Session found	The total number of data message received/sent without any session information through GRE tunnel on R4/R6 interface.
Unspecified Error	The total number of data message received/sent with unknown error through GRE tunnel on R4/R6 interface.
GRE R6 Send	The total number of data message sent through GRE tunnel on R6 interface.

Field	Description
GRE R4 Send	The total number of data message sent through GRE tunnel on R4 interface.
Packets Sent	The total number of data packets sent through GRE tunnel on R4/R6 interface.
Send Error	The total number of data message sent with error through GRE tunnel on R4/R6 interface.
Bytes Sent	The total number of data bytes sent through GRE tunnel on R4/R6 interface.

show asngw-service session full

Table 135: show asngw-service session full Command Output Descriptions

Field	Description
Username	The subscriber's user name.
Callid	The subscriber's call identification number.
Pseudoname	The subscriber's pseudo name. It provides the pseudo user name for a WIMAX session if TTLS authentication is used for the call.
MSID	The subscriber's Mobile Station Identification number.
Home Address	The IP address assigned to the subscriber's mobile node for the duration of the session.
ASNGW Service Address	IP address of system where ASN GW service is running.
Session Type	The type of session. Possible type of sessions are: • Anchor • Non-Anchor
DP Status	The status of data path. Possible data path status are: • Active • Idle
Authenticator Address	IP address of the authenticator ASN GW.
Anchor Address	IP address of the anchor ASN GW where subscriber is attached.
Data Path Status	Identifies if the call can carry data over the R6/R4 interface. Idle: the ASN GW is attached to PCLR and is not capable of sending traffic to BS over R6/R4. Active: the IP-GRE tunnels between the ASN GW and the BS are setup and ready to transfer data from the IP network side.

Field	Description
PCLR Address	IP address of PC-LR currently attached to this ASN GW.
CMAC Key Count	Total number of Cipher-based Message Authentication Code (CMAC) key count.
EAP MSK Lifetime	Total lifetime configured for EAP Master Session Key in seconds.
Remaining MSK Lifetime	Remaining lifetime available for EAP Master Session Key in seconds.
Number of Re-authentication	Total number of re-authentications happened for a WiMAX subscriber.
Authentication Mode	The authentication mode. Possible modes are: • None • User (Single EAP) • Device (Single EAP) • Device-User (Double EAP) • Device-User (Single EAP)
EAP-Methods	Specifies the EAP authentication method. Possible methods are: • EAP-Pre-shared Key (EAP-PSK) • EAP-Transport Layer Security (EAP-TLS) • EAP-Tunneled Transport Layer Security (EAP-TTLS) • EAP-Authentication and Key Agreement (EAP-AKA)
DHCP ChAddr of MS	Client Hardware (MAC) Address (CHADDR) of MS.
Service Flow Information	
SFID	The service flow identifier.
Direction	Direction of the service flow.
SDFID	The service data flow identifier.
PDFID	The packet data flow identifier.
Profile ID	The profile id applicable for service flow.
Peer (*) Address	Specifies the IP address of the trusted peer for handover.
Peer Type	Specifies the type of peer for handover. Possible types are: • BS • ASN GW
BSID	Specifies the ASN base station Id.

Field	Description
GRE Key	The Generic Routing Encapsulation (GRE) key.
Tunnel Endpoint	The IP address of GRE tunnel endpoint.
Total Service flows(unidirectional)	Total number of service flows in both direction.
Total Non-Anchor ASNGW Sessions	The total number of ASN GW sessions in non-anchor mode.
Total Anchor ASNGW Sessions	The total number of ASN GW sessions in anchor mode.
Total Active ASNGW Sessions	The total number of active ASN GW sessions.
Total Idle ASNGW Sessions	The total number of ASN GW sessions in idle mode.
Total ASNGW Sessions	The total number of ASN GW sessions including anchor and non-anchor mode.

show asngw-service session counters function-type data-path

Table 136: show asngw-service session counters function-type data-path Command Output Descriptions

Field	Description
Username	The subscriber's user name.
CALLID	The subscriber's call identification number.
MSID	The subscriber's Mobile Station Identification number.
Data-Path Registration Request Messages:	
Total Sent	The total number of Data-Path Registration Request messages sent.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Total Received	The total number of Data-Path Registration Request messages received.
Total Denied	The total number of Data-Path Registration Request messages denied.
Total Discarded	The total number of Data-Path Registration Request messages discarded.
Badly Formed	The total number of badly formed Data-Path Registration Request messages.
Decode Error	The total number of decode errors in the Data-Path Registration Request messages sent.
Unspecified Error	The total number of unspecified errors in the Data-Path Registration Request messages sent.

Field	Description
Missing Mandatory TLV	The total number of missing mandatory TLVs in the Data-Path Registration Request messages sent.
TLV Value Invalid	The total number of Data-Path Registration Request messages sent with invalid TLV value.
Unknown TLV	The total number of Data-Path Registration Request messages sent with unknown TLV.
Duplicate TLV Found	The total number of Data-Path Registration Request messages sent with duplicate TLV.
No Session Found	The total number of Data-Path Registration Request messages sent without session information.
Data-Path Registration Response Messages:	
Total Sent	The total number of Data-Path Registration Response messages sent.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Total Received	The total number of Data-Path Registration Response messages received.
Total Denied	The total number of Data-Path Registration Response messages denied.
Total Discarded	The total number of Data-Path Registration Response messages discarded.
Badly Formed	The total number of badly formed Data-Path Registration Response messages.
Decode Error	The total number of decode errors in the Data-Path Registration Response messages sent.
Unspecified Error	The total number of unspecified errors in the Data-Path Registration Response messages sent.
Missing Mandatory TLV	The total number of missing mandatory TLVs in the Data-Path Registration Response messages sent.
TLV Value Invalid	The total number of Data-Path Registration Response messages sent with invalid TLV value.
Unknown TLV	The total number of Data-Path Registration Response messages sent with unknown TLV.
Duplicate TLV Found	The total number of Data-Path Registration Response messages sent with duplicate TLV.
No Session Found	The total number of Data-Path Registration Response messages sent without session information.
Data-Path Registration Ack Messages:	

Field	Description
Total Sent	The total number of Data-Path Registration Request Ack messages sent.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Total Received	The total number of Data-Path Registration Request Ack messages received.
Total Denied	The total number of Data-Path Registration Request Ack messages denied.
Total Discarded	The total number of Data-Path Registration Request Ack messages discarded.
Badly Formed	The total number of badly formed Data-Path Registration Request Ack messages.
Decode Error	The total number of decode errors in the Data-Path Registration Request Ack messages sent.
Unspecified Error	The total number of unspecified errors in the Data-Path Registration Request Ack messages sent.
Missing Mandatory TLV	The total number of missing mandatory TLVs in the Data-Path Registration Request Ack messages sent.
TLV Value Invalid	The total number of Data-Path Registration Request Ack messages sent with invalid TLV value.
Unknown TLV	The total number of Data-Path Registration Request Ack messages sent with unknown TLV.
Duplicate TLV Found	The total number of Data-Path Registration Request Ack messages sent with duplicate TLV.
No Session Found	The total number of Data-Path Registration Request Ack messages sent without session found.
Data-Path De-Registration Request Messages:	
Total Sent	The total number of Data-Path De-Registration Request messages sent.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Total Received	The total number of Data-Path De-Registration Request messages received.
Total Denied	The total number of Data-Path De-Registration Request messages denied.
Total Discarded	The total number of Data-Path De-Registration Request messages discarded.
Badly Formed	The total number of badly formed Data-Path De-Registration Request messages.
Decode Error	The total number of decode errors in the Data-Path De-Registration Request messages sent.

Field	Description
Unspecified Error	The total number of unspecified errors in the Data-Path De-Registration Request messages sent.
Missing Mandatory TLV	The total number of missing mandatory TLVs in the Data-Path De-Registration Request messages sent.
TLV Value Invalid	The total number of Data-Path De-Registration Request messages sent with invalid TLV value.
Unknown TLV	The total number of Data-Path De-Registration Request messages sent with unknown TLV.
Duplicate TLV Found	The total number of Data-Path De-Registration Request messages sent with duplicate TLV.
No Session Found	The total number of Data-Path De-Registration Request messages sent without session information.
Data-Path De-Registration Response Messages:	
Total Sent	The total number of Data-Path De-Registration Response messages sent.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Total Received	The total number of Data-Path De-Registration Response messages received.
Total Denied	The total number of Data-Path De-Registration Response messages denied.
Total Discarded	The total number of Data-Path De-Registration Response messages discarded.
Badly Formed	The total number of badly formed Data-Path De-Registration Response messages.
Decode Error	The total number of decode errors in the Data-Path De-Registration Response messages sent.
Unspecified Error	The total number of unspecified errors in the Data-Path De-Registration Response messages sent.
Missing Mandatory TLV	The total number of missing mandatory TLVs in the Data-Path De-Registration Response messages sent.
TLV Value Invalid	The total number of Data-Path De-Registration Response messages sent with invalid TLV value.
Unknown TLV	The total number of Data-Path De-Registration Response messages sent with unknown TLV.
Duplicate TLV Found	The total number of Data-Path De-Registration Response messages sent with duplicate TLV.

Field	Description
No Session Found	The total number of Data-Path De-Registration Response messages sent without session information.
Total ASNGW Sessions	The total number of ASNGW messages.

show asngw-service session peer-address

Table 137: show asngw-service session peer-address Command Output Descriptions

Field	Description
vv	Displays service and session state information. This column provides a code consisting of two characters. From left-to-right, the first character represents the **Call Type** that the subscriber is using. The possible call types are: • **A**: Anchor • **N**: Non-Anchor From left-to-right, the second character represents the **DP Status**. The possible data path status are: • **A**: Active • **I**: Idle
CALLID	The subscriber's call identification number.
MSID	The subscriber's Mobile Station Identification number.
NAI	The subscriber's Network Access Identifier.
Home Address	The IP address assigned to the subscriber's mobile node for the duration of the session.
Total Non-Anchor ASNGW Sessions	The total number of ASN GW sessions in non-anchor mode.
Total Anchor ASNGW Sessions	The total number of ASN GW sessions in anchor mode.
Total Active ASNGW Sessions	The total number of active ASN GW sessions including anchor and non-anchor mode.
Total Idle ASNGW Sessions	The total number of idle ASN GW sessions including anchor and non-anchor mode.
Total ASNGW Sessions	The total number of ASN GW sessions on chassis including all modes.

show asngw-service session summary

Table 138: show asngw-service session summary Command Output Descriptions

Field	Description
Total Non-Anchor ASNGW Sessions	The total number of ASN GW sessions in non-anchor mode.
Total Anchor ASNGW Sessions	The total number of ASN GW sessions in anchor mode.
Total Active ASNGW Sessions	The total number of active ASN GW sessions including anchor and non-anchor mode.
Total Idle ASNGW Sessions	The total number of idle ASN GW sessions including anchor and non-anchor mode.
Total ASNGW Sessions	The total number of ASN GW sessions on chassis including all modes.

show asngw-service statistics

Table 139: show asngw-service statistics Command Output Descriptions

Field	Description
Initial Network Entry Events	
MS Pre-Attach	Displays the MS pre-attach event statistics.
Attempted	The number of attempts made for an event.
Success	The number of successful attempts made for an event.
Failures	The number of failed attempts made for an event.
Authentications	Displays the authentication event statistics.
EAP	The total number of authentication/re-authentication attempts failed due to EAP.
Misc. Reason	The total number of authentication/re-authentication attempts failed due to miscellaneous reasons.
MS Attach	Displays the MS attach event statistics.
Re-Authentications	Displays the re-authentication event statistics.
Handover Events	
Intra ASN-GW Handovers	Displays the intra-ASN GW (inter BS) handover event statistics.
Inter ASN-GW Handovers	Displays the inter-ASN GW handover event statistics.
DP Pre-registration	Displays the data path pre-registration event statistics.

Field	Description
DP Registration	Displays the data path registration event statistics.
DP De-Registration	Displays the data path de-registration event statistics.
Path Modifications	Displays the data path modification statistics.
Idle Mode entry events	Displays the idle mode entry event statistics.
Idle Mode exit events	Displays the idle mode exit event statistics.
Paging initiation events	Displays the paging initiation event statistics.
Total Disconnects	Displays the reason statistics for the disconnection of session.
MSK Lifetime Expiry	The total number of disconnects due to Master Session Key lifetime expiry.
Auth Failures	The total number of disconnects due to authentication failure.
Admin Drops	The total number of disconnects due to administrator intervention.
De-registrations	The total number of disconnects due to de-registration request initiation.
Other Reasons	The total number of disconnects due to unspecified reasons.
Total R6/R4 Control Messages	Displays the statistics of total R4 and R6 control messages.
Sent	Total number of R4/R6 control messages sent.
Retransmissions Sent	Total number of R4/R6 control messages retransmitted.
Send Failures	Total number of R4/R6 control messages sent and failed.
Received	Total number of R4/R6 control messages received.
Accepted	Total number of R4/R6 control messages received and accepted.
Relayed	Total number of R4/R6 control messages received and relayed.
Denied	Total number of R4/R6 control messages received and denied.
Discarded	Total number of R4/R6 control messages received and discarded.
Badly Formed	Total number of badly formed R4/R6 control messages.
Decode Error	Total number of decode errors found in the R4/R6 control messages.
Unspecified Error	Total number of unspecified errors found in the R4/R6 control messages.
Missing Mandatory TLV	Total number of R4/R6 control messages received with missing mandatory TLVs.
TLV Value Invalid	Total number of R4/R6 control messages received with invalid TLV value.
Unknown TLV	Total number of R4/R6 control messages received with unknown TLV value.
Duplicate TLV Found	Total number of R4/R6 control messages received with duplicate TLV value.

Field	Description
No Session Found	Total number of R4/R6 control messages received without session information.
No Resource Drops	Total number of R4/R6 control messages received without resource drops.
Admin Prohibited	Total number of R4/R6 control messages received with admin prohibited.
Transaction Id. Error	Total number of R4/R6 control messages received with error in transaction id.
Key Change Success	Total number of R4/R6 control messages received with successful Key Change request.
Key Change Failures	Total number of R4/R6 control messages with failed Key Change request.
MS Initiated Re-Auth	Total number of R4/R6 control messages received with for MS initiated re-authentication.
BS Initiated Re-Auth	Total number of R4/R6 control messages received with for BS initiated re-authentication.
ASNGW Initiated Re-Auth	Total number of the re-authentications initiated from the ASN GW.
Total R4/R6 Data messages:	Displays the statistics of total R4 and R6 data messages.
GRE Receive:	
Total Packets Received	Total number of packets received by the system through GRE tunnel.
Total Bytes Received	Total number of bytes received by the system through GRE tunnel.
Protocol Type Error	Total number of encapsulated packets received through GRE tunnel with protocol type errors.
GRE Key Absent	Total number of GRE tunneled key absent errors received through GRE tunnel.
GRE Checksum Error	Total number of checksum errors that occurred in GRE tunnels received by this system.
Invalid Packet Length	Total number of encapsulated packets received with invalid packet lengths through GRE tunnel.
No Session found	Total number of errors that occurred due to no session being present in received tunnels.
Unspecified Error	Total number of data messages received with errors which are not specified in this table.
GRE Send:	
Total Packets Sent	Total number of packets sent by the system through GRE tunnel.
Total Bytes Sent	Total number of bytes sent by the system through GRE tunnel.
Send Error	Total number of errors that occurred while sending replies through GRE tunnel.

Field	Description
Unspecified Error	Total number of data messages sent with errors which are not specified in this table through GRE tunnel.
Total Sessions Connected	Historical count of the total number of ASNGW sessions setup on a per-service and a per-chassis basis.

show asngw-service statistics function-type ms-state-change

Table 140: show asngw-service statistics function-type ms-state-change Command Output Descriptions

Field	Description
Network Entry MS State Change Request Messages:	
Total Sent	The total number of Network Entry MS State Change Request messages sent.
Retransmissions Sent	The number of Network Entry MS State Change Request messages retransmitted.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Total Received	The total number of Network Entry MS State Change Request messages received.
Total Accepted	The total number of Network Entry MS State Change Request messages accepted.
Total Relayed	The total number of Network Entry MS State Change Request messages relayed.
Total Denied	The total number of Network Entry MS State Change Request messages denied.
Total Discarded	The total number of Network Entry MS State Change Request messages discarded.
Badly Formed	The total number of badly formed Network Entry MS State Change Request messages.
Decode Error	The total number of decode errors in the Network Entry MS State Change Request messages sent.
Unspecified Error	The total number of unspecified errors in the Network Entry MS State Change Request messages sent.
Missing Mandatory TLV	The total number of missing mandatory TLVs in the Network Entry MS State Change Request messages sent.
TLV Value Invalid	The total number of Network Entry MS State Change Request messages sent with invalid TLV value.
Unknown TLV	The total number of Network Entry MS State Change Request messages sent with unknown TLV.

Field	Description
Duplicate TLV Found	The total number of Network Entry MS State Change Request messages sent with duplicate TLV.
No Session Found	The total number of Network Entry MS State Change Request messages sent without session information.
No Resource Drops	Total number of R4/R6 control messages received without resource drops.
Admin Prohibited	Total number of R4/R6 control messages received with admin prohibited
Transaction Id. Error	Total number of R4/R6 control messages received with error in transaction id.
Congestion/Overloaded	Total number of R4/R6 control messages received with a congestion/overload error.
Messages:	
Sent	The total number of messages sent.
Total Received	The total number of messages received.
Total Denied	The total number of messages denied.
Total Discarded	The total number of messages discarded.
Badly Formed	The total number of badly formed messages.
Decode Error	The total number of decode errors in the messages sent.
Unspecified Error	The total number of unspecified errors in the messages sent.
Missing Mandatory TLV	The total number of missing mandatory TLVs in the messages sent.
TLV Value Invalid	The total number of messages sent with invalid TLV value.
Unknown TLV	The total number of messages sent with unknown TLV.
Duplicate TLV Found	The total number of messages sent with duplicate TLV.
No Session Found	The total number of messages sent without session information.
Network Entry MS State Change Directive Messages:	
Total Sent	The total number of Network Entry MS State Change Directive messages sent.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Total Received	The total number of Network Entry MS State Change Directive messages received.
Total Denied	The total number of Network Entry MS State Change Directive messages denied.
Total Discarded	The total number of Network Entry MS State Change Directive messages discarded.

Field	Description
Badly Formed	The total number of badly formed Network Entry MS State Change Directive messages.
Decode Error	The total number of decode errors in the Network Entry MS State Change Directive messages sent.
Unspecified Error	The total number of unspecified errors in the Network Entry MS State Change Directive messages sent.
Missing Mandatory TLV	The total number of missing mandatory TLVs in the Network Entry MS State Change Directive messages sent.
TLV Value Invalid	The total number of Network Entry MS State Change Directive messages sent with invalid TLV value.
Unknown TLV	The total number of Network Entry MS State Change Directive messages sent with unknown TLV.
Duplicate TLV Found	The total number of Network Entry MS State Change Directive messages sent with duplicate TLV.
No Session Found	The total number of Network Entry MS State Change Directive Request messages sent without session information.
Network Entry MS State Change Ack Messages:	
Total Sent	The total number of Network Entry MS State Change Ack messages sent.
Total Received	The total number of Network Entry MS State Change Ack messages received.
Total Denied	The total number of Network Entry MS State Change Ack messages denied.
Total Discarded	The total number of Network Entry MS State Change Ack messages discarded.
Badly Formed	The total number of badly formed Network Entry MS State Change Ack messages.
Decode Error	The total number of decode errors in the Network Entry MS State Change Ack messages sent.
Unspecified Error	The total number of unspecified errors in the Network Entry MS State Change Ack messages sent.
Missing Mandatory TLV	The total number of missing mandatory TLVs in the Network Entry MS State Change Ack messages sent.
TLV Value Invalid	The total number of Network Entry MS State Change Ack messages sent with invalid TLV value.
Unknown TLV	The total number of Network Entry MS State Change Ack messages sent with unknown TLV.
Duplicate TLV Found	The total number of Network Entry MS State Change Ack messages sent with duplicate TLV.

Field	Description
No Session Found	The total number of Network Entry MS State Change Ack messages sent without session information.

show asngw-service statistics function-type ms-state-change

Table 141: show asngw-service statistics function-type ms-state-change Command Output Descriptions 1

Field	Description
R6 MS Pre-Attachment Request messages	
Total Sent	The total number of R6 MS Pre-Attachment Request messages sent.
Retransmissions Sent	The number of R6 MS Pre-Attachment Request messages retransmitted.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Total Received	The total number of R6 MS Pre-Attachment Request messages received.
Total Accepted	The total number of R6 MS Pre-Attachment Request messages accepted.
Total Relayed	The total number of R6 MS Pre-Attachment Request messages relayed.
Total Denied	The total number of R6 MS Pre-Attachment Request messages denied.
Total Discarded	The total number of R6 MS Pre-Attachment Request messages discarded.
Badly Formed	The total number of badly formed R6 MS Pre-Attachment Request messages.
Decode Error	The total number of decode errors in the R6 MS Pre-Attachment Request messages sent.
Unspecified Error	The total number of unspecified errors in the R6 MS Pre-Attachment Request messages sent.
Missing Mandatory TLV	The total number of missing mandatory TLVs in the R6 MS Pre-Attachment Request messages sent.
TLV Value Invalid	The total number of R6 MS Pre-Attachment Request messages sent with invalid TLV value.
Unknown TLV	The total number of R6 MS Pre-Attachment Request messages sent with unknown TLV.
Duplicate TLV Found	The total number of R6 MS Pre-Attachment Request messages sent with duplicate TLV.

Field	Description
No Session Found	The total number of R6 MS Pre-Attachment Request messages sent without session information.
No Resource Drops	Total number of R4/R6 control messages received without resource drops.
Admin Prohibited	Total number of R4/R6 control messages received with admin prohibited
Transaction Id. Error	Total number of R4/R6 control messages received with error in transaction id.
Congestion/Overloaded	Total number of R4/R6 control messages received congestion/overload error.
• R6 MS Pre-attachment Request Messages • R6 MS Pre-attachment Response Messages • R6 MS Pre-attachment Ack Messages • R6 MS Attachment Request Messages • R6 MS Attachment Response Messages • R6 MS Attachment Ack Messages • R6 Key Change Directive Messages • R4 Key Change Directive Messages • R6 Key Change Ack Messages • R4 Key Change Ack Messages • R6 Network Exit MS State Change Request Messages • R4 Network Exit MS State Change Request Messages • R6 Network Exit MS State Change Response Messages • R4 Network Exit MS State Change Response Messages	
Total Sent	The total number of messages sent.
Retransmissions Sent	The number of messages retransmitted.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Total Received	The total number of messages received.
Total Accepted	The total number of messages accepted.
Total Relayed	The total number of messages relayed.
Total Denied	The total number of messages denied.
Total Discarded	The total number of messages discarded.
Badly Formed	The number of badly formed messages.
Decode Error	The number of decode errors in the messages sent.
Unspecified Error	The number of unspecified errors in the messages sent.
Missing Mandatory TLV	The number of missing mandatory TLVs in the messages sent.

Field	Description
TLV Value Invalid	The number of messages sent with invalid TLV value.
Unknown TLV	The number of messages sent with unknown TLV.
Duplicate TLV Found	The number of messages sent with duplicate TLV.
No Session Found	The number of messages sent without session information.
No Resource Drops	The number of R4/R6 control messages received without resource drops.
Admin Prohibited	The number of R4/R6 control messages received with admin prohibited
Transaction Id. Error	The number of R4/R6 control messages received with error in transaction id.

show asngw-service statistics verbose

Table 142: show asngw-service statistics verbose Command Output Descriptions

Field	Description
Message Groups	
R6 MS Pre-Attachment Request messages	Groups the statistics of the MS pre-attachment request messages on R6 interface.
R6 MS Pre-Attachment Response messages	Groups the statistics of the MS pre-attachment response messages on R6 interface.
R6 MS Pre-Attachment Ack messages	Groups the statistics of the MS pre-attachment ACK messages on R6 interface.
R6 Network Exit MS State Change Request messages	Groups the statistics of the MS state change request messages on network exit R6 interface.
R4 Network Exit MS State Change Request messages	Groups the statistics of the MS state change request messages on network exit R4 interface.
R6 Network Exit MS State Change Response messages	Groups the statistics of the MS state change response messages on network exit R6 interface.
R4 Network Exit MS State Change Response messages	Groups the statistics of the MS state change response messages on network exit R4 interface.
R6 Context Request messages	Groups the statistics of the context request messages on R6 interface.
R4 Context Request messages	Groups the statistics of the context request messages on R4 interface.
R6 Context Report messages	Groups the statistics of the context report messages on R6 interface.
R4 Context Report messages	Groups the statistics of the context report messages on R4 interface.
R6 Context Ack messages	Groups the statistics of the context ACK messages on R6 interface.
R4 Context Ack messages	Groups the statistics of the context ACK messages on R4 interface.

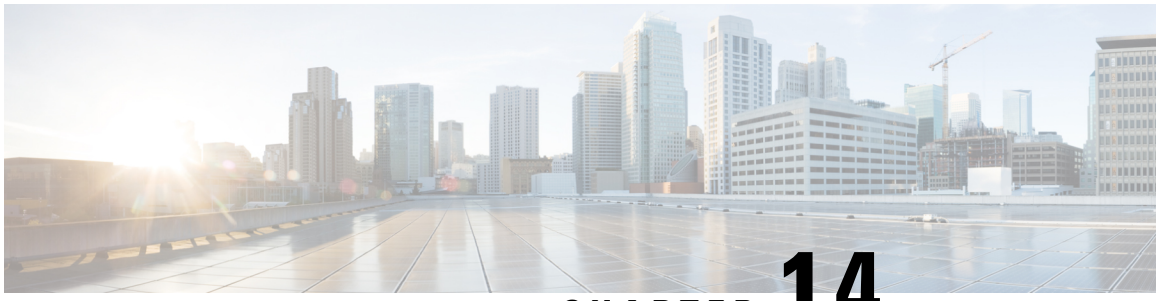
Field	Description
R6 Authentication Relay EAP Transfer messages	Groups the statistics of the EAP authentication relay transfer messages on R6 interface.
R4 Authentication Relay EAP Transfer messages	Groups the statistics of the EAP authentication relay transfer messages on R4 interface.
R6 Authentication Relay EAP Start messages	Groups the statistics of the EAP authentication relay start messages on R6 interface.
R4 Authentication Relay EAP Start messages	Groups the statistics of the EAP authentication relay start messages on R4 interface.
R6 MS Attachment Request messages	Groups the statistics of the MS attachment request messages on R6 interface.
R6 MS Attachment Response messages	Groups the statistics of the MS attachment response messages on R6 interface.
R6 MS Attachment Ack messages	Groups the statistics of the MS attachment ACK messages on R6 interface.
R6 Data-Path Pre-Registration Request messages	Groups the statistics of the data path pre-registration request messages on R6 interface.
R4 Data-Path Pre-Registration Request messages	Groups the statistics of the data path pre-registration request messages on R4 interface.
R6 Data-Path Pre-Registration Response messages	Groups the statistics of the data path pre-registration response messages on R6 interface.
R4 Data-Path Pre-Registration Response messages	Groups the statistics of the data path pre-registration response messages on R4 interface.
R6 Data-Path Pre-Registration Ack messages	Groups the statistics of the data path pre-registration ACK messages on R6 interface.
R4 Data-Path Pre-Registration Ack messages	Groups the statistics of the data path pre-registration ACK messages on R4 interface.
R6 Data-Path Registration Request messages	Groups the statistics of the data path registration request messages on R6 interface.
R4 Data-Path Registration Request messages	Groups the statistics of the data path registration request messages on R4 interface.
R6 Data-Path Registration Response messages	Groups the statistics of the data path registration response messages on R6 interface.
R4 Data-Path Registration Response messages	Groups the statistics of the data path registration response messages on R4 interface.
R6 Data-Path Registration Ack messages	Groups the statistics of the data path registration ACK messages on R6 interface.
R4 Data-Path Registration Ack messages	Groups the statistics of the data path registration ACK messages on R4 interface.

Field	Description
R6 Data-Path De-Registration Request messages	Groups the statistics of the data path de-registration request messages on R6 interface.
R4 Data-Path De-Registration Request messages	Groups the statistics of the data path de-registration request messages on R4 interface.
R6 Data-Path De-Registration Response messages	Groups the statistics of the data path de-registration response messages on R6 interface.
R4 Data-Path De-Registration Response messages	Groups the statistics of the data path de-registration response messages on R4 interface.
R6 Data-Path De-Registration Ack messages	Groups the statistics of the data path de-registration ACK messages on R6 interface.
R4 Data-Path De-Registration Ack messages	Groups the statistics of the data path de-registration ACK messages on R4 interface.
R6 Key Change Directive messages	Groups the statistics of the key change directive messages on R6 interface.
R4 Key Change Directive messages	Groups the statistics of the key change directive messages on R4 interface.
R6 Key Change Ack messages	Groups the statistics of the key change ACK messages on R6 interface.
R4 Key Change Ack messages	Groups the statistics of the key change ACK messages on R4 interface.
R6 Key Change Confirm messages	Groups the statistics of the key change confirm messages on R6 interface.
R4 Key Change Confirm messages	Groups the statistics of the key change confirm messages on R4 interface.
R6 Cmac Key Count Update Msg	Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count update messages on R6 interface.
R4 Cmac Key Count Update Msg	Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count update messages on R4 interface.
R6 Cmac Key Count Ack Msg	Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count ACK messages on R6 interface.
R4 Cmac Key Count Ack Msg	Groups the statistics of the Cipher-based Message Authentication Code (CMAC) key count ACK messages on R46 interface.
R6 Handoff Request Msg	Groups the statistics of the hand-off request messages on R6 interface.
R4 Handoff Request Msg	Groups the statistics of the hand-off request messages on R4 interface.
R6 Handoff Response Msg	Groups the statistics of the hand-off response messages on R6 interface.
R4 Handoff Response Msg	Groups the statistics of the hand-off response messages on R4 interface.
R6 Handoff Ack Msg	Groups the statistics of the hand-off ACK messages on R6 interface.
R4 Handoff Ack Msg	Groups the statistics of the hand-off ACK messages on R4 interface.

Field	Description
R6 Handoff Confirm Msg	Groups the statistics of the hand-off confirm messages on R6 interface.
R4 Handoff Confirm Msg	Groups the statistics of the hand-off confirm messages on R4 interface.
R6 Handoff Complete Msg	Groups the statistics of the hand-off complete messages on R6 interface.
R4 Handoff Complete Msg	Groups the statistics of the hand-off complete messages on R4 interface.
R4 IM Entry State Change Req Msg	Groups the statistics of the idle mode entry state change request messages on R4 interface.
R4 IM Entry State Change Rsp Msg	Groups the statistics of the idle mode entry state change response messages on R4 interface.
R4 IM Entry State Change Ack Msg	Groups the statistics of the idle mode entry state change ACK messages on R4 interface.
R4 Anchor PC Indication Msg	Groups the statistics of anchor paging controller (PC) indication messages on R4 interface.
R4 Anchor PC Ack Msg	Groups the statistics of anchor paging controller (PC) ACK messages on R4 interface.
R4 IM Exit State Change Req Msg	Groups the statistics of the idle mode exit state change request messages on R4 interface.
R4 IM Exit State Change Rsp Msg	Groups the statistics of the idle mode exit state change response messages on R4 interface.
R4 Initiate Paging Req Msg	Groups the statistics of the initiated paging request messages on R4 interface.
R4 Initiate Paging Rsp Msg	Groups the statistics of the initiated paging response messages on R4 interface.
R4 Delete MS Entry Req Msg	Groups the statistics of the request messages to delete the MS entry request on R4 interface.
R4 Delete MS Entry Rsp Msg	Groups the statistics of the messages sent in response of delete message for the MS entry request on R4 interface.
R6 Unknown messages	Groups the statistics of the unknown type of request messages on R6 interface.
R4 Unknown messages	Groups the statistics of the unknown type of request messages on R4 interface.
Message Statistics	
Total Sent	The total number of this type of message sent on specific interface.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Retransmissions Sent	The number of this type of message re-transmitted on specific interface.
Total Received	The total number of this type of message received on specific interface.

Field	Description
Total Accepted	The total number of this type of message accepted on specific interface.
Total Relayed	The total number of this type of message relayed on specific interface.
Total Denied	The total number of this type of message denied on specific interface.
Total Discarded	The total number of this type of message discarded on specific interface.
Badly Formed	The number of badly formed this type of message on specific interface.
Decode Error	The number of this type of message on specific interface with decode error.
Unspecified Error	The number of this type of message on specific interface with unspecified error.
Missing Mandatory TLV	The number of this type of message on specific interface with missing mandatory TLVs.
TLV Value Invalid	The number of this type of message unspecific interface with invalid TLV value.
Unknown TLV	The number of this type of message on specific interface with unknown TLVs.
Duplicate TLV Found	The number of this type of message on specific interface with duplicate TLVs.
No session Found	The number of this type of message on specific interface without any session information.
No Resource Drops	The number of this type of message received without resource drops.
Admin Prohibited	The number of this type of message received with admin prohibited
Transaction Id. Error	The number of this type of message on specific interface. with transaction id error.
Data messages	
GRE R6 Receive	The number of data message received with through GRE tunnel on R6 interface.
GRE R4 Receive	The number of data message received through GRE tunnel on R4 interface.
Packets Received	The number of data packets received/sent through GRE tunnel on R4/R6 interface.
Bytes Received	The number of data bytes received/sent through GRE tunnel on R4/R6 interface.
Protocol Type Error	The number of data message received/sent with protocol type error through GRE tunnel on R4/R6 interface.
GRE Key Absent	The number of data message received/sent without GRE key through GRE tunnel on R4/R6 interface.
GRE Checksum Error	The number of data message received/sent with checksum error through GRE tunnel on R4/R6 interface.
Invalid Packet Length	The number of data message received/sent with invalid packet length through GRE tunnel on R4/R6 interface.

Field	Description
No Session found	The number of data message received/sent without any session information through GRE tunnel on R4/R6 interface.
Unspecified Error	The number of data message received/sent with unknown error through GRE tunnel on R4/R6 interface.
GRE R6 Send	The number of data message sent through GRE tunnel on R6 interface.
GRE R4 Send	The number of data message sent through GRE tunnel on R4 interface.
Packets Sent	The number of data packets sent through GRE tunnel on R4/R6 interface.
Send Error	The number of data message sent with error through GRE tunnel on R4/R6 interface.
Bytes Sent	The number of data bytes sent through GRE tunnel on R4/R6 interface.
Unspecified Error	The number of data bytes sent with unspecified error on R4/R6 interface.
Total Sessions Connected	The total number of sessions connected on R4/R6 interface.



CHAPTER 14

show asnpc-service

This chapter includes the **show asnpc-service** command output tables.

- show asnpc-service all, on page 539
- show asnpc-service session all, on page 540
- show asnpc-service session full, on page 541
- show asnpc-service session counters verbose, on page 543
- show asnpc-service statistics verbose, on page 546

show asnpc-service all

Table 143: show asnpc-service all Command Output Descriptions

Field	Description
Service name	The ASN GW service name.
Context	The context in which the service is configured.
Anchor PC ID	The anchor paging controller identifier.
Bind	The bind status.
Max Subscribers	The maximum number of subscribers.
IP address	IP address of ASN GW server where this service is located.
UDP Port	The UDP port number.
Service Status	Status of this service.
Maximum number of retransmissions	The maximum number of retransmissions.
Maximum number of paging-announce retransmissions	The maximum number of paging-announce retransmissions.
Retransmission timeout	The retransmission timeout duration.
Setup timeout	The session setup timeout duration.

Field	Description
Active-relay timeout	Indicates the timeout duration for active relay of R4 or R6 messages.
Paging-announce timeout	Indicates the paging announce timeout duration in seconds.
Paging-announce retransmission timeout	Indicates the paging announce retransmission timeout duration in seconds.
Policy transaction-id-validation	Possible values are: • ALLOW: Enforce tid validation procedure as per NWG specification, section 3.1. • DISALLOW: Do not enforce tid validation procedure as per NWG specification, section 3.1.
Policy zero-function-type	Possible values are: • ALLOW: If configured, function type is not considered for transaction id generation/validation. • DISALLOW: If configured, function type is considered for transaction id generation/validation.
Transaction Id. Seed	If configured, initial value of tid is set to this configured value, otherwise, initial value of tid is set to a random number.
Peer ASNGW address	The list of ASN GW IP addresses with which the PCLR is permitted to interact.
Number of Paging Groups configured	The total number of paging groups configured for this service.
Paging Group	The paging group ID associated with this service.
Paging Offset	The offsets configured for the Paging Group.
Number of MSIDs	The current total number of MNs assigned/using the offset.

show asnpc-service session all

Table 144: show asnpc-service session all Command Output Descriptions

Field	Description
CALLID	The subscriber's call identification number.
MSID	The subscriber's Mobile Station Identification number.
BS/PA Address	IP address of the base-station or paging agent.

Field	Description
Session Type	Indicates the type of ASN PC session. Possible type of sessions are: • Anchor • Non-anchor
Total ASNPC Sessions	The total number of ASN PC sessions on chassis including all modes.

show asnpc-service session full

Table 145: show asnpc-service session full Command Output Descriptions

Field	Description
Username	The subscriber's user name.
Callid	The subscriber's call identification number.
MSID	The subscriber's Mobile Station Identification number.
ASNPC Service Address	IP address of system where ASN PC service is running.
BS/PA Address	IP address of the base-station or paging agent.
BS ID	The identifier of base station. Generally it is MAC address of the BS.
Authenticator Address	IP address of the authenticator ASN GW.
DPF/ASNGW Address	IP address of the system where data path function/ASN GW service is running.
Idle-mode timeout	Indicates the total configured timeout duration in seconds for an MS to enter the idle mode from active mode.
Remaining Idle Mode Timeout	Indicates the remaining timeout duration in seconds for an MS to enter the idle mode from active mode.
Paging Information	
Paging Cycle	Indicates the number of paging cycles happened in this ASN PC service session.
Paging Offset	Indicates the paging offset for paging announce.
Paging Group ID	Indicates the paging group identifier which contains the group of paging agents bounded with this paging controller session.
Paging Interval	Interval time in seconds between two paging announces.
MS Information	
Idle Mode Authorization Indication	Indicates the idle mode authorization status.

Field	Description
SA Descriptor Information	Indicates the Security Association description information. SA descriptor is a compound attribute whose sub-attributes describe the properties of a Security Association (SA). These properties include the SA ID, the SA type, the SA service type, and the cryptographic suite employed within the SA.
SA ID	Indicates the identifier for the security association.
SA Type	Indicates the types of security association. Possible values are:
Cryptographic Suite	Indicates the cryptographic suite employed within the security association. Possible values are: • 0: Primary SA • 1: Static SA • 3: Dynamic SA • 4. Group SA • 5: MBS SA
SA Service Type	Indicates the service types of the corresponding SA type. Possible values are: • 0: Unicast service • 1: Group multicast service • 2: MBS service Note that this shall be defined only when SA type is Static SA or Dynamic SA.
SA Index	Indicates the index of security association.
Older/Newer TEK Parameters	Indicates the older or newer Traffic Encryption Key (TEK) parameters involved.
TEK TLV (in hex)	Indicates the TEK total length value in hexadecimal.
TEK Sequence Number	Indicates the TEK sequence number.
TEK Lifetime	Indicates the TEK lifetime in seconds.
PN Counter	Indicates the packet number counter in downlink direction that are used for encryption and decryption by the Base Station.
RxPN Counter	Indicates the packet number counter in uplink direction that are used for encryption and decryption by the Base Station.
Total ASNPC Sessions	The total number of ASN PC sessions on chassis including all modes.

show asnpc-service session counters verbose

Table 146: show asnpc-service session counters verbose Command Output Descriptions

Field	Description
Username	The subscriber's user name.
Callid	The subscriber's call identification number.
MSID	The subscriber's Mobile Station Identification number.
Message Groups	
R6 Idle Mode Entry MS State Change Request Msg	Groups the statistics of the Idle Mode Entry MS State Change Request messages on R6 interface.
R6 Idle Mode Entry MS State Change Response Msg	Groups the statistics of the Idle Mode Entry MS State Change Response messages on R6 interface.
R6 Idle Mode Entry MS State Change Ack Msg	Groups the statistics of the Idle Mode Entry MS State Change Ack messages on R6 interface.
R6 Idle Mode Exit MS State Change Request Msg	Groups the statistics of the Idle Mode Exit MS State Change Request messages on R6 interface.
R6 Idle Mode Exit MS State Change Response Msg	Groups the statistics of the Idle Mode Exit MS State Change Response messages on R6 interface.
R6 Location Update Request Msg	Groups the statistics of the Location Update Request messages on R6 interface.
R6 Location Update Response Msg	Groups the statistics of the Location Update Response messages on R6 interface.
R6 Location Update Confirm Msg	Groups the statistics of the Location Update Confirm messages on R6 interface.
R6 Paging Announce Msg	Groups the statistics of the Paging Announce messages on R6 interface.
R4 Idle Mode Entry MS State Change Request Msg	Groups the statistics of the Idle Mode Entry MS State Change Request messages on R4 interface.
R4 Idle Mode Entry MS State Change Response Msg	Groups the statistics of the Idle Mode Entry MS State Change Response messages on R4 interface.
R4 Idle Mode Entry MS State Change Ack Msg	Groups the statistics of the Idle Mode Entry MS State Change Ack messages on R4 interface.
R4 Idle Mode Exit MS State Change Request Msg	Groups the statistics of the Idle Mode Exit MS State Change Request messages on R4 interface.
R4 Idle Mode Exit MS State Change Response Msg	Groups the statistics of the Idle Mode Exit MS State Change Response messages on R4 interface.
R4 Network Exit MS State Change Request Msg	Groups the statistics of the Network Exit MS State Change Request messages on R4 interface.

Field	Description
R4 Network Exit MS State Change Response Msg	Groups the statistics of the Network Exit MS State Change Response messages on R4 interface.
R4 Delete MS Entry Request Msg	Groups the statistics of the Delete MS Entry Request messages on R4 interface.
R4 Delete MS Entry Response Msg	Groups the statistics of the Delete MS Entry Response messages on R4 interface.
R4 Initiate Paging Request Msg	Groups the statistics of the Initiate Paging Request messages on R4 interface.
R4 Initiate Paging Response Msg	Groups the statistics of the Initiate Paging Response messages on R4 interface.
R4 Anchor PC Ind Msg	Groups the statistics of the Anchor Paging Controller Indicator messages on R4 interface.
R4 Anchor PC Ack Msg	Groups the statistics of the Anchor Paging Controller Ack messages on R4 interface.
R4 Context Request Msg	Groups the statistics of the Context Request messages on R4 interface.
R4 Context Report Msg	Groups the statistics of the Context Report messages on R4 interface.
R6/R4 Unknown Messages	Groups the statistics of the Unknown type of messages on R6 and/or R4 interface.
Message Statistics	
Total Sent	The total number of this type of message sent on specific interface.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Retransmissions Sent	The total number of this type of message re-transmitted on specific interface.
Total Received	The total number of this type of message received on specific interface.
Total Accepted	The total number of this type of message accepted on specific interface.
Total Relayed	The total number of this type of message relayed on specific interface.
Total Denied	The total number of this type of message denied on specific interface.
Total Discarded	The total number of this type of message discarded on specific interface.
Badly Formed	The total number of badly formed this type of message on specific interface.
Decode Error	The total number of this type of message on specific interface with decode error.
Unspecified Error	The total number of this type of message on specific interface with unspecified error.
Paging Config Error	The total number of this type of errors messages on specified interface occurred. This error occurs when paging node id (BS id) is not configured in configured paging groups.

Field	Description
Missing Mandatory TLV	The total number of this type of message on specific interface with missing mandatory TLVs.
TLV Value Invalid	The total number of this type of message on specific interface with invalid TLV value.
Unknown TLV	The total number of this type of message on specific interface with unknown TLVs.
Duplicate TLV Found	The total number of this type of message on specific interface with duplicate TLVs.
No session Found	The total number of this type of message on specific interface without any session information.
Transaction Id. Error	The total number of this type of message on specific interface. with transaction id error.
Data messages	
GRE R6 Receive	The total number of data message received with through GRE tunnel on R6 interface.
GRE R4 Receive	The total number of data message received through GRE tunnel on R4 interface.
Packets Received	The total number of data packets received/sent through GRE tunnel on R4/R6 interface.
Bytes Received	The total number of data bytes received/sent through GRE tunnel on R4/R6 interface.
Protocol Type Error	The total number of data message received/sent with protocol type error through GRE tunnel on R4/R6 interface.
GRE Key Absent	The total number of data message received/sent without GRE key through GRE tunnel on R4/R6 interface.
GRE Checksum Error	The total number of data message received/sent with checksum error through GRE tunnel on R4/R6 interface.
Invalid Packet Length	The total number of data message received/sent with invalid packet length through GRE tunnel on R4/R6 interface.
No Session found	The total number of data message received/sent without any session information through GRE tunnel on R4/R6 interface.
Unspecified Error	The total number of data message received/sent with unknown error through GRE tunnel on R4/R6 interface.
GRE R6 Send	The total number of data message sent through GRE tunnel on R6 interface.
GRE R4 Send	The total number of data message sent through GRE tunnel on R4 interface.
Packets Sent	The total number of data packets sent through GRE tunnel on R4/R6 interface.

Field	Description
Send Error	The total number of data message sent with error through GRE tunnel on R4/R6 interface.
Bytes Sent	The total number of data bytes sent through GRE tunnel on R4/R6 interface.

show asnpc-service statistics verbose

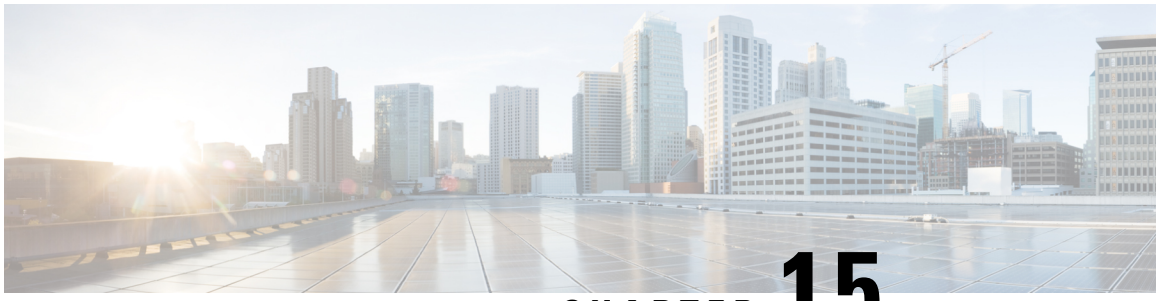
Table 147: show asnpc-service statistics verbose Command Output Descriptions

Field	Description
Message Groups	
R6 Idle Mode Entry MS State Change Request Msg	Groups the statistics of the Idle Mode Entry MS State Change Request messages on R6 interface.
Message Statistics	
Total Sent	The total number of this type of message sent on specific interface.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Retransmissions Sent	The total number of this type of message re-transmitted on specific interface.
Total Received	The total number of this type of message received on specific interface.
Total Accepted	The total number of this type of message accepted on specific interface.
Total Relayed	The total number of this type of message relayed on specific interface.
Total Denied	The total number of this type of message denied on specific interface.
Total Discarded	The total number of this type of message discarded on specific interface.
Badly Formed	The number of badly formed this type of message on specific interface.
Decode Error	The number of this type of message on specific interface with decode error.
Unspecified Error	The number of this type of message on specific interface with unspecified error.
Missing Mandatory TLV	The number of this type of message on specific interface with missing mandatory TLVs.
TLV Value Invalid	The number of this type of message on specific interface with invalid TLV value.
Unknown TLV	The number of this type of message on specific interface with unknown TLVs.
Duplicate TLV Found	The number of this type of message on specific interface with duplicate TLVs.

Field	Description
No session Found	The number of this type of message on specific interface without any session information.
No Resource Drops	The number of this type of message on specific interface without resource drops.
Admin Prohibited	The number of this type of message on specific interface with admin prohibited.
Transaction Id. Error	The number of this type of message on specific interface. with transaction id error.
Congestion/Overloaded	Number of R4/R6 control messages received with a congestion/overload error.
Message Groups	
R6 Idle Mode Entry MS State Change Response Msg	Groups the statistics of the Idle Mode Entry MS State Change Response messages on R6 interface.
R6 Idle Mode Entry MS State Change Ack Msg	Groups the statistics of the Idle Mode Entry MS State Change Ack messages on R6 interface.
R6 Idle Mode Exit MS State Change Request Msg	Groups the statistics of the Idle Mode Exit MS State Change Request messages on R6 interface.
R6 Idle Mode Exit MS State Change Response Msg	Groups the statistics of the Idle Mode Exit MS State Change Response messages on R6 interface.
R6 Location Update Request Msg	Groups the statistics of the Location Update Request messages on R6 interface.
R6 Location Update Response Msg	Groups the statistics of the Location Update Response messages on R6 interface.
R6 Location Update Confirm Msg	Groups the statistics of the Location Update Confirm messages on R6 interface.
R6 Paging Announce Msg	Groups the statistics of the Paging Announce messages on R6 interface.
R4 Idle Mode Entry MS State Change Request Msg	Groups the statistics of the Idle Mode Entry MS State Change Request messages on R4 interface.
R4 Idle Mode Entry MS State Change Response Msg	Groups the statistics of the Idle Mode Entry MS State Change Response messages on R4 interface.
R4 Idle Mode Entry MS State Change Ack Msg	Groups the statistics of the Idle Mode Entry MS State Change Ack messages on R4 interface.
R4 Idle Mode Exit MS State Change Request Msg	Groups the statistics of the Idle Mode Exit MS State Change Request messages on R4 interface.
R4 Idle Mode Exit MS State Change Response Msg	Groups the statistics of the Idle Mode Exit MS State Change Response messages on R4 interface.
R4 Initiate Paging Request Msg	Groups the statistics of the Initiate Paging Request messages on R4 interface.
R4 Initiate Paging Response Msg	Groups the statistics of the Initiate Paging Response messages on R4 interface.
R4 Location Update Request Msg	Groups the statistics of the Location Update Request messages on R4 interface.

Field	Description
R4 Location Update Response Msg	Groups the statistics of the Location Update Response messages on R4 interface.
R4 Location Update Confirm Msg	Groups the statistics of the Location Update Confirm messages on R4 interface.
R4 Network Exit MS State Change Request Msg	Groups the statistics of the Network Exit MS State Change Request messages on R4 interface.
R4 Network Exit MS State Change Response Msg	Groups the statistics of the Network Exit MS State Change Response messages on R4 interface.
R4 Delete MS Entry Request Msg	Groups the statistics of the Delete MS Entry Request messages on R4 interface.
R4 Delete MS Entry Response Msg	Groups the statistics of the Delete MS Entry Response messages on R4 interface.
R4 Anchor PC Ind Msg	Groups the statistics of the Anchor Paging Controller Indicator messages on R4 interface.
R4 Anchor PC Ack Msg	Groups the statistics of the Anchor Paging Controller Ack messages on R4 interface.
R4 PC Relocation Ind Msg	Groups the statistics of the PC Relocation Ind messages on the R4 interface.
R4 PC Relocation Ack Msg	Groups the statistics of the PC Relocation Ack messages on the R4 interface.
R4 Context Request Msg	Groups the statistics of the Context Request messages on R4 interface.
R4 Context Report Msg	Groups the statistics of the Context Report messages on R4 interface.
R4 CMAC Key Count Update Msg	Groups the statistics of the CMAC Key Count Update messages on the R4 interface.
R4 CMAC Key Count Ack Msg	Groups the statistics of the CMAC Key Count Ack messages on the R4 interface.
R6 Keep Alive Request Msg	Groups the statistics of the R6 Keep Alive Request messages on the R4 interface.
R6 Keep Alive Response Msg	Groups the statistics of the R6 Keep Alive Responsemessages on the R4 interface.
Total Sessions Connected	Groups the statistics of the CMAC Key Count Ack messages on the R4 interface.
R6/R4 Unknown Messages	Groups the statistics of the Unknown type of messages on R6 and/or R4 interface.
Message Statistics	
Total Sent	The total number of this type of message sent on specific interface.
Total Send Failures	The total number of failures occurred during transaction id generation and message not sent for specific interface. This counter is used to count the error while sending the R6/R4 packets.
Retransmissions Sent	The number of this type of message re-transmitted on specific interface.
Total Received	The total number of this type of message received on specific interface.
Total Accepted	The total number of this type of message accepted on specific interface.

Field	Description
Total Relayed	The total number of this type of message relayed on specific interface.
Total Denied	The total number of this type of message denied on specific interface.
Total Discarded	The total number of this type of message discarded on specific interface.
Badly Formed	The number of badly formed this type of message on specific interface.
Decode Error	The number of this type of message on specific interface with decode error.
Unspecified Error	The number of this type of message on specific interface with unspecified error.
Missing Mandatory TLV	The number of this type of message on specific interface with missing mandatory TLVs.
TLV Value Invalid	The number of this type of message on specific interface with invalid TLV value.
Unknown TLV	The number of this type of message on specific interface with unknown TLVs.
Duplicate TLV Found	The number of this type of message on specific interface with duplicate TLVs.
No session Found	The number of this type of message on specific interface without any session information.
No Resource Drops	The number of this type of message on specific interface without resource drops.
Admin Prohibited	The number of this type of message on specific interface with admin prohibited.
Transaction Id. Error	The number of this type of message on specific interface. with transaction id error.



CHAPTER 15

show bcmcs

This chapter includes the **show bcmcs** command output tables.

- show bcmcs counters all, on page 551
- show bcmcs statistics, on page 553

show bcmcs counters all

Table 148: show bcmcs counters all Command Output Descriptions

Field	Description
Username	BCMCS group username for this output.
Callid	Call ID for this output.
Flow-id	Flow ID for this output.
BCMCS Service Request/Reply	
Renew SRQ Accepted	The total number of service request renewals accepted.
Discarded	The total number of service request renewals discarded.
Response Send Error	The total number of service replies for which errors were experienced during transmission.
BCMCS Registration Request/Reply	
Renew RRQ Accepted	The total number of registration request renewals accepted.
Discarded	The total number of registration request renewals discarded.
Response Send Error	The total number of registration replies for which errors were experienced during transmission.
BCMCS Registration Update/Ack	
Initial Update Transmitted	The total number of registration updates that have been transmitted.
Update Retransmitted	The total number of registration updates that have been re-transmitted.

Field	Description
Denied	The total number of registration updates that have been denied by the PCF.
Not Acknowledged	The total number of registration updates and/or acknowledgements that have not been acknowledged by the PCF.
Reg Ack Received	The total number of registration acknowledgements that have been received.
Reg Ack Discarded	The total number of registration acknowledgements that have been discarded.
Update Send Error	The total number of registration updates for which errors were experienced during transmission.
BCMCS Registration Update Send Reason	
Lifetime Expiry	The total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session.
Upper Layer Initiated	The total number of registration updates that were initiated by upper processing layers.
Other Reasons	The total number of registration updates that were sent due to reasons other than those listed here.
Session Manager Exited	The total number of registration updates that were sent due to the termination of Session Manager tasks. **NOTE:** If any data is reported for this field, there may be an issue with either the software or hardware. If you continue to experience problems, refer to the System Administration and Administration Reference for information on troubleshooting the problem.
BCMCS Registration Update Denied	
Reason Unspecified	The total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified).
Admin Prohibited	The total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited).
BSN Failed Authentication	The total number of denied registration updates due to authentication failure by the mobile node.
Identification Mismatch	The total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch).
Poorly Formed Update	The total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request).
GRE Send	
Total Packets Sent	Indicates the total number of Generic Routing Encapsulation (GRE) packets transmitted.
Total Bytes Sent	Indicates the total number of Generic Routing Encapsulation (GRE) bytes transmitted.
Total BCMCS Sessions matching specified criteria	Total number of sessions matching specified criteria.

show bcmcs statistics

Table 149: show bcmcs statistics Command Output Descriptions

Field	Description
Session Stats	
Total Sessions Current	Indicates the total number of sessions that are in progress. These could be either active, dormant, being set up, or being disconnected.
Current Flow-id session	Indicates the number of flow-id sessions in progress. These could be active, dormant, being set up or being disconnected.
Current Pgm-Id Session	Indicates the number of program-id sessions in progress. These could be active, dormant, being set up or being disconnected.
Total Setup	Indicates the total number of sessions that have been successfully set up since system started.
Total Released	Indicates the total number of sessions that have successfully been disconnected.
Total Setup Flow-Id	Indicates the total number of flow-id sessions that have been successfully set up since the system was started.
Total Setup Program-Id	Indicates the total number of program-id sessions that have been successfully set up since the system was started.
Session Releases	
De-registered	Indicates the total number of sessions that were disconnected through a normal de-registration process.
Lifetime Expiry	Indicates the total number of sessions that were disconnected due to the expiration of their lifetime timer.
PPP Layer Command	Indicates the number of sessions disconnected due to PPP initiating a tear-down.
PCF-Monitor Fail	The total number of sessions disconnected because the PCF monitor function detected that the PCF was down.
GRE Key Mismatch	The total number of sessions disconnected because the GRE key changed for a session.
Other Reasons	Indicates the number of sessions disconnected due to reasons other than those listed here.
BCMCS Service Request/Response	

Field	Description
Total SRQ/Renew/Dereg RX	The total number of service requests, renewals, and de-registrations received.
Total Accept	The total number of service requests that have been received and accepted.
Total Denied	Total number of service requests that have been received and denied.
Total Discard	Total number of service requests that have been received and discarded.
Init SRQ RX	The total number of initial setup or start service requests that have been received.
Init SRQ Accept	The total number of initial setup or start service requests that have been received and accepted.
Init SRQ Denied	The total number of initial setup or start service requests that have been received and denied.
Init SRQ Discard	The total number of initial setup or start service requests that have been received and discarded.
Renew SRQ RX	The total number of service request renewals received.
Renew SRQ Accept	The total number of service request renewals received and accepted.
Renew SRQ Denied	The total number of service request renewals received and denied.
Renew SRQ Discard	The total number of service request renewals received discarded.
Dereg SRQ RX	The total number of de-registration requests that have been received.
Dereg SRQ Accept	The total number of de-registration requests that have been received and accepted.
Dereg SRQ Denied	The total number of de-registration requests that have been received and denied.
Dereg SRQ Discard	The total number of de-registration requests that have been received and discarded.
Response Send Error	Indicates the total number of registration replies for which errors were experienced during transmission.
BCMCS Service Request Denied	
Requests Accepted	Indicates the total number of service requests that were denied based on the number of requests accepted.

Field	Description
Unspecified Reason	Indicates the total number of service requests that were denied for unspecified reasons.
PCF Failed Auth	Indicates the total number of service requests that were denied due to mobile node authentication failure.
Identification Mismatch	Indicates the total number of service requests that were denied due to an identification mismatch.
Unknown BSN	Indicates the total number of service requests that were denied due to an unknown BSN address.
BCMCS SRQ Denied - Insufficient Resource Reasons	
No Session Manager	Indicates the total number of service requests that were denied due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly.
No Memory	Indicates the total number of service requests that were denied due to insufficient memory.
Session Managers Retried	Indicates that the system unsuccessfully attempted to try multiple Session Manager tasks to establish a session.
Input-Q Exceeded	Indicates that the queue in which incoming calls are kept prior to being processed exceeded its capacity.
BCMCS SRQ Denied - Poorly Formed Request Reasons	
Session Already Dormant	The number of SRQs that had Active Stop for a session that was already dormant.
Already Active	The number of SRQs that had Active Start for a session that was already active.
Other Reasons	The number of SRQs denied due to other reasons for a badly formed SRQ.
BCMCS SRQ Denied - Overload/Congestion Control	
Admin Prohibited (reject)	SRQs denied due to congestion control mechanism.
Unknown BSN (redirect)	SRQs denied due to congestion control mechanism.
BCMCS Registration Request/Reply	
Total RRQ/Renew/Dereg RX	The total number of registration requests, renewals, and de-registrations received.
Total Accept	The total number of registration requests that have been accepted.
Total Denied	The total number of registration requests that have been rejected.

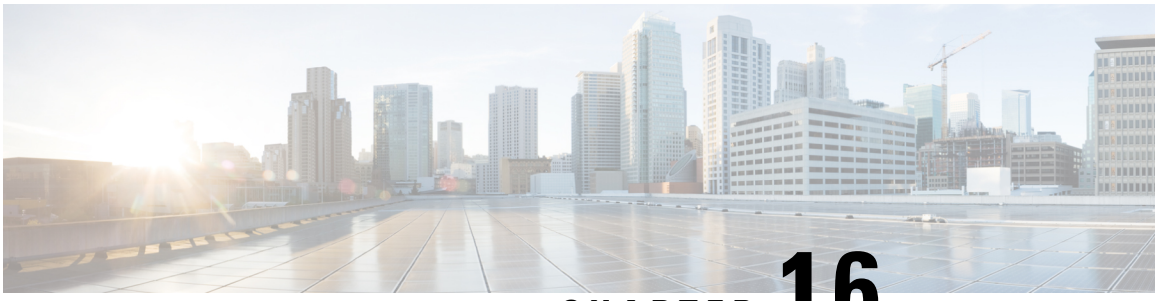
Field	Description
Total Discard	The total number of registration requests that have been discarded.
Init RRQ RX	The total number of initial registration requests that have been received.
Init RRQ Accept	The total number of initial registration requests received and accepted.
Init RRQ Denied	The total number of initial registration requests received and rejected.
Init RRQ Discard	The total number of initial registration requests that have been received and discarded.
Renew RRQ RX	The total number of registration request renewals received.
Renew RRX Accept	The total number of registration request renewals received and accepted.
Renew Actv Start Accept	The total number of RRQ renewals with an Active Start record received and accepted.
Renew Actv Stop Accept	The total number of RRQ renewals with an Active Stop record received and accepted.
Renew RRQ Denied	The total number of registration request renewals received and rejected.
Renew RRQ Discard	The total number of registration request renewals received and discarded
Dereg RRQ RX	The total number of de-registration requests that have been received.
Dereg RRQ Accept	The total number of de-registration requests received and accepted.
Dereg Active Stop Accept	The total number of de-registration requests with an active stop that were accepted.
Dereg RRQ Denied	The total number of de-registration requests received and rejected
Dereg RRQ Discard	The total number of de-registration requests received and discarded.
Reply Send Error	Indicates the total number of registration replies for which errors were experienced during transmission.
BCMCS Registration Request Denied	
Unspecified Reason	Indicates the total number of registration requests that were denied using reply code of 80H (Registration Denied - reason unspecified)

Field	Description
Admin Prohibited	Indicates the total number of registration requests that were denied using reply code of 81H (Registration Denied - administratively prohibited).
Insufficient Resources	Indicates the total number of registration requests that were denied using reply code of 82H (Registration Denied - insufficient resources).
PCF Failed Auth	Indicates the total number of registration requests that were denied using reply code of 83H (Registration Denied - mobile node failed authentication).
Identification Mismatch	Indicates the total number of registration requests that were denied using reply code of 85H (Registration Denied - identification mismatch).
Poorly Formed Request	Indicates the total number of registration requests that were denied using reply code of 86H (Registration Denied - poorly formed request).
Unknown BSN Address	Indicates the total number of registration requests that were denied due to an unknown BSN address.
Reverse Tunnel Unavail	Indicates the total number of registration requests that were denied using reply code of 89H (Registration Denied - requested reverse tunnel unavailable).
Reverse Tunnel Required	Indicates the total number of registration requests that were denied using reply code of 8AH (Registration Denied - reverse tunnel is mandatory and "T"-bit not set).
Unrecognized Vendor Id	Indicates the total number of registration requests that were denied using reply code of 8DH (Registration Denied - unsupported vendor ID or unable to interpret data in the CVSE).
Session Already Closed	Renew and RRQ denied due to the session not present in the PDSN Dereq. Error code 0x8e.
BCMCS RRQ Denied - Insufficient Resource Reasons	
No Session Manager	Indicates the total number of registration requests that were denied due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly.
No Memory	Indicates the total number of registration requests that were denied due to insufficient memory.
Session Managers Retried	Indicates that the system unsuccessfully attempted to try multiple Session Manager tasks to establish a session.

Field	Description
Input-Q Exceeded	Indicates that the queue in which incoming calls are kept prior to being processed exceeded its capacity.
BCMCS RRQ Denied - Poorly Formed Request Reasons	
Session Already Dormant	The number of RRQs that had Active Stop for a session that was already dormant.
Already Active	The number of RRQs that had Active Start for a session that was already active.
Other Reasons	The number of RRQs denied due to other reasons for a badly formed RRQ.
BCMCS RRQ Denied - Overload/Congestion Control	
Admin Prohibited (reject)	RRQs denied with error code 0x81h due to congestion control mechanism.
Unknown BSN (redirect)	RRQs denied with error code 0x88 due to congestion control mechanism.
BCMCS Registration Update/Ack	
Reg Update Transmitted	Indicates the total number of registration updates that were transmitted.
Accepted	Indicates the total number of registration updates that were accepted by the PCF.
Denied	Indicates the total number of registration updates that were denied.
Not Acknowledged	Indicates the total number of registration updates that were not acknowledged.
Initial Update TX	Indicates the total number of initial registration updates that were transmitted.
Update Retransmitted	Indicates the total number of registration updates that were re-transmitted.
Reg Ack Received	Indicates the total number of registration acknowledgements that were received.
Reg Ack Discarded	Indicates the total number of registration acknowledgements that were discarded.
Update Send Error	Indicates the total number of registration updates for which errors were experienced during transmission.
BCMCS Registration Update Send Reason	

Field	Description
Lifetime Expiry	Indicates the total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session.
Other Reasons	Indicates the total number of registration updates that were sent due to reasons other than those listed here.
Upper Layer Initiated	Indicates the total number of registration updates that were initiated by upper processing layers.
Session Manager Exited	Indicates the number of registration updates that were sent due to the termination of a Session Manager task.
BCMCS Registration Update Denied	
Reason Unspecified	Indicates the total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified).
Admin Prohibited	Indicates the total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited).
BSN Failed Auth	Indicates the total number of denied registration updates that were sent due to failed authentication by the mobile node.
Identification Mismatch	Indicates the total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch).
Poorly Formed Updated	Indicates the total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request).
BCMCS Registration Ack Discard Reasons	
Session Absent	Indicates the total number of registration acknowledgements that were discarded due to the session having been already ended because the acknowledgement was late.
No Memory	Indicates the total number of registration acknowledgements that were discarded due to insufficient memory.
Malformed	Indicates the total number of registration acknowledgements that were discarded due to being poorly formed.
Auth Failure	Indicates the total number of registration acknowledgements that were discarded due to the mobile node failing authentication.
Internal Bounce Error	Indicates that an internal communication message between an A11 Manager task and a Session Manager task bounced (was not successfully sent).

Field	Description
Input-Q Exceeded	Indicates the number of times that the queue in which incoming calls are kept prior to being processed exceeded its capacity.
Mismatched Id	Indicates the total number of discarded registration acknowledgements due to reply code 85H (Registration Denied - identification mismatch).
Invalid Packet Length	Indicates the total number of registration acknowledgements that were discarded due to having an invalid packet length.
Misc Reasons	Indicates the number of registration acknowledgements that were discarded due to reasons other than those listed here.
GRE Send	
Total Packets Sent	Indicates the total number of Generic Routing Encapsulation (GRE) packets transmitted.
Total Bytes Sent	Indicates the total number of Generic Routing Encapsulation (GRE) bytes transmitted.



CHAPTER 16

show bearer-control-profile

This chapter describes the output of the **show bearer-control-profile** command.

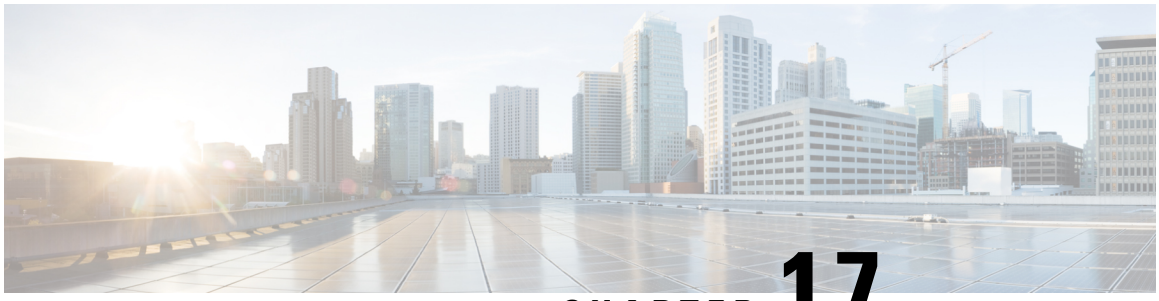
• show bearer-control-profile full name, on page 561

show bearer-control-profile full name

Table 150: show bearer-control-profile full name Command Output Descriptions

Field	Description
Bearer Control Profile Name	Indicates the Bearer Control Profile
pre-rel8-qos-mapping	Defines (MME) mapping of EPC QOS (non-standard QCIs) to 3GPP PreRelease8 QoS parameters.
Class	Indicates the UMTS traffic classified into the following: • Background • Conversational • Interactive • Streaming
traffic handing priority	Traffic handling priority specifies the relative importance of handling all SDUs that belong to the UMTS bearer compared to the SDUs of other bearers. The priority value ranges from 1 to 3, where the value 1 holds the highest priority. The predefined thp value is 3.
sdu error ratio	Service Data Unit (SDU) Error ratio indicates the fraction of SDUs lost or detected as error packets. SDU error ratio is defined only for conforming traffic. The range is an integer ranging from 1 to 7. The ratio ranges from 10^-1 to 10^-6. Allowed values are 1(10^-2), 2(7*10^-3), 3(10^-3), 4(10^-4), 5(10^-5), 6(10^-6) and 7(10^-1). The predefined minimum value is 1.

Field	Description
minimum transfer delay	Defines the maximum delay for 95 percentile of the delay distributed for all delivered SDUs during the lifetime of a bearer service. The delay value ranges from 10 to 40,000 milliseconds. The predefined minimum value is 100. The delay for an SDU is defined as the time from request to transfer and SDU at one SAP to its delivery at the other SAP.
source stats descriptor	Toggles the source statistics descriptor. The values are either 0 or 1.
signaling indication	Indicates the state of the signal.



CHAPTER 17

show bssap

This chapter includes the **show bssap** command output tables.

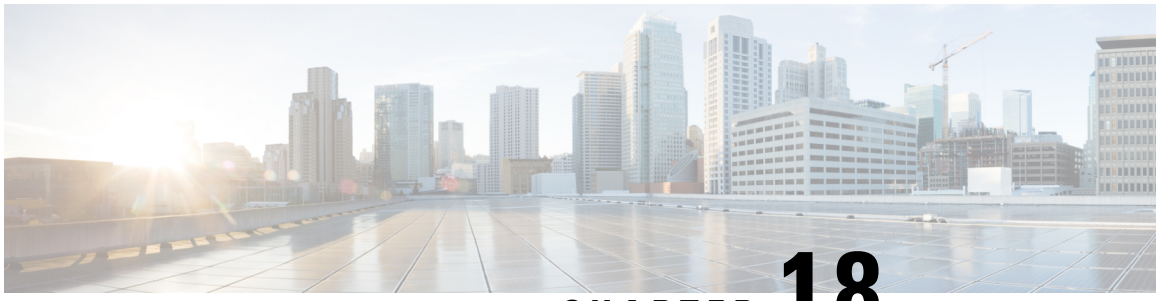
- show bssap+ statistics, on page 563

show bssap+ statistics

Table 151: show bssap+ statistics Command Output Descriptions

Field	Description
Bssap+ Statistics	Base station system application part plus related statistics.
Number of Subscribers in Gs-Associated State	Total number of subscriber in Gs associated state or using Gs interface for connectivity between SGSN and VLR.
Number of Associated Vlrs	Total number of VLRs associated with this BSSAP+ application.
Alert Req Rcvd	Total number of alert request messages received by BSSAP+ application from VLR.
Alert Ack Sent	Total number of acknowledge messages sent by BSSAP+ application in response to alert requests messages.
Alert Rej Sent	Total number of messages sent by BSSAP+ application to reject the alert requests.
Location Upd Req Sent	Total number of location update request messages sent by BSSAP+ application.
Location Upd Acc Rcvd	Total number of location update accept messages sent by BSSAP+ application from VLR.
Location Upd Rej Rcvd	Total number of messages sent by BSSAP+ application to reject the location update requests from VLR.
GPRS Detach Ind Sent	Total number of GPRS detach indication messages sent by BSSAP+ application.
GPRS Detach Ack Rcvd	Total number of acknowledge messages received by BSSAP+ application in response to GPRS detach indication messages sent to VLR.
IMSI Detach Ind Sent	Total number of IMSI detach indication messages sent by BSSAP+ application to VLR.

Field	Description
IMSI Detach Ack Rcvd	Total number of acknowledge messages received by BSSAP+ application in response to IMSI detach indication messages sent to VLR.
Mobile Status Rcvd	Total number of mobile status messages received by BSSAP+ application from VLR.
Mobile Status Sent	Total number of mobile status messages sent by BSSAP+ application to VLR.
Paging Req Rcvd	Total number of paging request messages received by BSSAP+ application from VLR.
Paging Rej Sent	Total number of messages sent by BSSAP+ application to reject the received paging request messages from VLR.
MS Unreachable Sent	Total number of messages sent by BSSAP+ application to indicate that mobile is unreachable to VLR.
TMSI Reloc Comp Sent	Total number of messages sent by BSSAP+ application with TMSI relocation components to VLR.
MS Info Req Rcvd	Total number of MS information request messages received by BSSAP+ application from VLR.
MS Info Rsp Sent	Total number of response messages sent by BSSAP+ application in response to MS information request messages from VLR.
MM Info Req Rcvd	Total number of mobility management (MM) information request messages received by BSSAP+ application from VLR.
MS Activity Ind Sent	Total number of MS activity indication messages sent by BSSAP+ application to VLR.
Reset Ind Rcvd	Total number of reset indicator messages received by BSSAP+ application from VLR.
Reset Ack Sent	Total number of acknowledge messages sent by BSSAP+ application in response to reset indicator message received from VLR.
Reset Ind Sent	Total number of reset indicator messages sent by BSSAP+ application to VLR.
Reset Ack Rcvd	Total number of acknowledge messages received by BSSAP+ application in response to reset indicator message sent to VLR.
Downlink Tnnl Req Rcvd	Total number of downlink tunnel request messages received by BSSAP+ application from VLR.
Uplink Tnnl Req Sent	Total number of uplink tunnel request messages sent by BSSAP+ application to VLR.



CHAPTER 18

show build

This chapter includes the **show build** command output table.

- show build, on page 565

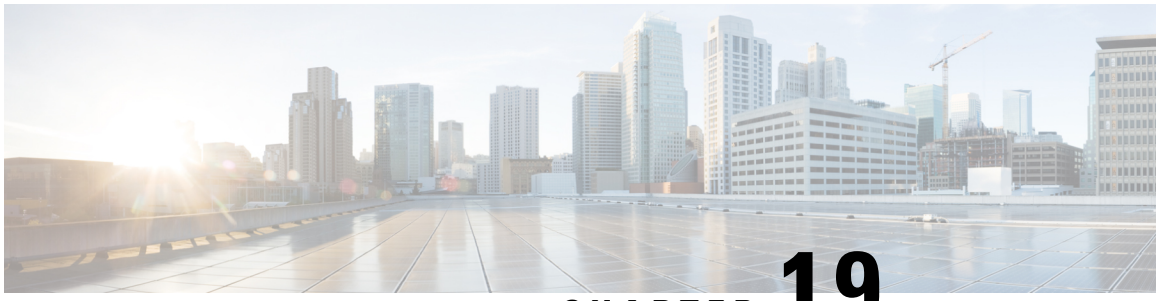
show build

This command displays detailed information about the currently active StarOS release build.

Table 152: show build Command Output Descriptions

Field	Description
Active Software:	
Image Version	Identifies the StarOS version running on this platform.
Image Build Number:	Displays build number or build type (text string).
Image Description:	Brief text string that describes this build. For example, "Deploymer
Image Date:	The date the software image was generated. Format = DoW MMM YYYY. For example, "Tue May 4 00:45:12 EDT 2016".
Boot Image:	The pathname for the bootable image that is currently running. For "/flash/<image_filename>.bin".
Kernel Version:	The StarOS kernel version number. For example, "2.6.38-staros-v3
Kernel Machine Type:	The StarOS machine (CPU) type. For example, "x86_64" (64-bit v x86 instruction set).
Build Information:	
Kernel Build:	Text string identifying the kernel build script with timestamp.
Image Build Type:	Text string identifying the type of build.
Image Build User:	Text string identifying the build user.
Image Build Machine:	Text string identifying the machine on which the build was created.

Field	Description
Image Build Changeset Version:	Text string identifying the set of code changes incorporated into this bu
Image Build Changeset Author:	Text string identifying the author of the Changeset.
Image Build Changeset Location:	Text string identifying the location of the Changeset, for example "cisc
Image Build Changeset Number	The 40-character string that corresponds to the Git commit identifier (S the build.
Image Build Changeset PID	Text string identifying the Cisco Part Identifier (PID) assigned to this C



CHAPTER 19

show bulkstats data

This chapter includes the **show bulkstats data** command output tables.

- show bulkstats data, on page 567
- show bulkstats variables user-plane-service, on page 569
- QCI 67 Support, on page 570

show bulkstats data

Table 153: show bulkstats data Command Output Descriptions

Field	Description
Bulk Statistics Server Configuration:	
Server State	Indicates the server state—enabled or disabled.
File Limit	Indicates the file size limit in KB.
Sample Interval	Indicates the sampling interval.
Transfer Interval	Indicates the transfer interval.
Receiver Mode	Indicates the receiver mode.
Local File Storage	Indicates the local file storage.
Historical Data Collection	Indicates the Historical Data Collection state—enabled or disabled.
Bulk Statistics Server Statistics:	
Records awaiting transmission	Indicates the number of records awaiting transmission.
Bytes awaiting transmission	Indicates the number of bytes awaiting transmission.
Total records collected	Indicates the total number of records collected.
Total bytes collected	Indicates the total number of bytes collected.
Total records transmitted	Indicates the total number of records transmitted.

show bulkstats data

Field	Description
Total bytes transmitted	Indicates the total number of bytes transmitted.
Total records discarded	Indicates the total number of records discarded.
Total bytes discarded	Indicates the total number of bytes discarded.
Last collection time required	Indicates the last collection time required.
Last transfer time required	Indicates the last transfer time required.
No successful data transfers	Indicates the total number of successful data transfers.
No attempted data transfers	Indicates the total number of attempted data transfers.
Fine n	
Remote File Format	The remote file format—for example, %date%-%time%
File Header	The file's header.
File Footer	The file's footer.
No bulkstats receivers	Indicates the total number of bulk statistics collection servers configured.
File Statistics:	
Records awaiting transmission	Indicates the number of records awaiting transmission.
Bytes awaiting transmission	Indicates the number of bytes awaiting transmission.
Total records collected	Indicates the total number of records collected.
Total bytes collected	Indicates the total number of bytes collected.
Total records transmitted	Indicates the total number of records transmitted.
Total bytes transmitted	Indicates the total number of bytes transmitted.
Total records discarded	Indicates the total number of records discarded.
Total bytes discarded	Indicates the total number of bytes discarded.
Last transfer time required	Indicates the last transfer time required.
No successful data transfers	Indicates the total number of successful data transfers.
No attempted data transfers	Indicates the total number of attempted data transfers.
Handoff Statistics	
epdg-handoff-disc	Configures LTE to Wi-Fi HO disconnect reason statistics.
show epdg-service statistics handoff-disc-reasons	Displays the statistics corresponding to LTE to Wi-Fi HO disconnect reasons for all services.

Field	Description
clear epdg-service statistics handoff-disc-reasons	Removes the statistics corresponding to LTE to Wi-Fi HO disconnect reasons for all services.
User Plane Service Statistics	
curr-pdn-rat-nr-redcap	Current PDN RAT is NR RedCap.
uplink-total-pkts-pdn-rat-nr-redcap	Total uplink packets in RedCap type PDN RAT.
uplink-total-bytes-pdn-rat-nr-redcap	Total uplink bytes in RedCap type PDN RAT.
uplink-total-pkts-dropped-pdn-rat-nr-redcap	Total dropped uplink packets in RedCap type PDN RAT.
uplink-total-bytes-dropped-pdn-rat-nr-redcap	Total dropped uplink bytes in RedCap type PDN RAT.
downlink-total-pkts-pdn-rat-nr-redcap	Total downlink packets in RedCap type PDN RAT.
downlink-total-bytes-pdn-rat-nr-redcap	Total downlink bytes in RedCap type PDN RAT.
downlink-total-pkts-dropped-pdn-rat-nr-redcap	Total dropped downlink packets in RedCap type PDN RAT.
downlink-total-bytes-dropped-pdn-rat-nr-redcap	Total dropped downlink bytes in RedCap type PDN RAT.

show bulkstats variables user-plane-service

The show command **show bulkstats variables user-plane-service** displays following information:

Table 154: Bulkstatistics for User Plane Service

Bulkstatistics	Data type
curr-pdn-rat-nr-redcap	Gauge
curr-pdn-rat-nr-eredcap	Gauge
uplink-total-pkts-pdn-rat-nr-redcap	Counter
uplink-total-bytes-pdn-rat-nr-redcap	Counter
uplink-total-pkts-dropped-pdn-rat-nr-redcap	Counter
uplink-total-bytes-dropped-pdn-rat-nr-redcap	Counter
downlink-total-pkts-pdn-rat-nr-redcap	Counter
downlink-total-bytes-pdn-rat-nr-redcap	Counter
downlink-total-pkts-dropped-pdn-rat-nr-redcap	Counter
downlink-total-bytes-dropped-pdn-rat-nr-redcap	Counter

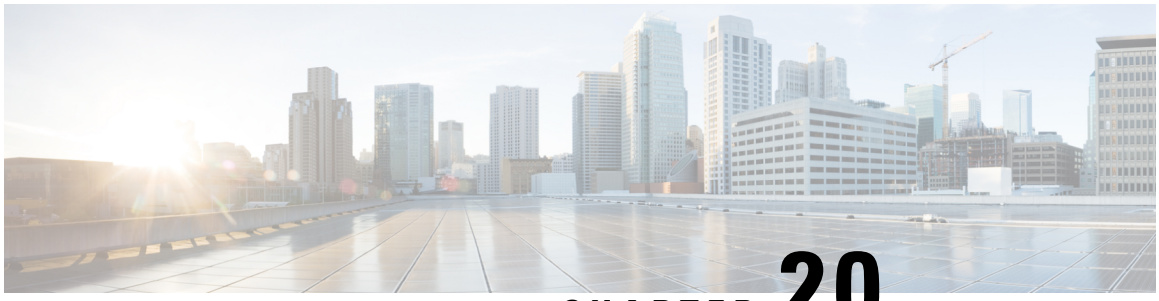
Bulkstatistics	Data type
uplink-total-pkts-pdn-rat-nr-eredcap	Counter
uplink-total-bytes-pdn-rat-nr-eredcap	Counter
uplink-total-pkts-dropped-pdn-rat-nr-eredcap	Counter
uplink-total-bytes-dropped-pdn-rat-nr-eredcap	Counter
downlink-total-pkts-pdn-rat-nr-eredcap	Counter
downlink-total-bytes-pdn-rat-nr-eredcap	Counter
downlink-total-pkts-dropped-pdn-rat-nr-eredcap	Counter
downlink-total-bytes-dropped-pdn-rat-nr-eredcap	Counter

QCI 67 Support

QCI 67 is supported in nodes configured with CUPS. The relevant variables are bound to **Saegw Schema** and **APN Schema** , and they manage the setup, active state, release, and data transfer for QCI 67.

Field	Description
SAEGW Schema Variables:	
saegw-bearers-qci-67-active	Indicates the active state of QCI67 bearers.
saegw-bearers-qci-67-setup	Used when setting up QCI67 bearers.
saegw-bearers-qci-67-released	Used when QCI67 bearers are released.
APN Schema Variables:	
%apn%	Placeholder for APN-specific data.
%qci67-actbear%	Represents active QCI67 bearers.
%qci67-setupbear%	Represents setup of QCI67 bearers.
%qci67-relbear%	Represents the release of QCI67 bearers.
%qci67-uplinkpkt-fwd%	Forwarding of uplink packets for QCI67.
%qci67-dwlinkpkt-fwd%	Forwarding of downlink packets for QCI67.
%qci67-uplinkbyte-fwd%	Forwarding of uplink bytes for QCI67.
%qci67-dwlinkbyte-fwd%	Forwarding of downlink bytes for QCI67.
%qci67-uplinkpkt-drop%	Dropping of uplink packets for QCI67.

Field	Description
%qci67-dwlinkpkt-drop%	Dropping of downlink packets for QCI67.
%qci67-uplinkbyte-drop%	Dropping of uplink bytes for QCI67.
%qci67-dwlinkbyte-drop%	Dropping of downlink bytes for QCI67.



CHAPTER 20

show cae-group server name

This chapter includes the **show cae-group server name** command output tables.

- show cae-group server name, on page 573

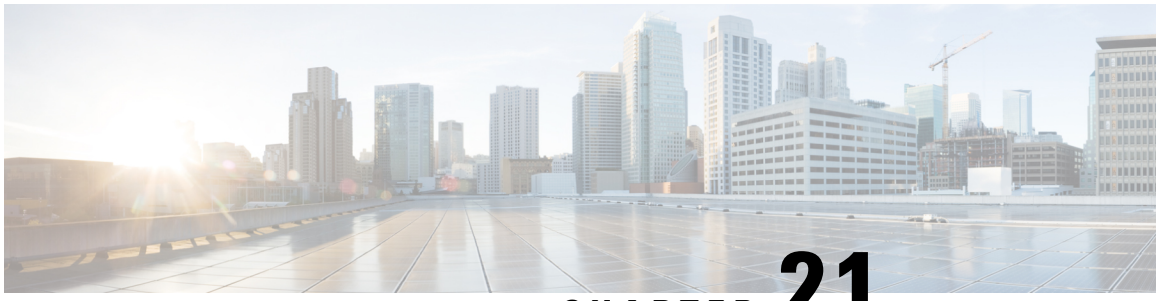
show cae-group server name

Important
In release 20.0, MVG is not supported. For more information, contact your Cisco account representative.

Table 155: show cae-group server name Command Output Descriptions

Field	Description
Server	The name of the CAE.
IP	The IPv4 address of the CAE.
State	The current state of the CAE, which can be Init (Initializing), Up, Down, or Tmout (Timed Out).
Hit Count	The number of HTTP GET requests sent to this CAE. A single video may contain multiple HTTP GET requests from the UE.
Timeout Consecutive (Cumulative)	The number of current consecutive timeouts that have occurred on the keep-alive heartbeat. This counter is reset to 0 if the Mobile Video Gateway is receiving no responses from the CAE. (Cumulative) is the total number of timeouts that have occurred since the last reset (clear) of the statistics for this CAE.
Last Failure	The duration of time since the CAE state was last transitioned to Down.

show cae-group server name



CHAPTER 21

show call-control-profile

This chapter describes the output of the **show call-control-profile** command.

- show call-control-profile full name, on page 575

show call-control-profile full name

This command displays the detailed configuration for a specifically named call control profile.

Table 156: show call-control-profile full name Command Output Descriptions

Field	Description
Call Control Profile Name	The name of the call control profile you chose to view.
Accounting Context Name	The name of the accounting context associated with this call control profile.
Accounting GTPP Group Name	The name of the GTTP accounting group associated with this call control profile.
Secondary GTPP Group Name	The name of the secondary GTTP accounting group associated with this S-GW call control profile.
Secondary GTPP Accounting Context Name	The accounting context used for secondary GTPP accounting.
Accounting Mode (SGW)	The method selected for S-GW accounting (GTTP [default], none, or RADIUS/Diameter).
GPRS Attach All	Indicates whether the call control profile allows or restricts attaches of all subscribers using the GPRS access type.
GPRS Attach All Failure Code	The configured GMM failure code to be sent in reject messages to GPRS mobile subscribers attempting to attach.
UMTS Attach All	Indicates whether the call control profile allows or restricts attaches of all subscribers using the UMTS access type.
UMTS Attach All Failure Code	The configured GMM failure code to be sent in reject messages to UMTS mobile subscribers attempting to attach.

Field	Description
GPRS RAU Intra All	Indicates whether the call control profile is configure to allow or restrict mobile subscribers with GPRS access-type extensions from the intra-SGSN RAU procedure.
GPRS RAU Intra All Failure Code	The configured GMM failure cause code that identifies the reason an intra-SGSN RAU does not occur. This GMM cause code will be sent in the reject message to the GPRS mobile subscriber.
UMTS RAU Intra All	Indicates whether the call control profile is configure to allow or restrict mobile subscribers with UMTS access-type extensions from the intra-RAU procedure.
UMTS RAU Intra All Failure Code	The configured GMM failure cause code that identifies the reason an intra-SGSN RAU does not occur. This GMM cause code will be sent in the reject message to the UMTS mobile subscriber.
GPRS RAU Inter-PLMN All	Indicates whether the call control profile is configure to allow or restrict mobile subscribers with GPRS access-type extensions from triggering RAUs between different PLMNs.
GPRS RAU Inter-PLMN All Failure Code	The configured GMM failure cause code that identifies the reason an RAU does not occur between different PLMNs. This GMM cause code will be sent in the reject message to the GPRS mobile subscriber.
UMTS RAU Inter-PLMN All	Indicates whether the call control profile is configure to allow or restrict mobile subscribers with UMTS access-type extensions from triggering RAUs between different PLMNs.
UMTS RAU Inter-PLMN All Failure Code	The configured GMM failure cause code that identifies the reason an RAU does not occur between different PLMNs. This GMM cause code will be sent in the reject message to the UMTS mobile subscriber.
GPRS RAU Inter All	Indicates whether the call control profile is configure to allow or restrict mobile subscribers with GPRS access-type extensions from the inter-SGSN RAU procedure.
GPRS RAU Inter All Failure Code	The configured GMM failure cause code that identifies the reason an inter-SGSN RAU does not occur. This GMM cause code will be sent in the reject message to the GPRS mobile subscriber.
UMTS RAU Inter All	Indicates whether the call control profile is configure to allow or restrict mobile subscribers with UMTS access-type extensions from the inter-RAU procedure.
UMTS RAU Inter All Failure Code	The configured GMM failure cause code that identifies the reason an inter-SGSN RAU does not occur. This GMM cause code will be sent in the reject message to the UMTS mobile subscriber.
Failure Code For Peer Sgsn Address Resolution Failure	The configured GMM failure cause code that indicates that the SGSN cannot resolve the IP address for a peer SGSN. This GMM cause code will be sent in the reject message to the mobile subscriber.
GPRS SMS MO All	Indicates whether the call control profile allows or restricts mobile-originated SMS messages from subscribers using the GPRS access type.

Field	Description
GPRS SMS MO All Failure Code	The configured GMM failure cause code that indicates that mobile-originated SMS messages from GPRS subscribers are not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
UMTS SMS MO All	Indicates whether the call control profile allows or restricts mobile-originated SMS messages from subscribers using the UMTS access type.
UMTS SMS MO All Failure Code	The configured GMM failure cause code that indicates that mobile-originated SMS messages from UMTS subscribers are not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
GPRS SMS MT All	Indicates whether the call control profile allows or restricts mobile-terminated SMS messages to subscribers using the GPRS access type.
GPRS SMS MT All Failure Code	The configured GMM failure cause code that indicates that mobile-terminated SMS messages to GPRS subscribers are not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
UMTS SMS MT All	Indicates whether the call control profile allows or restricts mobile-terminated SMS messages to subscribers using the UMTS access type.
UMTS SMS MT All Failure Code	The configured GMM failure cause code that indicates that mobile-terminated SMS messages to UMTS subscribers are not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
GPRS Primary PDP Context Activation All	Indicates whether primary PDP context activation is allowed for GPRS mobile subscribers.
GPRS Secondary PDP Context Activation All	Indicates whether secondary PDP context activation is allowed for GPRS mobile subscribers.
GPRS PDP Context Activation All Failure Code	The configured GMM failure cause code that indicates that PDP context activation by GPRS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
UMTS Primary PDP Context Activation All	Indicates whether primary PDP context activation is allowed for UMTS mobile subscribers.
UMTS Secondary PDP Context Activation All	Indicates whether secondary PDP context activation is allowed for UMTS mobile subscribers.
UMTS PDP Context Activation All Failure Code	The configured GMM failure cause code that indicates that PDP context activation by UMTS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
GPRS Nw Init Primary PDP Context Activation All	Indicates whether network-initiated primary PDP context activation is allowed for GPRS mobile subscribers.
GPRS Nw Init Primary PDP Ctxt Activation All Failure Code	The configured GMM failure cause code that indicates that network-initiated primary PDP context activation by GPRS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.

Field	Description
GPRS Nw Init Secondary PDP Ctxt Activation All	Indicates whether network-initiated secondary PDP context activation is allowed for GPRS mobile subscribers.
GPRS Nw Init Secondary PDP Ctxt Activation All Failure Code	The configured GMM failure cause code that indicates that network-initiated secondary PDP context activation by GPRS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
UMTS Nw Init Primary PDP Context Activation All	Indicates whether network-initiated primary PDP context activation is allowed for UMTS mobile subscribers.
UMTS Nw Init Primary PDP Ctxt Activation All Failure Code	The configured GMM failure cause code that indicates that network-initiated primary PDP context activation by UMTS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
UMTS Nw Init Secondary PDP Ctxt Activation All	Indicates whether network-initiated secondary PDP context activation is allowed for UMTS mobile subscribers.
UMTS Nw Init Secondary PDP Ctxt Activation All Failure Code	The configured GMM failure cause code that indicates that network-initiated secondary PDP context activation by UMTS subscribers is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
SRNS Intra All	Indicates whether intra-SRNS (Serving Radio Network Subsystem) relocation is allowed for mobile subscribers.
SRNS Intra All Failure Code	The configured GMM failure cause code that indicates that intra-SRNS relocation is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
SRNS Inter All	Indicates whether inter-SRNS relocation is allowed for mobile subscribers.
SRNS Inter All Failure Code	The configured GMM failure cause code that indicates that inter-SRNS relocation is not permitted. This GMM cause code will be sent in the reject message to the mobile subscriber.
S6a Hss Service	Indicates the name of the home subscriber server, if configured, that the SGSN will access via the S6a interface.
S13 Hss Service	If configured, indicates the name of the home subscriber server that the SGSN will access via the S13 interface.
S6d Hss Service	S4-SGSN only. Indicates the name of the home subscriber server, if configured, that the SGSN will access via the S6d interface to obtain subscriber-related information.
Send EMM Info for Periodic TAU	Indicates whether the EMM information for periodic TAU is enabled or disabled.
Access Type	Indicates the access type—WB-EUTRAN, NB-IOT, or WB-EUTRAN and NB-IOT.
S13 prime Hss Service	S4-SGSN only. Indicates the name of the home subscriber server (HSS), if configured, that the SGSN will access via the S13' interface to perform Mobile Equipment Identity checks.

Field	Description
Preferred Subscription Interface	If configured, indicates the preferred subscription interface (HLR or HSS). HLR indicates that the MAP protocol will be used to exchange messages with the HLR. HSS indicates that the Diameter protocol will be used to exchange messages with the HSS. The preferred subscription interface is displayed as **hss for epc-ue** if **prefer subscription-interface hss epc-ue** is configured under the Call Control Profile. This keyword is configured to select the HSS interface for EPC capable subscribers.
DNS GGSN Context	On an S4-SGSN, indicates the context associated for DNS lookup for a GGSN.
DNS SGSN Context	On an S4-SGSN, indicates the context associated for DNS lookup for an SGSN.
DNS PGW Context	Indicates the context associated for DNS lookup for a P-GW.
DNS SGW Context	Indicates the context associated for DNS lookup for an S-GW.
DNS MSC Context	On an MME, indicates the context associated for DNS lookup for an Mobile Switching Center (MSC).
Sgtp-service Context	The name of the context that has the applicable SGTP service for this call control profile associated with it.
Service	The name of the SGTP service associated with the context.
Authentication All-Events	Indicates whether authentication for all events (attaches, activates, and so forth) has been enabled or disabled.
Authentication Attach	Indicates whether authentication for an Attach with a local P-TMSI or Attaches with an IMSI has been enabled or disabled.
Authentication Attach (Inter RAT)	Indicates whether Attach message authentication has been enabled or disabled for re-authorizing subscribers on a change in Radio Access Type (RAT) of the subscriber's node.
Authentication Attach (Gprs only)	Indicates whether Attach message authentication has been enabled or disabled for calls from GPRS mobile subscribers.
Authentication Attach (Combined)	Indicates whether authentication for combined GPRS/IMSI Attaches has been enabled or disabled.
Authentication Activate	Indicates whether authentication for activate requests has been enabled or disabled.
Authentication Service Request	Indicates whether authentication for all service requests has been enabled or disabled.
Authentication Service Request (Signaling)	Indicates whether authentication for signaling service requests has been enabled or disabled.
Authentication Service Request (Data)	Indicates whether authentication for data service requests has been enabled or disabled.
Authentication Service Request (Page Response)	Indicates whether authentication for page response service requests has been enabled or disabled.
Authentication RAU	Indicates whether authentication for routing area updates has been enabled or disabled.

Field	Description
Authentication RAU (Periodic)	Indicates whether authentication for periodic RAU Requests has been enabled or disabled.
Authentication RAU (Ra update)	Indicates whether authentication for RA update RAU Requests has been enabled or disabled.
Authentication RAU (Ra update with Local Ptmsi)	Indicates whether authentication for RA update using the local P-TMSI type of RAU Requests has been enabled or disabled.
Authentication RAU (Ra update with Foreign Ptmsi)	Indicates whether authentication for RA update using foreign P-TMSI type of RAU Requests has been enabled or disabled.
Authentication RAU (Imsi Combined Update)	Indicates whether authentication for RA update RAU Requests using the inter-RAT P-TMSI has been enabled or disabled.
Authentication RAU (Combined Update)	Indicates whether authentication for RAU Requests using the local P-TMSI has been enabled or disabled.
Authentication RAU (Combined Update IRAT PTMSI)	Indicates whether authentication for RAU Requests using inter-RAT and the local P-TMSI has been enabled or disabled.
Authentication RAU (Imsi Combined Update)	Indicates whether authentication for RAU Requests using IMSI and local P-TMSI values has been enabled or disabled.
Authentication RAU (Imsi Combined Update IRAT PTMSI)	Indicates whether authentication for RAU Requests using IMSI values, inter-RAT, and the local P-TMSI has been enabled or disabled.
Authentication Detach	Indicates whether authentication for Detach Requests has been enabled or disabled.
Authentication SMS	Indicates whether authentication for all SMS messages has been enabled or disabled.
Authentication SMS (MO-SMS)	Indicates whether authentication for mobile-originated SMS messages has been enabled or disabled.
Authentication SMS (MT-SMS)	Indicates whether authentication for mobile-terminated SMS messages has been enabled or disabled.
Regional Subscription Restriction Failure Code Value	The configured GMM failure cause code that indicates that mobile subscriber lacks the required subscription to place calls to the region. This GMM cause code will be sent in the reject message to the mobile subscriber.
ARD-Checking	Indicates whether access restriction data (ARD) checking in incoming subscriber data (ISD) messages has been enabled or disabled.
ARD Failure Code	The configured GMM failure cause code that indicates the incoming subscriber data has failed ARD checking. This GMM cause code will be sent in the reject message to the mobile subscriber.
Access Restriction Data	Indicates if the eutran-not-allowed parameter is enabled to verride the "eutran-not-allowed" flag received from the HLR/HSS in the ISD/ULA request for the Access Restriction Data (ARD) parameter. The helps ensure that an SRNS relocation handover to E-UTRAN is not allowed for E-UTRAN capable UEs that have only a UTRAN/GERAN roaming agreement.

Field	Description
Zone-Code Check	Indicates whether zone code checking has been enabled or disabled.
Usage of Auth Vectors From Old Sgsn	Indicates whether the ability of an SGSN to receive authorization vectors from other SGSNs has been enabled or disabled.
SGSN Address	Provides information on how the peer SGSN is configured, including the peer IP address, RAC and LAC values or RNC_ID, and interface type.
PEER-MME	Provides information on how the peer MME is configured, including the peer IP address, MME Group ID or TAC, and interface type.
Order of Preference for Integrity Algorithm is	The integrity algorithm that receives the first priority.
Order of Preference for Encryption Algorithm is	The encryption algorithm that receives the first priority.
Order of Preference for Gprs Ciphering Algorithm is	The GPRS ciphering algorithm that receives the first priority.
PTMSI-signature allocation	Indicates whether P-TMSI signature allocation has been enabled or disabled.
PTMSI-Signature-Realloc Interval value UMTS	The time interval (in minutes) for skipping the P-TMSI signature service/RAU/attach request message procedure for UMTS mobile subscribers.
PTMSI-Signature-Realloc Interval value GPRS	The time interval (in minutes) for skipping the P-TMSI signature service/RAU/attach request message procedure for GPRS mobile subscribers.
PTMSI-Signature-Realloc Frequency value UMTS	How many times P-TMSI signature reallocation for service requests can be skipped for UMTS mobile subscribers.
PTMSI-Signature-Realloc Frequency value GPRS	How many times P-TMSI signature reallocation for service requests can be skipped for GPRS mobile subscribers.
PTMSI-Signature-Realloc Attach Frequency value UMTS	How many times P-TMSI signature reallocation for Attach requests can be skipped for UMTS mobile subscribers.
PTMSI-Signature-Realloc Attach Frequency value GPRS	How many times P-TMSI signature reallocation for Attach requests can be skipped for GPRS mobile subscribers.
PTMSI-Signature-Realloc RAU (Generic) Frequency value UMTS	How many times P-TMSI signature reallocation for routing area updates can be skipped for UMTS mobile subscribers.
PTMSI-Signature-Realloc RAU (Generic) Frequency value GPRS	How many times P-TMSI signature reallocation for routing area updates can be skipped for GPRS mobile subscribers.
PTMSI-Signature-Realloc RAU Periodic Frequency value UMTS	How many times P-TMSI signature reallocation for periodic routing area updates can be skipped for UMTS mobile subscribers.
PTMSI-Signature-Realloc RAU Periodic Frequency value GPRS	How many times P-TMSI signature reallocation for periodic routing area updates can be skipped for GPRS mobile subscribers.

Field	Description
PTMSI-Signature-Realloc RAU RA Update Frequency value UMTS	How many times P-TMSI signature reallocation for routing area update RA updates can be skipped for UMTS mobile subscribers.
PTMSI-Signature-Realloc RAU RA Update Frequency value GPRS	How many times P-TMSI signature reallocation for routing area update RA updates can be skipped for GPRS mobile subscribers.
PTMSI-Signature-Realloc RAU Combined Update Frequency value UMTS	How many times P-TMSI signature reallocation for combined requests can be skipped for UMTS mobile subscribers.
PTMSI-Signature-Realloc RAU Combined Update Frequency value GPRS	How many times P-TMSI signature reallocation for combined requests can be skipped for GPRS mobile subscribers.
PTMSI-Signature-Realloc RAU Imsi Combined Update Frequency value UMTS	How many times P-TMSI signature reallocation for combined RAU updates with IMSI values can be skipped for UMTS mobile subscribers.
PTMSI-Signature-Realloc RAU Imsi Combined Update Frequency value GPRS	How many times P-TMSI signature reallocation for combined RAU updates with IMSI values can be skipped for GPRS mobile subscribers.
PTMSI-Signature-Realloc Ptmsi-Reallocation-Cmd Update Frequency value UMTS	How many times P-TMSI signature reallocation during PTMSI reallocation can be skipped for UMTS mobile subscribers.
PTMSI-Signature-Realloc Ptmsi-Reallocation-Cmd Update Frequency value GPRS	How many times P-TMSI signature reallocation during PTMSI reallocation can be skipped for GPRS mobile subscribers.
PTMSI-Realloc Attach	Indicates whether P-TMSI reallocation has been enabled or disabled.
PTMSI-Realloc Interval	The time interval (in minutes) for skipping the P-TMSI reallocation during the service/RAU/attach request message procedure.
PTMSI-Realloc Frequency	How many times P-TMSI reallocation can be skipped during service/RAU/attach request message procedure.
PTMSI-Realloc RAU	Indicates whether P-TMSI reallocation during routing area updates has been enabled or disabled.
PTMSI-Realloc RAU (Periodic)	Indicates whether P-TMSI reallocation during periodic routing area updates has been enabled or disabled.
PTMSI-Realloc RAU (Periodic) Frequency value	How many times P-TMSI reallocation can be skipped during the periodic RAU message procedure.
PTMSI-Realloc RAU (Ra-Update)	Indicates whether P-TMSI reallocation during the RA update RAU request procedure has been enabled or disabled.
PTMSI-Realloc RAU (Ra-Update) Frequency	How many times P-TMSI reallocation can be skipped during the RA update RAU message procedure.

Field	Description
PTMSI-Realloc RAU (Combined-Update)	Indicates whether P-TMSI reallocation during the RAU combined update procedure has been enabled or disabled.
PTMSI-Realloc RAU (Combined-Update) Frequency	How many times P-TMSI reallocation can be skipped during the RAU combined update message procedure.
PTMSI-Realloc RAU (Combined-Update with IMSI attach)	Indicates whether P-TMSI reallocation during the RAU combined update with IMSI procedure has been enabled or disabled.
PTMSI-Realloc RAU (Combined-Update with IMSI) Frequency	How many times P-TMSI reallocation can be skipped during the RAU combined update with IMSI message procedure.
PTMSI-Realloc Service Request (Signalling)	Indicates whether P-TMSI reallocation during signaling service requests has been enabled or disabled.
PTMSI-Realloc Service Request (Signalling) Freq	How many times P-TMSI reallocation can be skipped during the signaling service request message procedure.
PTMSI-Realloc Service Request (Data)	Indicates whether P-TMSI reallocation during data service requests has been enabled or disabled.
PTMSI-Realloc Service Request (Data) Freq	How many times P-TMSI reallocation can be skipped during the data service request message procedure.
PTMSI-Realloc Service Request (Page Response)	Indicates whether P-TMSI reallocation during page response service requests has been enabled or disabled.
PTMSI-Realloc Service Request (Page Response) Freq	How many times P-TMSI reallocation can be skipped during the page response service request message procedure.
Inactivity detection for establishing pdp contexts	Indicates whether an SGSN will be periodic polled to verify that it can accept requests to establish a PDP context.
Inactivity detection for establishing pdp contexts - Timer	The timeout value in milliseconds for determining that a SGSN is unresponsive.
Inactivity detection for establishing pdp contexts - Action	The action to be taken if a SGSN is declared unresponsive.
Monitor Re-attaches after Inactivity Detach	Indicates whether the SGSN will be monitored to determine if it has become responsive again after an inactivity timeout and detach.
Charging Characteristics Prefer Local	When enabled, indicates whether the call-control profile prefers the charging characteristics settings from the call control profile instead of the charging characteristics received from the HLR.
Charging Characteristics Behavior	The behavior bit in charging characteristics provided by the call control profile when the HLR does not provide a value.
Charging Characteristics Profile-Index	The charging characteristics profile index specified by the call control profile, such as 4 for prepaid billing or 8 for normal billing.

Field	Description
Charging Characteristics Behavior No Records	The behavior bit in charging characteristics that is used to determine that no accounting records will be generated.
APN restriction	If this feature is enable, the SGSN sends the maximum APN restriction value in every CPC Request message sent to the GGSN
UMTS Gmm-Information	When this feature is enabled, indicates that GPRS mobility management (GMM) parameters will be included in message to UMTS mobile subscribers.
GPRS Gmm-Information	When this feature is enabled, indicates that GMM parameters will be included in message to GPRS mobile subscribers.
User Equipment Identity Retrieval	Indicates whether International Mobile Equipment Identity (IMEI) or software version (SV) retrieval and validation has been enabled or disabled.
MAP UGL Message. Include Access Type Private Extension	The specific access-type private extension included in GPRS Location Update (GLU) request MAP messages.
MAP UGL Message. Include IMEISV	The specific International Mobile equipment Identity-Software Version (IMEI-SV) information included in GLU request MAP messages.
MAP MO-FWD-SM Message. Include IMSI	Indicates if the inclusion of the IMSI of the originating subscriber in the mobile-originated SM transfer is enabled or disabled. This parameter is included when the sending entity (MSC or SGSN) supports mobile number portability (MNP). This IMSI IE is required in the in MAP-MO-FORWARD-SHORT-MESSAGE in countries where MNP is deployed.
Reuse of authentication triplets	Indicates whether the reuse of authentication triplets in the event of a failure has been enabled or disabled.
Re-Authentication	Indicates whether the re-authentication feature, which instructs the SGSN to retry authentication with another RAND in situations where failure of the first authentication has occurred, has been enabled or disabled.
Direct Tunnel	Indicates if the SGSN allows direct tunneling if the direct tunneling is supported by destination node.
GTPU Fast Path	Indicates whether Fast Path support for network processing unit (NPU) processing of GTP-U packets of user sessions has been enabled or disabled.
Super Charger	Indicates whether the SGSN's ability to work with a super-charged network is enabled or disabled. By enabling the super charger functionality for 2G or 3G connections controlled by an operator policy, the SGSN changes the hand-off and location update procedures to reduce signaling traffic management.
Sending Radio Access Technology (RAT) IE	When this feature is enabled, the SGSN sends RAT information elements (IEs) within GTP messages.
Sending User Location Information (ULI) IE	When this feature is enabled, the SGSN sends ULI IEs within GTP messages.
Sending IMEISV IE	When this feature is enabled, the SGSN includes the IMEISV values of the mobile subscriber when sending GTP messages of the type "Create PDP Context Request".

Field	Description
Derive IMEISV from IMEI	When this feature is enabled, the SGSN sends the IMEI to the GGSN as an IMEI-SV.
Sending MS Time Zone IE	When this feature is enabled, the SGSN sends the mobile subscribers timezone IE in GTP messages of the type "Create PDP Request" and "Update PDPContext Request".
Treat as HPLMN	When this feature is enabled, the MME or SGSN treats an IMSI series as coming from the home PLMN.
Idle-mode-Signaling-Reduction (ISR) for UMTS	Indicates if the Idle-Mode-Signaling-Reduction (ISR) feature is enabled for UMTS (3G) subscribers. When ISR is enabled, the MME and SGSN allow the UE to be registered simultaneously in both the UMTS network on the SGSN and on the E-UTRAN on the MME. A separate feature license is required to enable ISR.
Idle-mode-Signaling-Reduction (ISR) for GPRS	Indicates if the Idle-Mode-Signaling-Reduction (ISR) feature is enabled for GPRS (2G) subscribers. When this feature is enabled, the MME and SGSN allow the UE to be registered simultaneously in both the GPRS network on the SGSN and on the E-UTRAN on the MME. A separate feature license is required to enable ISR.
Location Reporting for UMTS	When this feature is enabled, the MME can query and receive UE location reports from an eNodeB.
Location Reporting for GPRS	When this feature is enabled, the MME can query and receive UE location reports from an eNodeB.
SMS in MME	Displays the configured value (preferred / not-preferred) for SMS in MME.
SMSC Address	Displays the configured SMSC address.
Send SMS Subscription Request to HSS	Indicates whether the SMS Subscription Request to HSS is enabled or disabled.
Send SMS Subscription Notification to UE	Indicates whether the SMS Subscription Notification to UE is enabled or disabled.
MME S6a Message Options	
Notify Req (Trigger : MNRF flag)	Indicates whether the MNRF flag trigger for Notify Request is enabled or disabled
MME SGd Message Options	
Alert SC Request (Trigger : MNRF flag)	Indicates whether the MNRF flag trigger for Alert SC Request is enabled or disabled.
EPS Attach Restrict	
Voice Unsupported	When this feature is enabled, the MME can restrict UE attaches when the network does not support voice, for example when Voice over IMS is not supported in the network and the UE does not support CSFB.
IMSI Attach Fail	When this feature is enabled, the MME can restrict UE attaches when the IMSI Attach fails.
EPS Network	

Field	Description
N1 mode	This sub-group displays interworking with 5GS for UEs supporting N1 mode.
5GS to EPS handover using N26 interface	When this setting is enabled under N1 mode, the MME allows 5GS-EPS interworking with N26 interface.
CSFB Restrictions	
SMS Only	When this setting is enabled, the MME allows SMS-only attaches for Circuit Switched Fall Back (CSFB) services.
Not Allowed	When this setting is enabled, the MME disallows CSFB services (both SMS-only and voice services).
Not Preferred	When this setting is enabled, the MME returns "not-preferred" for CSFB services for combined EPS/IMSI attach requests.
Network Feature Support	
IMS Voice Over PS	Indicates whether IMS Voice over Packet-Switched information element (IE) is supported as part of the MME (Network) Feature
Qos	Indicates the transmission of quality of service (QoS) parameters has been enabled or disabled.
AMBR	Indicates whether an aggregate maximum bit rate (AMBR) will be enforced for user equipment.
Gn/Gp ARP	Indicates whether Gn-Gp pre-release 8 ARP and pre-emption parameters will be enforced or not.
High Priority (H) (Default)	The high-priority (address retention protocol) ARP value used for QoS.
Medium Priority (M) (Default)	The medium-priority ARP value used for QoS.
Gn/Gp Pre-Emption Capabilities (Default)	The pre-emption capability criteria for PDP contexts imported from an SGSN on Gn/Gp interfaces.
Gn/Gp Pre-Emption Vulnerabilities (Default)	The pre-emption vulnerability criteria for PDP contexts imported from an SGSN on Gn/Gp interfaces.
GPRS PDP Type IPV4V6 Override	Indicates whether the MME is configured to override the requested Packet Data Network (PDN) type (IPv4 or IPv6) based on the inbound roamer PLMN.
UMTS PDP Type IPV4V6 Override	Indicates whether the MME is configured to override the requested Packet Data Network (PDN) type (IPv4 or IPv6) based on the inbound roamer PLMN.
EPS PDN Type IPV4V6 Override	Indicates whether the MME is configured to override the requested Packet Data Network (PDN) type (IPv4 or IPv6) based on the inbound roamer PLMN.
RFSP	Displays the configuration of the **rfsp-override** command which the MME uses to control the override of RAT Frequency Selection Priority (RFSP).

Field	Description
Rfsp-override eutran-ho-restricted	Displays the configured value for RAT frequency selection priority when Handover to EUTRAN is restricted. This value overrides the RFSP ID value sent by the HLR/HSS in an EPS subscription.
PDN Type IPv6 Denied	Indicates whether the MME is enabled to allow only IPv4 addresses to a PDN connection.
Cause Code Mapping	
Restricted zone code	Displays the emm-cause-code to be returned to the UE when the UE requests access to a restricted zone during an EMM procedure.
Congestion	Displays the emm-cause-code to be returned to the UE when the system has detected a congestion condition during an EMM procedure.
Newcall policy restrict	Displays the emm-cause-code to be returned to the UE when the policy restricts new calls.
APN mismatch	Displays the emm-cause-code to be returned to the UE when the system has detected an APN mismatch condition during an EMM procedure.
VLR down	Displays the emm-cause-code to be returned to the UE when the system has detected a VLR down condition during an EMM procedure.
VLR unreachable	Displays the emm-cause-code to be returned to the UE when the system has detected a VLR unreachable condition during an EMM procedure.
Auth failure	Displays the emm-cause-code to be returned to the UE when an authentication failure occurs.
PEER NODE unknown	Displays the emm-cause-code to be returned to the UE when peer node resolution is not successful.
CTXT transfer fail SGSN	Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer SGSN occurs.
CTXT transfer fail MME	Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer MME occurs.
HSS unavailable	Displays the emm-cause-code to be returned to the UE when HSS resolution fails in the MME or the HSS does not respond in time.
SGW selection failure	Displays the emm-cause-code to be returned to the UE when a failure occurs during S-GW selection.
PGW selection failure	Displays the emm-cause-code to be returned to the UE when a failure occurs during P-GW selection.
GW unreachable Attach	Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM Attach procedure.
GW unreachable TAU	Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM TAU procedure.

Field	Description
NO bearers active	Displays the emm-cause-code to be returned to the UE when the context received from a peer SGSN (during a TAU procedure) does not contain any active PDP contexts
SGSN Core Network Interface Selection	Displays the SGSN Core Network Interface selection.
SGSN Core Network Interface Type	Displays the interface type selected as either Gn or S4.
S4 for EPC Capable Devices	Displays the configuration as either **Always** or **When EPS Subscription Available**, based on the CLI configured in the command **sgsn-core-nw-interface** in the Call-Control Profile.
S4 for Non-EPC Capable Devices	Displays the configuration as **Never** or **Always** or **When EPS Subscription Available**, based on the CLI configured in the command **sgsn-core-nw-interface** in the Call-Control Profile.
Uplink data status IE in service request	This field displays whether the Uplink Data Status IE is Processed or Ignored.
GUTI Reallocation	This parameter indicates if GUTI Reallocation is configured. The configured status is displayed as "Enabled" or "Disabled".
GUTI Reallocation Frequency	Displays the value of GUTI Reallocation Frequency in number of NAS requests.
GUTI Reallocation Periodicity	Displays the value of GUTI Reallocation Periodicity in minutes.
Authentication All-Events ANY (UMTS/GPRS/EUTRAN) Frequency	This parameter indicates if Selective Authentication frequency for all events is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication All-Events ANY (UMTS/GPRS/EUTRAN) Frequency Value	Displays the value of the configured Selective Authentication Frequency for all events.
Authentication All-Events ANY (UMTS/GPRS/EUTRAN) Periodicity	This parameter indicates if Selective Authentication periodicity for all events is configured. If the Periodicity is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication All-Events ANY (UMTS/GPRS/EUTRAN) Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for all events.
Authentication Attach ANY Frequency	This parameter indicates if Selective Authentication frequency for Attach procedure is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Attach ANY (UMTS/GPRS/EUTRAN) Frequency Value	Displays the value of the configured Selective Authentication Frequency for Attach procedures.
Authentication Attach ANY Periodicity	This parameter indicates if Selective Authentication periodicity for Attach procedure is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".

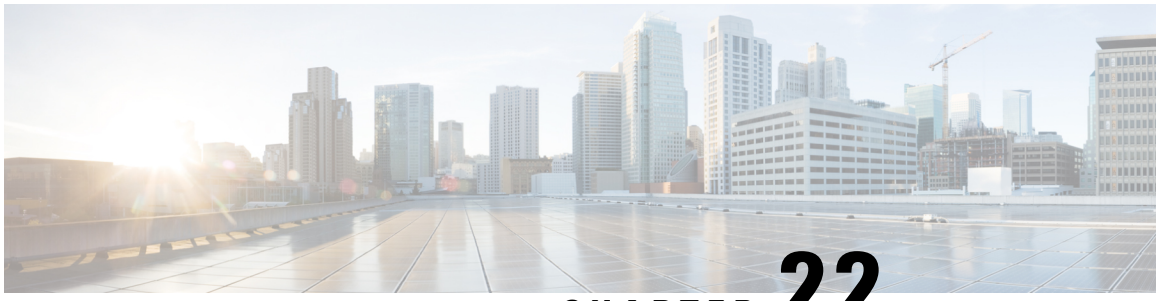
Field	Description
Authentication Attach ANY Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for Attach procedures.
Authentication Attach Inter-rat ANY (UMTS/GPRS/EUTRAN) Frequency	This parameter indicates if Selective Authentication frequency for Attach during Inter-RAT procedure is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Attach Inter-rat ANY (UMTS/GPRS/EUTRAN) Frequency Value	Displays the value of the configured Selective Authentication Frequency for Attach during Inter-RAT procedures.
Authentication Attach Inter-rat ANY Periodicity	This parameter indicates if Selective Authentication periodicity for Attach during Inter-RAT procedure is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Attach Inter-rat ANY Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for Attach during Inter-RAT procedures.
Authentication Service Req Frequency	This parameter indicates if Selective Authentication frequency for Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Service Req Frequency Value	Displays the value of the configured Selective Authentication Frequency for Service Requests.
Authentication Service Req Periodicity	This parameter indicates if Selective Authentication periodicity for Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Service Req Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for Service Requests.
Authentication Service Req Data Frequency	This parameter indicates if Selective Authentication frequency for Data Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Service Req Data Frequency Value	Displays the value of the configured Selective Authentication Frequency for Data Service Requests.
Authentication Service Req Data Periodicity	This parameter indicates if Selective Authentication periodicity for Data Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Service Req Data Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for Data Service Requests.
Authentication Service Req Signaling Frequency	This parameter indicates if Selective Authentication frequency for Signaling Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Service Req Signaling Frequency Value	Displays the value of the configured Selective Authentication Frequency for Signaling Service Requests.

Field	Description
Authentication Service Req Signaling Periodicity	This parameter indicates if Selective Authentication periodicity for Signaling Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Service Req Signaling Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for Signaling Service Requests.
Authentication Service Req Page Response Frequency	This parameter indicates if Selective Authentication frequency for Page Response Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Service Req Page Response Frequency Value	Displays the value of the configured Selective Authentication Frequency for Page Response Service Requests.
Authentication Service Req Page Response Periodicity	This parameter indicates if Selective Authentication periodicity for Page Response Service Requests is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Service Req Page Response Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for Page Response Service Requests.
Authentication TAU Frequency	This parameter indicates if Selective Authentication frequency for TAU Procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication TAU Frequency Value	Displays the value of the configured Selective Authentication Frequency for TAU Procedures.
Authentication TAU Periodicity	This parameter indicates if Selective Authentication periodicity for TAU Procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication TAU Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for TAU Procedures.
Authentication Inter-RAT TAU Frequency	This parameter indicates if Selective Authentication frequency for TAU during Inter-RAT procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication TAU Frequency Value	Displays the value of the configured Selective Authentication Frequency for TAU during Inter-RAT procedures.
Authentication TAU Inter-rat Periodicity	This parameter indicates if Selective Authentication periodicity for TAU during Inter-RAT procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication TAU Inter-rat Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for TAU during Inter-RAT procedures.
Authentication Intra-RAT TAU Frequency	This parameter indicates if Selective Authentication frequency for TAU during Intra-RAT procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".

Field	Description
Authentication Intra-RAT TAU Frequency Value	Displays the value of the configured Selective Authentication Frequency for TAU during Intra-RAT procedures.
Authentication TAU Intra-rat Periodicity	This parameter indicates if Selective Authentication periodicity for TAU during Intra-RAT procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication TAU Intra-rat Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for TAU during Intra-RAT procedures.
Authentication Normal TAU Frequency	This parameter indicates if Selective Authentication frequency for Normal TAU procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Normal TAU Frequency Value	Displays the value of the configured Selective Authentication Frequency for Normal TAU procedures.
Authentication TAU Normal Periodicity	This parameter indicates if Selective Authentication periodicity for Normal TAU procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication TAU Normal Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for Normal TAU procedures.
Authentication Periodic TAU Frequency	This parameter indicates if Selective Authentication frequency for Periodic TAU procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication Periodic TAU Frequency Value	Displays the value of the configured Selective Authentication Frequency for Periodic TAU procedures.
Authentication TAU Periodic Periodicity	This parameter indicates if Selective Authentication periodicity for Periodic TAU procedures is configured. If the frequency is configured the status is displayed as "Enabled" or it is displayed as "Disabled".
Authentication TAU Periodic Periodicity Value	Displays the value of the configured Selective Authentication Periodicity for Periodic TAU procedures.
Mapped SM Cause For Req APN not sup in current RAT and PLMN combination	Displays the mapped SM caused code for APN request not supported in current RAT and PLMN combination.
Cause Code Mapping	Displays the cause code mapping information.
APN not supported PLMN-RAT esm-proc	Displays the cause code configured for APN not supported PLMN-RAT esm-proc.
APN not supported PLMN-RAT Attach	Displays the cause code configured for APN not supported PLMN-RAT in attach requests.
APN not supported PLMN-RAT TAU	Displays the cause code configured for APN not supported PLMN-RAT in TAU requests.

Field	Description
Paging priority to be sent to eNodeB	If paging priority support is enabled this field displays the configured value of paging priority sent to eNodeB for CS paging. For example, if the paging priority value is set to "1", this field is displayed as "Enabled with value: 1". If paging priority support is disabled this field is displayed as "Disabled".
MPS CS priority	The MPS CS priority is displayed as either "Subscribed" or "None" based on the configuration.
MPS EPS priority	The MPS EPS priority is displayed as either "Subscribed" or "None" based on the configuration.
Paging priority to be sent to eNodeB for CS	Displayed as "Enabled" with value if paging-priority cs value is configured.
Paging priority mapping for CS	Displayed as “Enabled” with emlpp-priority to paging-priority mapping information if mapping is configured, otherwise it is displayed as “Disabled”.
Paging priority mapping for EPS	Displayed as “Enabled” with ARP to paging-priority mapping information if mapping is configured, otherwise it is diplayed as “Disabled”.
Handover Restriction	Displayed as "Enabled" if HO restriction is configured, else it is displayed as "Disabled".
SCEF Service	Displays the name of the configured SCEF service.
Attach without PDN Support for WB-EUTRAN	Indicates whether Attach without PDN for WB-EUTRAN is enabled or disabled.
Attach without PDN Support for NB-IoT	Indicates whether Attach without PDN for NB-IoT is enabled or disabled.
IE Override:	
S6A Interface	Indicates whether the S6a interface is enabled or disabled.
Supported RAT Type AVP	Displays the configured RAT type AVP IE.
Extended DRX	Specifies the following eDRX parameters: • Paging Time Window • eDRX Cycle Length • Downlink Buffer Duration in DDN Ack • DL Buffering Suggested Packet Count in DDN Ack
CIoT Optimisation:	
CP-Optimisation	Indicates whether CP CIoT optimization is enabled or disabled.
Access-Type	If CP CIoT optimization is enabled, displays the access type based on the configuration as: NB-IoT, or both WB-EUTRAN and NB-IoT. If CP CIoT optimization is disabled, this field displays N/A.

Field	Description
Serving PLMN Rate Control	Indicates whether serving PLMN rate control for CP CIoT optimization is enabled or disabled.
UL Rate	Displays the maximum number of data NAS PDUs that the UE sends in uplink path per deci-hour (6 minutes).
DL Rate	Displays the maximum number of data NAS PDUs that the P-GW or SCEF sends in the downlink path to the UE per deci-hour (6 minutes).
Gtp Tunnel ECN Ingress Mode	Displays the mode of ECN configured for the GTP tunnel.
ESM-T3396 Timer	This fields displays "Not Configured" if the ESM T3396 timeout is not configured for any cause code.
If the ESM T3396 timeout is configured for a cause code, the following two fields display the configured values.	
Value for Cause Code UNKNOWN OR MISSING APN(27)	This fields displays the configured T3396 timeout value in seconds for cause code value 27.
Value for Cause Code INSUFFICIENT RESOURCES(26)	This fields displays the configured T3396 timeout value in seconds for cause code value 26.
SRVCC	
SRVCC Service	This fields displays the status of the SRVCC service, that is, if SRVCC handovers are authorized or unauthorized, in a roaming network.
IMS APN	Displays IMS APN is "Configured" or "Not Configured".
Access Policy	Displays the configured access-policy name. If access-policy is not associated with call-control profile, this field displays "Not Defined".
Sending Ue-Usage-Type in CSR	Enables the sending of mapped Ue-Usage to Dedicated Core Network Configuration.



CHAPTER 22

show card

This chapter includes the **show card** command output tables.

Important The outputs of **show card** commands vary based on platform ASR 5000 or ASR 5500, VPC (virtualized), card type and the StarOS release.

- show card diag, on page 596
- show card hardware (ASR 5000), on page 597
- show card hardware (ASR 5500), on page 599
- show card hardware (VPC-DI), on page 607
- show card info (ASR 5000), on page 609
- show card info (ASR 5500), on page 611
- show card info (VPC-SI, VPC-DI), on page 614
- show card mappings (ASR 5000), on page 615
- show card table, on page 616

show card diag

Table 157: show card diag Command Output Descriptions

Field	Description
Counters	Displays boot counter information for the card. The following counters are reported: • **Successful warm boots:** Warm boots occur upon a software reset of the card. • **Successful cold boots:** Cold boots occur when the card experiences a hardware reboot. • **Total boot attempts:** This is the sum of successful and unsuccessful warm and cold boots. If this number is not equal to the total number of successful warm boots and the number of successful cold boots, then boot failures have occurred. This situation may indicate a problem with this card that requires further investigation. • **In Service Date:** Timestamp indicating when this card was placed in service. Each of the above counters provide a timestamp indicating the most recent occurrence. **NOTE:** Counters are not displayed for line card diagnostics.
Status	Status is reported for the following items: • **IDEEPROM Magic Number:** Indicates whether or not the device map has been initialized. The ID EEPROM device stores hardware, diagnostic and software configuration data. • **Boot Mode:** Displays the current boot mode. – Normal (boot to StarOS, default mode), Extended diagnostics or Diagnostic CLI. • **Card Diagnostics:** Indicates the current status of the card's internal diagnostics. The two possible states are: Pass (all diagnostics passed) and Failed one or more diagnostics did not pass). • **Current Failure:** Indicates any failure that is currently being reported by this card. If no failures were detected, this item will display None. • **Last Failure:** Indicates the last failure reported by this card since its event log was last cleared. • **Card Usable:** Indicates whether or not the card is usable. "Usability" is based on the operational state of the card (active, standby, or offline), whether or not the Administrative state is enabled (the card is configured for use via software), and whether or not the card's interlock switch is locked. Either a Yes or a No will be displayed. • **Last Reset Cause:** Indicates the cause for the last reset of this card. **Note: This field only appears if a card reset has occurred.**
Boot/Diag Log **ASR 5000 only**	Displays the contents of the boot and diagnostics log. **NOTE:** The boot and diagnostic log contents are not displayed for line card diagnostics.

Field	Description
Error Log **ASR 5000 only**	Displays the contents of the error log. **NOTE:** The error log contents are not displayed for line card diagnostics.
Current Environment **Not displayed for VPC**	Displays the results for the following measurements: • **Temperature measurements:** Indicates the current operating temperatures and provides the maximum safe temperature for comparison. • **Voltage measurements: I**ndicates the current input status for the various DC sources and provides the acceptable upper and lower limits for comparison.

show card hardware (ASR 5000)

Table 158: show card hardware Command Output Descriptions (ASR 5000)

Field	Description
Common to All Card Types	
Card <number>	Slot number of the specified card.
Card Type	Description of the card in the specified slot, for example "System Management Card".
Card Description	SMC, PSC*x*, FELC, GELC/GLC2, QGLC, XGLC, CLC/CLC2, OLC/OLC2, SPIO, RCC
Part Number	Legacy part number (xxx-xx-xxxx xx).
Serial Number	Legacy part number (alphanumeric string).
CLEI Code	Common Language Equipment Identifier (CLEI) code.
UDI Product ID	Unique Device Identifier (UDI) Product Identifier (PID).
UDI Version ID	UDI version.
UDI Serial Number	UDI serial number (alphanumeric string).
UDI CLEI Code	UDI Common Language Equipment Identifier (CLEI) code.
UDI Top Assembly Number	UDI for top-level assembly.
UDI TAN Revision	UDI Top Assembly Number (TAN) revision level.
UDI Deviation Number	UDI deviation number (DEVNUM).
MAC Addresses	Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx.

Field	Description
Switch Fabric Modes	Mode type – "control plane" and/or "switch fabric".
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
System Management Card	
Compact Flash	Status of PCMCIA flash memory card, for example "Present".
Type	Memory capacity of the Compact Flash card.
Model	Operational card type.
Serial Number	Serial number of this Compact Flash card.
PCMCIA1	Status of front panel Personal Computer Memory Card International Association (PCMCIA) card, for example "Not Present".
Hard Drive 1	Status of this hard drive, for example "present".
Type	Drive capacity in Mbytes.
Model	Manufacturer and model number.
Serial Number	Serial number of the hard drive.
SRM	Status, Reset, and Monitoring firmware.
BIOS	Basic Input/Output System.
CIF FPGA	Chassis Information (CIF) Field Programmable Gate Array (FPGA) firmware.
CPU 0 Type/Memory	Socket: 0, <processor type>, <processor speed>.
CPU 0 DIMM-A1 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-B1 P/N	Dual In-line Memory Module part number.
CPU 0 CFE/Diags	Common Firmware Environment/Diagnostic firmware.
Packet Processing Card (PSC, PSC2, PSC3, PSCA, PPC)	
NPU Microcode	Firmware running on the Network Processing Unit (NPU).
Slave SCB	Firmware component that allows non-SMC cards to communicate with the SMC over the system control bus (SCB).

Field	Description
PSR	Power, Status, and Reset firmware.
BIOS	Basic Input/Output System firmware.
DT FPGA, DT2 FPGA	Data Transport (DT) Field Programmable Gate Array (FPGA) firmware.
CPU 0 Type/Memory	Socket: 0, <processor type>, <processor speed>. Socket: 1, <processor type>, <processor speed>. Chipset: <components>.
CPU 0 DIMM-N0D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N0D1 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1D1 P/N	Dual In-line Memory Module part number.
CPU 1 Type/Memory	<processor type> <processor speed> <memory in MB>
CPU 0 CFE/Diags	Common Firmware Environment/Diagnostic firmware.
Line Cards (SPIO, RCC, FELC, GELC/GLC2, QGLC, XGLC, CLC/CLC2, OLC/OLC2)	
Slave SCB	Firmware component that allows non-SMC cards to communicate with the SMC over the system control bus (SCB).
FPGA	Field-Programmable Gate Array firmware.
SFP Info (Port 1 or 2)	Information about the Small Form-factor Pluggable (SFP) transceivers includes: Vendor Name, Vendor IEEE ID, P/N (part number), S/N (serial number, date.

Important The output of this command will also display other types of information relative to the CPUs and firmware running on the specific card types. This information varies based on the platform type.

show card hardware (ASR 5500)

Table 159: show card hardware Command Output Descriptions (ASR 5500)

Field	Description
Common to All Card Types	
Card <number>	Slot number of the specified card.

Field	Description
Card Type	Data Processing Card Data Processing Card 2 Management & 20x10Gb I/O Card Management 4x(10Gb&100Gb) I/O Card 2 System Status Card Fabric & 2x200GB Storage Card
Description	Card type – DPC, DPC2, MIO, MIO2, SSC, FSC.
Cisco Part Number	Cisco part number.
UDI Serial Number	Unique Device Identifier (UDI) serial number (alphanumeric string).
UDI Product ID	UDI Product Identifier (PID) [alphanumeric string].
UDI Version ID	UDI version (alphanumeric string).
UDI Top Assem Num	UDI for top-level assembly.
Data Processing Card (DPC)	
Daughter Card #3	Daughter card number.
Card Type	DPC CCK Daughter Card (crypto).
Description	DPC_CRYPTO_DC.
Starent Part Number	Legacy part number (xxx-xx-xxxx xx).
UDI Serial Number	UDI serial number (alphanumeric string).
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
BCF	Board Control FPGA firmware.
CAF	Control and Availability FPGA firmware.
CPU 0 Type/Memory	Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed>
CPU 0 DIMM-N0C0D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N0C1D0 P/N	Dual In-line Memory Module part number.

Field	Description
CPU 0 DIMM-N0C2D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1C0D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1C1D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1C2D0 P/N	Dual In-line Memory Module part number.
CPU 0 BIOS	Basic Input/Output System.
CPU 0 i82599	Intel 10GbE Controller firmware.
CPU 0 i82574	Intel Gigabit Ethernet Controller firmware.
CPU 0 CFE	Common Firmware Environment version.
CPU 1 Type/Memory	Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed>
CPU 1 DIMM-N0C0D0 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N0C1D1 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N0C2D2 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N1C0D0 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N1C1D1 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N1C1D1 P/N	Dual In-line Memory Module part number.
CPU 1 BIOS	Basic Input/Output System.
CPU 1 i82599	Intel 10 GbE Controller firmware.
CPU 1 i82574	Intel Gigabit Controller firmware.
CPU 1 CFE	Common Firmware Environment version.
Data Processing Card 2 (DPC2)	
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
BCF2	Board Control FPGA DPC2 firmware.
CAF2	Control and Availability FPGA DPC2 firmware.

Field	Description
CPU 0 Type/Memory	Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed>
CPU 0 DIMM-N0C0D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N0C1D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N0C2D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1C0D0 P/N	Dual In-line Memory Module part number.
CPU 0 BIOS	Basic Input/Output System.
CPU 0 i82599	Intel 10GbE Controller firmware.
CPU 0 i210	Intel Gigabit Ethernet Controller firmware.
CPU 0 CFE Loaded	Common Firmware Environment version.
CPU 0 CFE ROM	Multiple CFE versions.
CPU 0 DH89XXCC	Intel PCI Express root port.
CPU 1 Type/Memory	Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed>
CPU 1 DIMM-N0C0D0 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N0C1D1 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N0C2D2 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N1C0D0 P/N	Dual In-line Memory Module part number.
CPU 1 BIOS	Basic Input/Output System.
CPU 1 i82599	Intel 10 GbE Controller firmware.
CPU 1 i210	Intel Gigabit Controller firmware.
CPU 1 CFE Loaded	Common Firmware Environment version.
CPU 1 CFE ROM	Multiple CFE versions.
CPU 1 DH89XXCC	Intel PCI Express root port.
CPU 2 Type/Memory	Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed>
CPU 2 DIMM-N0C0D0 P/N	Dual In-line Memory Module part number.
CPU 2 DIMM-N0C1D1 P/N	Dual In-line Memory Module part number.

Field	Description
CPU 2 DIMM-N0C2D2 P/N	Dual In-line Memory Module part number.
CPU 2 DIMM-N1C0D0 P/N	Dual In-line Memory Module part number.
CPU 2 BIOS	Basic Input/Output System.
CPU 2 i82599	Intel 10 GbE Controller firmware.
CPU 2 i210	Intel Gigabit Controller firmware.
CPU 2 CFE Loaded	Common Firmware Environment version.
CPU 2 CFE ROM	Multiple CFE versions.
CPU 2 DH89XXCC	Intel PCI Express root port.
Management Input/Output (MIO)	
Daughter Card #<number>	Daughter card number.
Card Type	MIO 10x10Gb Daughter Card. MIO CCK Daughter Card (crypto).
Description	MDC MIO_CRYPTO_DC
Starent Part Number	Legacy part number (xxx-xx-xxxx xx)
Cisco Part Number	Cisco part number.
UDI Serial Number	Unique Device Identifier (UDI) serial number [alphanumeric string].
Midplane:	Chassis EPROM information.
Card Type	Midplane EPROM Card.
MAC Addresses	Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx.
MEC:	Midplane EEPROM Card.
Description	MEC.
Cisco Part Number	Cisco part number (nn-nnnnn-nn Ln).
UDI Serial Number	Unique Device Identifier (UDI) serial number [alphanumeric string].
UDI Product ID	UDI Product Identifier (PID) [alphanumeric string].
UDI Version ID	UDI version (alphanumeric string).
Midplane:	
Description	Midplane.

Field	Description
Cisco Part Number	Cisco part number (nn-nnnnn-nn Ln).
UDI Serial Number	UDI serial number (alphanumeric string).
Chassis:	
Description	Chassis.
Cisco Part Number	Cisco part number (nn-nnnnn-nn Ln).
UDI Serial Number	UDI serial number (alphanumeric string).
UDI Product ID	Cisco Product Identifier (PID) [alphanumeric string].
UDI Version ID	UDI version (alphanumeric string).
UDI Top Assem Num	UDI for top-level assembly.
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
SDHC Flash	Secure Digital High Capacity on-board flash memory (/flash drive).
Type	Disk capacity in Mbytes.
Model	Generic-UltraFastMedia.
USB 1	Status of front panel USB port, for example. "Not Present".
SFP+ Module On Port <number>:	Information on the SFP+ transceiver in the specified port (10 through 29).
Transceiver Info	SFP+ transceiver type.
Vendor Info	Vendor Name and Vendor IEEE ID.
Part Info	Cisco PID and serial number.
Management Input/Output version 2 (MIO2)	
Daughter Card #<number>	Daughter card number.
Card Type	MIO 2x(10Gb&100Gb) Daughter Card 2
Description	MDC
Cisco Part Number	Cisco part number.
UDI Serial Number	Unique Device Identifier (UDI) serial number [alphanumeric string].

Field	Description
Midplane:	Chassis EPROM information.
Card Type	Midplane EPROM Card.
MAC Addresses	Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx.
MEC:	Midplane EEPROM Card.
Description	MEC.
Cisco Part Number	Cisco part number (nn-nnnnn-nn Ln).
UDI Serial Number	Unique Device Identifier (UDI) serial number [alphanumeric string].
UDI Product ID	UDI Product Identifier (PID) [alphanumeric string].
UDI Version ID	UDI version (alphanumeric string).
Midplane:	
Description	Midplane.
Cisco Part Number	Cisco part number (nn-nnnnn-nn Ln).
UDI Serial Number	UDI serial number (alphanumeric string).
Chassis:	
Description	Chassis.
Cisco Part Number	Cisco part number (nn-nnnnn-nn Ln).
UDI Serial Number	UDI serial number (alphanumeric string).
UDI Product ID	Cisco Product Identifier (PID) [alphanumeric string].
UDI Version ID	UDI version (alphanumeric string).
UDI Top Assem Num	UDI for top-level assembly.
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
SDHC Flash	Secure Digital High Capacity on-board flash memory (/flash drive).
Type	Disk capacity in Mbytes.

Field	Description
Model	Generic-UltraFastMedia.
USB 1	Status of front panel USB port, for example. "Not Present".
SFP+ Module On Port <number>:	Information on the SFP+ transceiver in the specified port (10 through 29).
Transceiver Info	SFP+ transceiver type.
Vendor Info	Vendor Name and Vendor IEEE ID.
Part Info	Cisco PID and serial number.
BCF2	Board Control FPGA DPC2 firmware.
CAF2	Control and Availability FPGA DPC2 firmware.
DC F	Daighter Card Firmware
CPU 0 Type/Memory	Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed>
CPU 0 DIMM-N0C0D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N0C1D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N0C2D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1C0D0 P/N	Dual In-line Memory Module part number.
CPU 0 BIOS	Basic Input/Output System.
CPU 0 i82599	Intel 10GbE Controller.
CPU 0 i82574	Intel Gigabit Ethernet Controller.
CPU 0 m88se9485	Marvell Serial Attached SCSI (SAS) I/O Controller
CPU 0 CFE Loaded	Common Firmware Environment version.
CPU 0 CFE ROM	Multiple CFE versions.
CPU 0 DH89XXCC	Intel PCI Express root port.
System Status Card (SSC)	
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.

Field	Description
BCF	Board Control FPGA firmware.
Fabric and Storage Card (FSC)	
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
BCF	Board Control FPGA firmware.

show card hardware (VPC-DI)

In a VPC-DI instance, card numbers correspond to the virtual slot numbers assigned to the virtual machines (VMs) that run StarOS within the virtual chassis created by hypervisor templates.

Table 160: show card hardware Command Output Descriptions (VPC-DI)

Field	Description
Control Function and Service Function Cards	
Card <number>	Virtual slot number of the specified card. Slots 1 and 2 = CF; Slots 3 – 48 = SF.
Card Type	Control Function Virtual Card or 2-Port Service Function Virtual Card.
CPU Packages	Number of vCPUs.
CPU nodes	Number of CPU nodes.
CPU Cores/Threads	Number of cores/threads.
Memory	vMemory in Megabytes
Platform	Hypervisor type.
CFE/Diags	Common Firmware Environment/Diagnostic firmware.
Network Interfaces	
cpeth0	VPC-DI network communication port.
Address	MAC address.
Device	Device type.

Field	Description
ID	VPC-DI identifier (hexadecimal).
Driver	Driver type.
RxQ(s)/RINGSZ/COALESCE	Receive queue information from hypervisor.
TxQ(s)/RINGSZ/COALESCE	Transmit queue information from hypervisor.
loeth0	**CF only:** LOCAL management port (Console).
Address	MAC address.
Device	Device type.
ID	VPC-DI identifier (hexadecimal).
Driver	Driver type. (alphanumeric string)
RxQ(s)/RINGSZ/COALESCE	Receive queue information from hypervisor.
TxQ(s)/RINGSZ/COALESCE	Transmit queue information from hypervisor.
port_*slot_port*	**SF only:** Service port.
Address	MAC address.
Device	Device type.
ID	VPC-DI identifier (hexadecimal).
Driver	Driver type. (alphanumeric string)
RxQ(s)/RINGSZ/COALESCE	Receive queue information from hypervisor.
TxQ(s)/RINGSZ/COALESCE	Transmit queue information from hypervisor.
Storage Devices	
Virtual Flash	Indicates whether or not the virtual /flash drive is Present.
Type	Virtual drive type (alphanumeric string).
Model	Virtual drive model (alphanumeric string).
Hard Drive 1	Indicates whether virtual Hard Drive 1 is Present.
Type	Virtual drive type (alphanumeric string).
Model	Virtual drive model (alphanumeric string).
Hard Drive 2	Indicates whether virtual Hard Drive 2 is Present.
USB 1	Indicates whether virtual USB port 1 is Present (must be configured via hypervisor).

Field	Description
USB 2	Indicates whether virtual USB port 2 is Present (must be configured via hypervisor).
CDROM 1	Indicates whether virtual a CDROM is Present (must be configured via hypervisor).
Type	CDROM drive type (alphanumeric string).
Model	CDROM drive model (alphanumeric string).
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.

show card info (ASR 5000)

Table 161: show card info (ASR 5000) Command Output Descriptions

Field	Applicable Card(s)	Description
Slot Type	All	Displays the acronym for the card type.
Card Type	All	Indicates the type of card installed.
Operational State	All	Displays the operational state of the card. The possible operational states are: • **Active:** Indicates that the card is an active component that will be used to process subscriber data sessions. • **Standby:** Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • **Offline:** Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because it is not completely installed (such as, the card interlock switch is not locked}. Refer to the *ASR 5000 Installation Guide* for additional information.
Desired Mode	Processing Cards, SPIOs and line cards only	Displays the configured mode of the card. Through software configuration the card could be placed into either the active or standby mode.
Last State Change	All	Displays the time of the last operational state change for the card.

Field	Applicable Card(s)	Description
Administrative State	All	Indicates whether or not the card has been configured for use via software. If it has been configured, Enabled will be displayed. If not, Disabled will be displayed.
Card Lock	All	Displays whether or not the card's interlock switch is Locked or Unlocked.
Halt Issued	All	Displays whether or not this card was the target of a **halt** command issued by an administrator or operator. The **halt** command stops all tasks and processes running on the card. If the card has been halted, a Yes will be displayed. If not, a No will be displayed.
Reboot Pending	All	Displays whether or not the card will be undergoing a reboot. If the card is being rebooted, a Yes will be displayed. If not, a No will be displayed.
Upgrade In Progress	SPC/SMC, PSCx	Indicates whether an upgrade is in progress. The following operations are not allowed while a card is upgrading: • change card [no] shutdown (config) • change card active (config) • change card redundancy (config) • card halt (exec) • card reboot (exec) • start an online upgrade Level unlock operations are ignored while a card is upgrading.
Card Usable	All	Indicates whether or not the card is usable. "Usability" is based on the operational state of the card (active, standby, or offline), whether or not the Administrative state is enabled (the SPC/SMC can communicate with it), and whether or not the card's interlock switch is locked. Either a Yes or a No will be displayed.
Single Point of Failure	All	Displays whether or not the component is a single point of failure (SPOF) in the system. If the component is a SPOF, then a Yes will appear in this column. If not, a No will be displayed.
Attachments	SPC/SMC, PSCx	Displays the slot number and card type(s) that this card is associated with. For example, if this information is being displayed for a Processing Card, then the line card(s) that the Processing Card is associated with will be displayed.
Temperature	All	Indicates the current operating temperature and provides the maximum safe temperature for comparison.
Voltages	All	Indicates whether the power levels that the card is receiving are within acceptable limits. Every card in the system has at least two power inputs. If all of the power inputs are within specification, a Good will be displayed. If even one of these inputs is out of the acceptable range, then a Bad ***ALARM*** will be displayed.

Field	Applicable Card(s)	Description
Card LEDs	All	Displays the state of the Run/Fail, Active, and Standby light emitting diodes (LEDs) on the front panels of each of the cards. The LEDs will be displayed as either Green, Red, or Off. • **Run/Fail LED:** Green is normal, Red or Off indicate a problem. **NOTE:** If the Run/Fail LED is either Red or Off, refer to the *ASR 5000 System Administration Guide* for information on troubleshooting the problem. • **Active:** Green indicates that the card is in active mode. Off indicates that the card is in standby mode. • **Standby LED:** Green indicates that the card is in standby mode. Off indicates that the card is in active mode.
System LEDs	SPC/SMC	Displays the state of the Status and Service LEDs on the SPC/SMC. The Status LED will be displayed as either Green, Red, or Off. The Service LED will be displayed as either Amber, or Off. • **Status LED:** Green is normal, Red or Off indicate a problem. **NOTE:** If the Run/Fail LED is either Red or Off, refer to *ASR 5000 System Administration Guide* for information on troubleshooting the problem. • **Service LED:** Amber indicates that maintenance is needed. Off indicates that no maintenance is necessary. **NOTE:** If the Status LED is Amber, refer to *ASR 5000 System Administration Guide* for information on troubleshooting the problem.
CPU 0 through 3	SMC, PSCx	Displays how the CPUs on the card are being used.

show card info (ASR 5500)

Table 162: show card info (ASR 5500) Command Output Descriptions

Field	Applicable Card(s)	Description
Slot Type	All	Displays the acronym for the card type.
Card Type	All	Indicates the type of card installed.
Daughter Cards	MIO/UMIO/MIO2	Lists the number of daughter cards installed, for example "DC1, DC2".

Field	Applicable Card(s)	Description
Operational State	All	Displays the operational state of the card. The possible operational states are: • **Active:** Indicates that the card is an active component that will be used to process subscriber data sessions. • **Standby:** Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • **Offline:** Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because it is not completely installed (such as, the card interlock switch is not locked}. Refer to the *ASR 5500 Installation Guide* for additional information.
Desired Mode	DPC/UDPC, DPC2/UDPC2	Displays the configured mode of the card. Through software configuration the card could be placed into either the active or standby mode.
Last State Change	All	Displays the time of the last operational state change for the card.
Administrative State	All	Indicates whether or not the card has been configured for use via software. If it has been configured, Enabled will be displayed. If not, Disabled will be displayed.
Card Lock	All	Displays whether or not the card's interlock switch is Locked or Unlocked.
Halt Issued	All	Displays whether or not this card was the target of a **halt** command issued by an administrator or operator. The **halt** command stops all tasks and processes running on the card. If the card has been halted, a Yes will be displayed. If not, a No will be displayed.
Reboot Pending	All	Displays whether or not the card will be undergoing a reboot. If the card is being rebooted, a Yes will be displayed. If not, a No will be displayed.
Upgrade In Progress	MIO/UMIO/MIO2, DPC/UPDC, DPC2/UDPC2	Indicates whether an upgrade is in progress. The following operations are not allowed while a card is upgrading: • change card [no] shutdown (config) • change card active (config) • change card redundancy (config) • card halt (exec) • card reboot (exec) • start an online upgrade Level unlock operations are ignored while a card is upgrading.
Session Busy-Out	DPC/UDPC, DPC2/UDPC2	Indicates whether a busy-out command has been initiated. Busy-out moves processes from the source DPC/UDPC to the destination DPC/UDPC, or disables the DPC/UDPC from accepting any new calls.

Field	Applicable Card(s)	Description
Card Usable	MIO/UMIO/MIO2	Indicates whether or not the card is usable. "Usability" is based on the operational state of the card (active, standby, or offline), whether or not the Administrative state is enabled MIO/UMIO can communicate with it), and whether or not the card's interlock switch is locked. Either a Yes or a No will be displayed.
Single Point of Failure	All	Displays whether or not the component is a single point of failure (SPOF) in the system. If the component is a SPOF, then a Yes will appear in this column. If not, a No will be displayed.
Temperature	All	Indicates relative operating temperature.
Voltages	All	Indicates whether the power levels that the card is receiving are within acceptable limits. Every card in the system has at least two power inputs. If all of the power inputs are within specification, a Good will be displayed. If even one of these inputs is out of the acceptable range, then a Bad ***ALARM*** will be displayed.
Card LEDs	All	Displays the state of the Run/Fail, Active and Redundancy light emitting diodes (LEDs) on the front panels of each of the cards. • **Run/Fail LED:** Green is normal, Red or Off indicate a problem. • **Active:** Green indicates that the software is loaded or is being loaded (blinking) on the card. • **Redundancy:** Green indicates that the card is in standby mode. **NOTE:** If the Run/Fail LED is either Red or Off, refer to *ASR 5500 System Administration Guide* for information on troubleshooting the problem. Refer to the *ASR 5500 Installation Guide* for additional information.
Card LEDs	MIO/UMIO/MIO2	The following LEDs appear on the MIO/UMIO only: • **Master:** Green indicates that the card is in Active mode. • **Busy:** Green indicates that the card is accessing the RAID solid state drives on the FSCs.
Card LEDs	FSC	The following LEDs appear on the FSC only: • **Drive 1 Activity** and **Drive 2 Activity:** Indicate that the RAID solid state drives are being accessed by the MIO/UMIO.
Card LEDs	SSC	The following LEDs appear on the SSC only: • **System Status:** Red indicates the that there is a loss of service somewhere in the system. For example, the system could not locate a a valid software image at boot-up, or a high temperature condition exists. • **System Service:** Illuminates amber to indicate that the system has experienced a hardware component failure.

Field	Applicable Card(s)	Description
CPU 0, CPU 1	MIO/UMIO/MIO2, DPC/UDPC, DPC2/UDPC2	Displays whether an Error ID Log or Boot Progress Log is present for the CPU.

show card info (VPC-SI, VPC-DI)

Table 163: show card info (VPC-SI, VPC-DI) Command Output Descriptions

Field	Applicable Card(s)	Description
Slot Type	Virtual	Displays the acronym for the card type.
Card Type	Virtual	Indicates the type of card installed.
Operational State	Virtual	Displays the operational state of the card. The possible operational states are: • **Active:** Indicates that the card is an active component that will be used to process subscriber data sessions. • **Standby:** Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • **Offline:** Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because it is not completely installed (such as, the card interlock switch is not locked}.
Redundant With **VPC-DI CF only**	Virtual	Indicates with which slot this CF maintains 1:1 redundancy.
Last State Change	Virtual	Displays the time of the last operational state change for the card.
Administrative State	Virtual	Indicates whether or not the card has been configured for use via software. If it has been configured, Enabled will be displayed. If not, Disabled will be displayed.
Card Lock	Virtual	Displays whether or not the card's interlock switch is Locked or Unlocked.
Reboot Pending	Virtual	Displays whether or not the card will be undergoing a reboot. If the card is being rebooted, a Yes will be displayed. If not, a No will be displayed.

Field	Applicable Card(s)	Description
Upgrade In Progress	Virtual	Indicates whether an upgrade is in progress. The following operations are not allowed while a card is upgrading: • change card [no] shutdown (config) • change card active (config) • change card redundancy (config) • card halt (exec) • card reboot (exec) • start an online upgrade Level unlock operations are ignored while a card is upgrading.
Session Busy-Out **Not supported for VPC-DI, CF**	Virtual	Indicates whether a busy-out command has been initiated (Enabled or Disabled).
Card Usable	Virtual	Indicates whether or not the card is usable. "Usability" is based on the operational state of the card (active, standby, or offline), whether or not the Administrative state is enabled, and whether or not the card's interlock switch is locked. Either a Yes or a No will be displayed.
Single Point of Failure	Virtual	Displays whether or not the component is a single point of failure (SPOF) in the system. Not applicable for virtual cards.
Card LEDs	Virtual	Not displayed for virtual cards.
CPU 0	Virtual	Displays how the CPU on the card is being used.

show card mappings (ASR 5000)

Table 164: show card mappings Command Output Descriptions (ASR 5000)

Field	Description
Slot (left-most column)	Displays the chassis slot number and the type of line card installed.

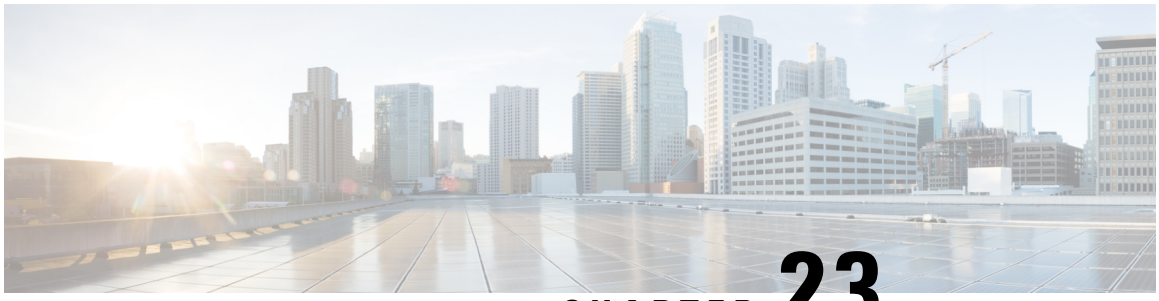
Field	Description
Mapping	Displays the mapping or communication path from the line card to the application card. The possible mapping s are: • **Direct:** The line card is operating in conjunction with the application card installed directly in front of it. • **Cross:** The SPIO installed in slot 24 is operating in conjunction with the SMC installed in slot 9 or the SPIO in slot 25 is operating in conjunction with the SMC in slot 8. **NOTE:** Cross mappings only occur if the SPC/SMC that the SPIO was formerly operating behind became disabled (either automatically due to an error, or through manual configuration). • **RCC 40:** A line card (non-SPIO) installed in chassis slots 17 through 23 or 26 through 32 is operating in conjunction with a Processing Card installed in a slot that is not directly in front via the RCC in slot 40. • **RCC 41:** A line card (non-SPIO) installed in chassis slots 33 through 39 or 42 through 48 is operating in conjunction with a Processing Card installed in a slot that is not directly in front via the RCC in slot 41. **NOTE:** RCC 40 and RCC 41 mappings will only occur if the Processing Card that the line card was formerly operating behind became disabled (either automatically due to an error, or through manual configuration).
Slot (right-most column)	Displays the chassis slot number and the type of application card installed.

show card table

Table 165: show card table Command Output Descriptions

Field	Description
Slot	Displays the chassis slot number and card type acronym.
Card Type	Displays the type of card installed.
Oper State	Displays the operational state of the card. The possible operational states are: • **Active:** Indicates that the card is an active component that will be used to process subscriber data sessions. • **Standby:** Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • **Offline:** Indicates that the card is installed but is not ready to process subscriber data sessions. This could be due to the fact that it is not completely installed (such as, the card interlock switch is not locked). Refer to the *Installation Guide* for additional information.

Field	Description
SPOF	Displays whether or not the component is a single point of failure (SPOF) in the system. If the component is a SPOF, then a Yes will appear in this column. If not, a No will be displayed.
Attach **ASR 5000 only**	This column if valid only for the ASR 5000 platform. It displays the line card that the Processing Cards and SMCs are using for network access. This column will only be populated for the RCCs in the event that tasks and processes were migrated from an active Processing Card to a standby Processing Card. The RCC creates a path from the standby Processing Card to the line cards.



CHAPTER 23

show cdr

This chapter includes the **show cdr** command output tables.

- show cdr statistics, on page 619
- show cdr file-space-usage, on page 622

show cdr statistics

Table 166: show cdr statistics Command Output Descriptions

Field	Description
EDR-UDR file Statistics	
CDRMOD Instance Id	The CDRMOD instance identifier.
Overall Statistics	
Files rotated	Total number of EDR and UDR files rotated.
Files rotated due to volume limit	Total number of EDR and UDR files rotated due to volume limit.
Files rotated due to time limit	Total number of EDR and UDR files rotated due to time limit.
Files rotated due to tariff-time	Total number of EDR and UDR files rotated due to tariff time.
Files rotated due to records limit	Total number of files rotated because of record limits.
File rotation failures	Total number of times rotation failed for EDR and UDR file.
Files deleted	Total number of EDR and UDR files deleted.
Records deleted	Total number of records deleted.
Records received	Total number of records received.
Files received	Total number of EDR and UDR files received by service.
Time of last file deletion	Date and time of last EDR/UDR file deleted.
Current open files	Total number of EDR and UDR files open.

Field	Description
REDR Specific Statistics	
REDR files rotated	Total number of REDR files rotated.
REDR files rotated due to volume limit	Total number of REDR files rotated due to volume limit.
REDR files rotated due to time limit	Total number of REDR files rotated due to time limit.
REDR files rotated due to records limit	Total number of REDR files rotated due to records limit.
REDR file rotation failures	Total number of rotation failed for REDR files.
REDR files deleted	Total number of REDR files deleted.
REDR records deleted	Total number of REDR records deleted.
REDR records received	Total number of REDR records received.
Current open REDR files	Total number of REDR files open.
Time of last REDR file deletion	Date and time of last REDR file deleted.
EDR Specific Statistics	
EDR files rotated	Total number of EDR files rotated.
EDR files rotated due to volume limit	Total number of EDR files rotated due to volume limit.
EDR files rotated due to time limit	Total number of EDR files rotated due to time limit.
EDR files rotated due to records limit	Total number of EDR files rotated due to records limit.
EDR file rotation failures	Total number of rotation failed for EDR files.
EDR files deleted	Total number of EDR files deleted.
EDR records deleted	Total number of EDR records deleted.
EDR records received	Total number of EDR records received.
Current open EDR files	Total number of EDR files open.
Time of last EDR file deletion	Date and time of last EDR file deleted.
UDR Specific Statistics	
UDR files rotated	Total number of UDR files rotated.
UDR files rotated due to volume limit	Total number of UDR files rotated due to volume limit.
UDR files rotated due to time limit	Total number of UDR files rotated due to time limit.

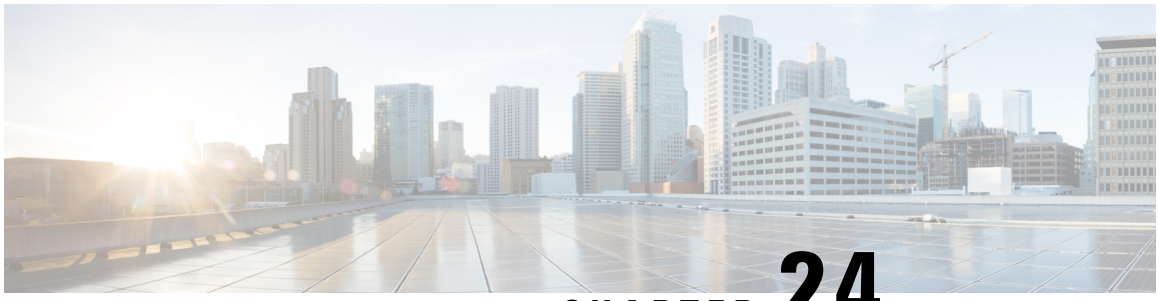
Field	Description
UDR files rotated due to records limit	Total number of UDR files rotated due to records limit.
UDR files rotation failures	Total number of rotation failed for UDR file.
UDR files deleted	Total number of UDR files deleted.
UDR records deleted	Total number of UDR records deleted.
UDR records received	Total number of UDR records received.
Current open UDR files	Total number of UDR files open.
Time of last UDR file deletion	Date and time of last UDR file deletion.
UDR-EDR-REDR PUSH Statistics	
Overall Statistics **Primary Server Statistics** **Secondary Server Statistics**	
Successful File Transfers	Total number of successful file transfers.
Failed File Transfers	Total number of failed file transfers.
Num of times PUSH initiated	Total number of times an EDR/UDR push attempt was initiated.
Num of times PUSH Failed	Total number of times an EDR/UDR push attempt failed.
Num of times PUSH cancelled due to HD failure	Total number of times EDR/UDR push was cancelled due to hard disk failures.
Num of periodic PUSH	Total number of periodic push.
Num of manual PUSH	Total number of manual push.
Current status of PUSH	Indicates the current status of push – Running/Not Running.
Last completed PUSH time	The date and time the last push completed.
Num of file Pend transfer	Total number of EDR/UDR files that are present in the */records/* directory waiting to be transferred to the remote server.
Num of file Queued transfer	Total number of EDR/UDR files that are currently queued to transfer to the remote server.
Diameter-hdd-module Record Specific Statistics	
Diameter-hdd-module files rotated	Total number of Diameter files rotated.
Diameter-hdd-module files rotated due to volume limit	Total number of Diameter files rotated due to volume limit.

Field	Description
Diameter-hdd-module files rotated due to time limit	Total number of Diameter files rotated due to time limit.
Diameter-hdd-module files rotated due to tariff-time	Total number of Diameter files rotated due to tariff time.
Diameter-hdd-module files rotated due to records limit	Total number of Diameter files rotated due to records limit.
Diameter-hdd-module file rotation failures	Total number of rotation failed for Diameter files.
Diameter-hdd-module files deleted	Total number of Diameter files deleted.
Diameter-hdd-module records deleted	Total number of Diameter records deleted.
Diameter-hdd-module records received	Total number of Diameter records received by service.
Current open Diameter-hdd-module files	Total number of Diameter files open.
Time of last Diameter-hdd-module file deletion	The date and time of last Diameter file deleted.

show cdr file-space-usage

Table 167: show cdr file-space-usage Command Output Descriptions

Field	Description
CDRMOD Instance Id	The CDRMOD instance identifier.
UDR File Storage Limit	Displays the configured storage limit for UDR files.
UDR File Storage Usage	Displays the storage space utilized for the UDR files.
Percentage of UDR file store usage	Displays the percentage of storage space utilized for the UDR files.
EDR File Storage Limit	Displays the configured storage limit for EDR files.
EDR File Storage Usage	Displays the storage space utilized for the EDR files.
Percentage of EDR file store usage	Displays the percentage of storage space utilized for the EDR files.



CHAPTER 24

show cell-trace-module

This chapter includes the **show cell-trace-module** command output tables.

- show cell-trace-module file-space-usage, on page 623
- show cell-trace-module statistics, on page 623

show cell-trace-module file-space-usage

Table 168: show cell-trace-module file-space-usage Command Output Descriptions

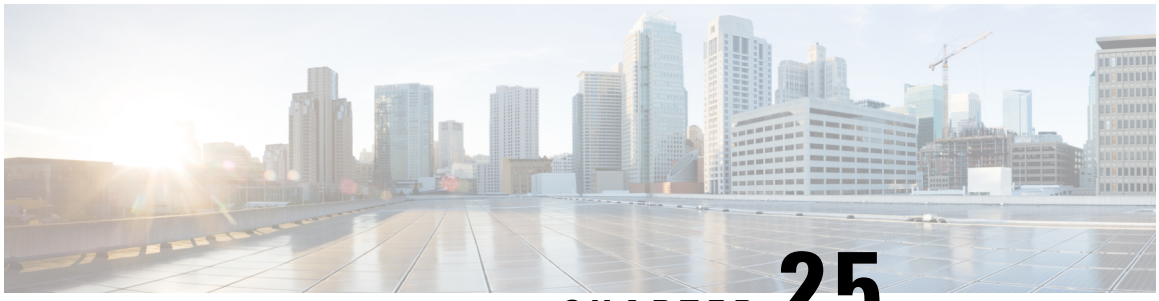
Field	Description
CDRMOD Instance Id	The CDRMOD instance identifier.
Cell-Trace File Storage Limit	Displays the configured storage limit for cell trace files.
Cell-Trace File Storage Usage	Displays the storage space utilized for cell trace files.
Percentage of Cell-Trace file store usage	Displays the percentage of storage space utilized for the cell trace files.

show cell-trace-module statistics

Table 169: show cell-trace-module statistics Command Output Descriptions

Field	Description
CDRMOD Instance Id	The CDRMOD instance identifier.
Cell-Trace Specific Statistics	
Cell-Trace-module files rotated	Total number of cell trace files rotated.
Cell-Trace-module files rotated due to time limit	Total number of cell trace files rotated due to time limit.

Field	Description
Cell-Trace-module files rotated due to records limit	Total number of cell trace files rotated because of record limits.
Cell-Trace-module file rotation failures	Total number of times rotation failed for cell trace files.
Cell-Trace-module files deleted	Total number of cell trace files deleted.
Cell-Trace-module records deleted	Total number of cell trace records deleted.
Cell-Trace-module records received	Total number of cell trace records received.
Time of last Cell-Trace-module file deletion	Date and time of last cell trace file deleted.
Cell-Trace-module PUSH Statistics	
Successful File Transfers	Total number of successful file transfers.
Failed File Transfers	Total number of failed file transfers.
Num of times PUSH initiated	Total number of times a cell trace PUSH attempt was initiated.
Num of times PUSH Failed	Total number of times a cell trace PUSH attempt failed.
Num of times PUSH cancelled due to HD failure	Total number of times cell trace PUSH operation was cancelled due to hard disk failures.
Num of periodic PUSH	Total number of periodic PUSH operations.
Num of manual PUSH	Total number of manual PUSH operations.
Current status of PUSH	Indicates the current status of PUSH operation – Running/Not Running.
Last completed PUSH time	The date and time the last PUSH operation completed.



CHAPTER 25

show certificate

This chapter includes the **show certificate** command output tables.

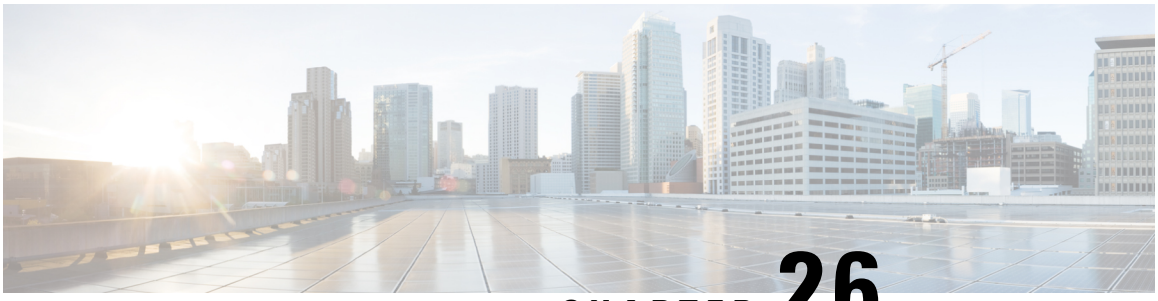
- show certificate, on page 625

show certificate

Table 170: show certificate Command Output Descriptions

Field	Description
Name	Certificate name
Data	Data output varies with content at the time of certificate creation but will include: X.509 version numberSerial numberAlgorithm typeIssuing authorityValid datesPublic key encrypted data

show certificate



CHAPTER 26

show cli

This chapter includes the **show cli** command output tables.

- show cli configuration-monitor, on page 627
- show cli history, on page 628
- show cli session, on page 628

show cli configuration-monitor

Table 171: show cli configuration-monitor Command Output Descriptions

Field	Description
config monitor enabled?	Indicates whether or not the CLI configuration monitor has been enabl Global Configuration mode **cli configuration-monitor** command (yes
monitoring config changes?	Indicates whether configuration changes are being monitored (yes/no).
monitoring enabled/disabled	Indicates whether monitoring has been enabled or disabled.
cli config monitor instance	Indicates the number of active CLI configuration monitoring instances
cli config monitor status	Indicates the current status of the configuration monitor. For example: idle".
# config change traps sent	Indicates the number of starConfigurationUpdate SNMP traps that hav The Global Configuration mode **cli trap config-mode** command must b traps to be sent.
seconds until next monitor	Indicates the number of seconds remaining in a 15-minute window bef executes a **show configuration checksum** command.
longest checksum time (sec)	Indicates in seconds the longest interval between configuration checks
time of last object change	Displays a timestamp associated with the last time a configuration obje
last config object changed	Displays the name of the changed object.

show cli history

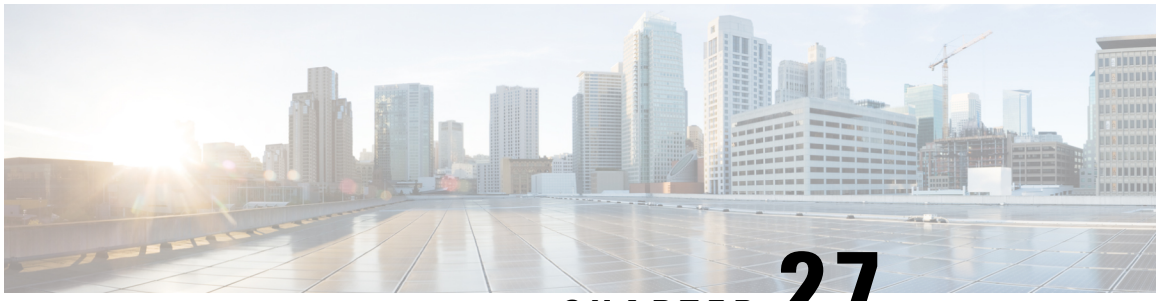
Table 172: show cli history Command Output Descriptions

Field	Description
<Sequence No.>	Indicates the chronological sequence number for the listed CLI command.
<Timestamp>	Indicates day of week, date/time (MON DD hh:mm:ss TTT YYYY), CLI (<cli:*n*>), context (name), context ID, user, mode and hostname. **NOTE:** This information only appears if the optional **all** keyword has been the **show cli history** command.
<Command Name>	Displays the name of the CLI command that was run.

show cli session

Table 173: show cli session Command Output Descriptions

Field	Description
User	Displays user information related to CLI session login.
Session started at	Indicates session start time in the format: DoW, MMM, DD hh:mm:ss TT
Security Level:	Displays information about the user's StarOS administrative level and other



CHAPTER 27

show chassis-throughput

This chapter includes the **show chassis-throughput** command output table.

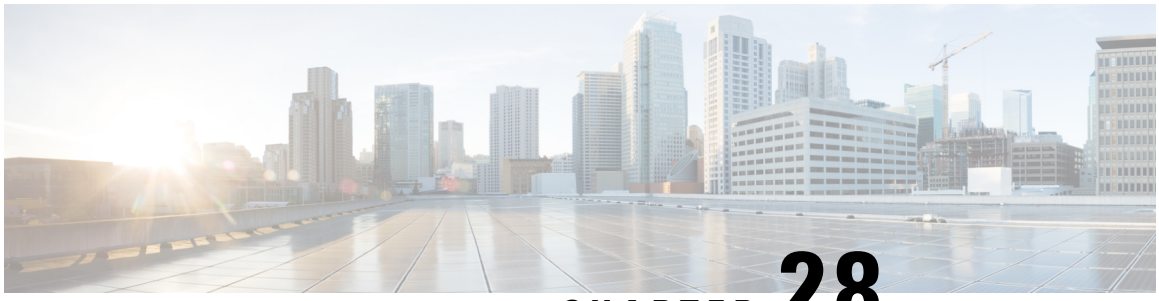
- show chassis-throughput, on page 629

show chassis-throughput

Table 174: show chassis-throughput Command Output Descriptions

Field	Description
Chassis Throughput	Indicates the configured throughput of the chassis.
Card/Cpu	Indicates individual distribution of throughput on per card, per CPU ba
Throughput	Indicates the throughput for the individual card/CPU.

show chassis-throughput



CHAPTER 28

show cloud

This chapter includes the **show cloud** command output tables.

The **show cloud** commands are only supported on virtualized platforms.

- show cloud configuration, on page 631
- show cloud hardware, on page 632
- show cloud monitor, on page 632

show cloud configuration

Table 175: show cloud configuration Command Output Descriptions

Field	Description
Card <n>	Card slot number.
Config Disk Parameters	Information about the current virtual disk configuration.
Local Params:	
CARDSLOT=	Card slot number.
CARDTYPE=	Hexadecimal card type identifier.
CPUID=	Associated CPU number.
IFTASK_CORES=50	Core allocation on the SF card.
IFTASK_CRYPTO_CORES=30	Core allocation for crypto on the SF card.
IFTASK_MCDMA_CORES=40	Core allocation for mcdma on the SF card.
CONTROL_THREAD_ENABLE=1	Control thread enabled.
MCDMA_THREAD_DISABLE=1	MCDMA thread disabled.

show cloud hardware

Table 176: show cloud hardware Command Output Descriptions

Field	Description
CPU Nodes	Number of CPU nodes.
CPU Cores/Threads	Number of cores/threads.
Memory	vMemory in Megabytes.
Hugepage size	Page size.
cpeth0:	VPC-DI network communication port.
Driver	Driver type.
loeth0:	CF only: LOCAL management port (Console).
Driver	Driver type.
port*slot_port*	SF only: Service port.
Driver	Driver type.

show cloud monitor

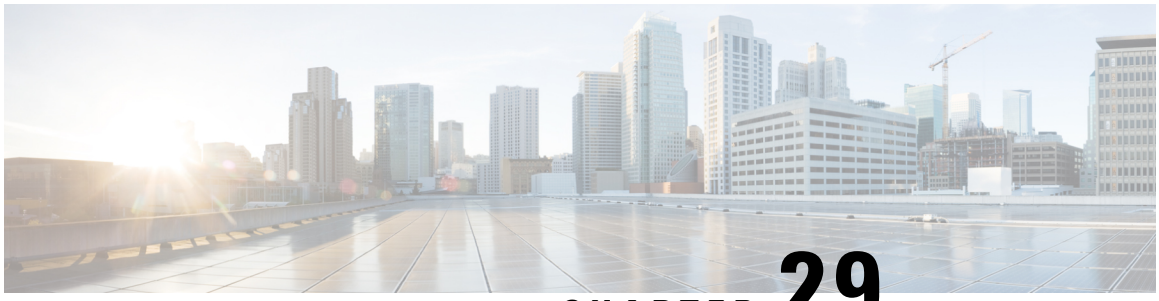
Table 177: show cloud monitor di-network summary Command Output Descriptions

Field	Description
The following fields appear for both **summary** and **detail** command options.	
Card <n> Test Results	Card slot number on which monitoring has been performed.
ToCard	Slot number of the card to which traffic was routed.
Health	"Bad" indicates a packet loss rate of larger than 1%. Otherwise the Health is "Good".
5MinLoss	Percentage of packets lost for the past five minutes.
60MinLoss	Percentage of packets lost for the past 60 minutes.
The following fields only appear for the **detail** command option.	
Dest	The reported statistics refer to the communication between this card and the card number specified when running the command.
TotalPkt	Total number of packets sent.
JumboPkt	Number of jumbo packets sent.

Field	Description
TotalDrops	Total number of jumbo and non-jumbo test packets that were dropped.
JumboDrops	Number of jumbo test packets that were dropped.
LongRTT	Longest Round Trip Time (RTT) in milliseconds.
AverageRTT	Average Round Trip Time (RTT) in milliseconds.
Last 10 RTT in milliseconds (starting from most current)	

Table 178: show cloud monitor controlplane and dataplane Command Output Descriptions

Field	Description
Cards	Indicates the card slot number that originated the monitoring request.
Src	Indicates the card slot number that originated the monitoring request.
Dst	Indicates the card slot number to which the request was directed.
15 Second Interval / 5 Minute Interval / 60 Minute Interval (Control Plane only)	
Xmit	Indicates the total number of packets transmitted for a 15-second interval.
Recv	Indicates the total number of packets received for a 15-second interval.
Miss%	Indicates the drop/lost percentage. If insufficient data is collected for a complete interval, “-incomplete” is displayed.
15 Second Interval / 5 Minute Interval / 60 Minute Interval (Data Plane only)	
Miss	Indicates the difference in the number of packets transmitted versus the number of packets received
Hit	Indicates the total number of packets received for a 15-second interval.
Pct	Indicates the drop/lost percentage. If insufficient data is collected for a complete interval, “-incomplete” is displayed.



CHAPTER 29

show cmp

This chapter includes the **show cmp** command output tables. CMP refers to IPSec Certificate Management Protocol v2.

Important The commands described in this chapter appear in the CLI for this release. However, they have not been qualified for use with any current Cisco StarOS gateway products.

- show cmp history, on page 635
- show cmp outstanding-reg, on page 637
- show cmp statistics, on page 637

show cmp history

Table 179: show cmp history Command Output Descriptions

Field	Description
Trans id	Internal ID assigned to this Certificate Management Protocol v2 (CMPv2) transaction
Cert Name	CMPv2 certificate name

Field	Description
Src State	Possible source states: • INIT – the initial state generates the public and private keys for the Initialize Response/Enrollment Response message, builds these messages and sends them to the CA. • RESP WAIT – waiting for a response for any of Initialize Response, Enrollment Response, Update Response or Polling Response messages. The response messages are handled in this state and appropriate actions taken based on the PKIStatus of the response. • POLL WAIT – there is no outstanding request for the certificate but the CA has not yet signed the certificate and has returned a PKIStatus of "waiting". • READY – the certificate is signed by CA and is ready for use. • CLEANUP – This is an error handling state that handles all error transitions and results in cleanup activities for the certificate.
Trigger	Transaction trigger: • cp (Enrollment Response) • cr (Enrollment Request) • ip (Initialize Response) • ir (Initialize Request) • kup (Update Response) • kur (Update Request)
Dst State	Possible destination states: • INIT – the initial state generates the public and private keys for the Initialize Response/Enrollment Response message, builds these messages and sends them to the CA. • RESP WAIT – waiting for a response for any of Initialize Response, Enrollment Response, Update Response or Polling Response messages. The response messages are handled in this state and appropriate actions taken based on the PKIStatus of the response. • POLL WAIT – there is no outstanding request for the certificate but the CA has not yet signed the certificate and has returned a PKIStatus of "waiting". • READY – the certificate is signed by CA and is ready for use. • CLEANUP – This is an error handling state that handles all error transitions and results in cleanup activities for the certificate.
Status	Transaction status: OK or KEY_GEN_FAIL

show cmp outstanding-reg

Table 180: show cmp outstanding-req Command Output Descriptions

Field	Description
Cert name	Name of the CMPv2 certificate
Current State	Possible states: • INIT – the initial state generates the public and private keys for the Initialize Response/Enrollment Response message, builds these messages and sends them to the Certificate Authority (CA). • RESP WAIT – waiting for a response for any of Initialize Response, Enrollment Response, Update Response or Polling Response messages. The response messages are handled in this state and appropriate actions taken based on the PKIStatus of the response. • POLL WAIT – there is no outstanding request for the certificate but the CA has not yet signed the certificate and has returned a PKIStatus of "waiting". • READY – the certificate is signed by CA and is ready for use. • CLEANUP – This is an error handling state that handles all error transitions and results in cleanup activities for the certificate.
Outstanding Message	Possible messages: None and those states listed above

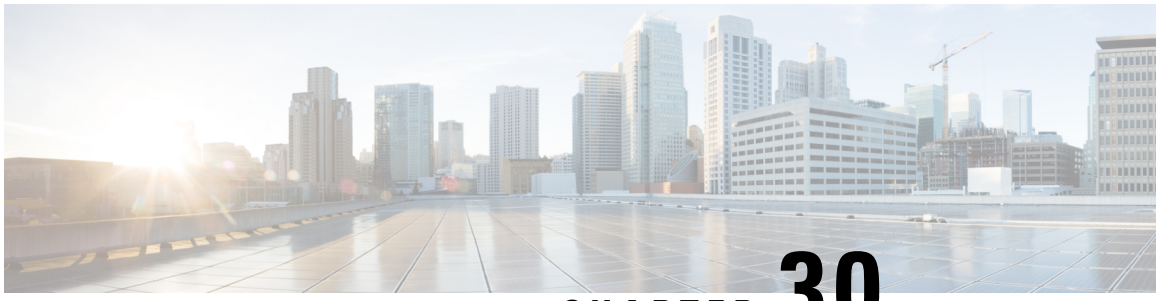
show cmp statistics

Table 181: show cmp statistics Command Output Descriptions

Field	Description
Protocol Statistics	
Initialize Request (ir)	Number of Initialize Request messages
Initialize Response (ip)	Number of Initialize Response messages
Enrollment Request (cr)	Number of Enrollment Request messages
Enrollment Response (cp)	Number of Enrollment Response messages
Manual Update Request (kur)	Number of manual Update Request messages
Manual Update Response (kup)	Number of manual Update Response messages
Polling Request	Number of Polling Request messages

Field	Description
Polling Response	Number of Polling Response messages
Certconf Message	Number of Certificate Configuration messages
Error Message	Number of error messages
Accepted Initial Request	Number of accepted Initial Request messages
Accepted Enrollment Request	Number of accepted Enrollment Request messages
Accepted Update Request	Number of accepted Update Request messages
Accepted Polling Request	Number of accepted Polling Request messages
Auto Update (kur) Triggered	Number of times an automatic certificate update was triggered
Parse Response - CA Reject	Number of times messages have received Reject response from the Certificate Authority (CA)
Pkiconf Message	Number of Public Key Infrastructure (PKI) Configuration messages received
Response Timeout	
Initialize Request (ir)	Number of Initialize Request timeouts
Enrollment Request (cr)	Number of Enrollment Request timeouts
Update Request (kur)	Number of Update Request timeouts
Certconf	Number of Certificate Configuration timeouts
PollReq	Number of Polling Request timeouts
Parse Failure	
Initialize Response (ip)	Number of Initialize Response parsing error messages
Enrollment Response (cp)	Number of Enrollment Response parsing error messages
Update Response (kup)	Number of Update Response parsing error messages
Pkiconf Message	Number of PKI Configuration parsing error messages
Polling Response	Number of Polling Response parsing error messages
Unexpected Response Msg	Number of Unexpected Response messages
Message Build Failure	
Initialize Request (ir)	Number of Initialize Request message build failures
Enrollment Request (cr)	Number of Enrollment Request message build failures
Update Request (kur)	Number of Update Request message build failures

Field	Description
Certconf Message	Number of Certificate Configuration build failures
Polling Request	Number of Polling Request message build failures
Internal Statistics	
TCP Socket Connection Failure	Number of TCP socket connection failures
Failed Key Pair Generation	Number of times a key pair failed to be generated
Certificate Validation Failure	Number of times a certificate validation failed
Certificate Storage Failure	Number of times a certificate failed to be stored
Certificate Configuration Failure	Number of times a certificate failed to be configured
DNS Host Failures	Number of DNS host failures
Other Internal Error	Number of other internal errors
Manual CMP Certificate Cleared	Number of times a CMP certificate was manually cleared
Redundancy Statistics	
Certificate Recovery Succeeded	Number of times a certificate was successfully recovered
Certificate Recovery Failed	Number of times a certificate failed to be recovered



CHAPTER 30

show confdmgr

This chapter includes the **show confdmgr** command output tables. ConfD is the engine supporting the NETCONF protocol interface with the Cisco Network Service Orchestrator (NSO) and Elastic Services Controller (ESC).

- show confdmgr, on page 641
- show confdmgr subscriptions, on page 643

show confdmgr

Table 182: show confdmgr Command Output Descriptions

Field	Description
State Information	
State	Indicates current state of the confdmgr proclet: Starting, Started, Stopped.
Subscriptions	Indicates configuration points defined in the Yang model for which confdmgr w be notified when a change occurs.
Last successful id	ID number for the last successful request instance.
Last failed id	ID number for the last failed request instance.
Autosave url	URL specified by the NETCONF Protocol Configuration mode **autosave-conf** command. **Note** This command was made obsolete in 21.2; this field is no longer displayed in 2 higher releases.
Username	Username specified by the NETCONF Protocol Configuration mode **confd-us** command.
Bulkstats	Displays whether event bulkstats collection and reporting on the REST interfac enabled or disabled.

Field	Description
Kpi interval	Displays the time interval in seconds for gathering NSLB Key Performance Indica (KPI) information. If set to 0, this functionality is disabled.
Event notification level	Displays the configured severity level of StarOS events to be sent out as NETCON notifications: critical (1), error (2), warning (3), unusual (4), info (5). This level dic the lowest event severity level that results in a notification.
SNMP notifications	Displays whether SNMP alert and alarm reporting via NETCONF is enabled or disa
REST interface authentication	Displays the certificate verification done on client interfaces: none, peer, or peer-f
REST interface certificate	Displays the name of the certificate.
REST interface host name	If configured, displays the host name the web server will serve. If configured, mand the web server to only service requests whose Host field matches this configured h name. Otherwise displays "Not configured".
Interface / Status / Port The current status (Enabled/Disabled) and configured port number for the NETCONF and REST interfaces.	
Statistics	
Triggers	Number of times confdmgr has requested ConfD to dump the CDB contents back confdmgr which results in a config synchronization by SCT (Shared configuration T
Replays	Number of times a transaction has been replayed. A replay is initiated if, upon sta the last successful transaction ID in confdmgr does not match that of ConfD. This c occur, for example, if confdmgr task restarted when processing the notification fo configuration transaction.
Notifications	Number of times ConfD has sent a configuration update to confdmgr. For example can occur as the result of a "commit" via confd_cli or during a trigger event.
Notification failures	Number of times an update received from ConfD was not processed successfully. number of successes and failures should always equal the total number of notificat
Trigger failures	Number of times a CDB dump to confdmgr failed.
Replay failures	Number of times an attempt to replay a transaction failed.
NETCONF notification failures	Number of times an attempt to issue a NETCONF notification failed.
Unexpected failures	Number of times an unexpected condition was encountered. An error is generated each case.
Successful notifications	Number of times an update received from ConfD was successfully processed. **Note** This field was deprecated in 21.2.

show confdmgr subscriptions

Table 183: show confdmgr subscriptions Command Output Descriptions

Field	Description
Subscriptions	
Path	Pathname for configuration points defined in the Yang model for which confdm to be notified when a change occurs.
Index	Assigned index number
Namespace	staros



CHAPTER 31

show configuration

This chapter includes the **show configuration** command output tables.

- show configuration iftask boot-options, on page 645
- show configuration iftask boot-options verbose, on page 646
- show config , on page 646
- show config apn, on page 647
- show configuration access-link, on page 647
- show config context, on page 647
- show configuration srp, on page 648
- show config context verbose, on page 648

show configuration iftask boot-options

Table 184: show config iftask boot-options Command Output Descriptions

Field		Description
priority		Indicates the priority for the configuration to be applied.
	cdrom	Indicates CDROM configuration as priority.
	cli	Indicates CLI configuration as priority.
sfc		Indicates startup configuration parameters for Service Function card.
	cores	Indicates percentage of iftask-cores in the virtual card.
	crypto	Indicates percentage of crypto cores out of the iftask-cores in the virtual card.
	mcdma	Indicates percentage of mcdma cores out of the iftask-cores in the virtual card.
sfc		
	thread-enable	Indicates that thread-enable flag is on.

Field		Description
	control	Indicates control-thread is enabled.
	mcdma	Indicates mcdma-thread is enabled.

show configuration iftask boot-options verbose

Table 185: show config iftask boot-options Command Output Descriptions

Field		Description
priority		Indicates the priority for the configuration to be applied.
	cdrom	Indicates CDROM configuration as priority.
	cli	Indicates CLI configuration as priority.
sfc		Indicates startup configuration parameters for Service Function card.
	cores	Indicates percentage of iftask-cores in the virtual card.
	crypto	Indicates percentage of crypto cores out of the iftask-cores in the virtual card.
	mcdma	Indicates percentage of mcdma cores out of the iftask-cores in the virtual card.
sfc		
	thread-enable	Indicates that thread-enable flag is on.
	control	Indicates control-thread is enabled.
	mcdma	Indicates mcdma-thread is enabled.

show config

The output of this CLI command displays the following parameters.

Field	Description
gtpp attribute secondary-rat-usage	Specify this option to include the Secondary RAT reports field in the CDR.
gtpp suppress-secondary-rat-usage zero-volume	Enables the exclusion of the zero volume Secondary RAT reports in the CDR.

Field	Description
gtpp limit-secondary-rat-usage	Enables limiting the number of Secondary RAT Usage reports in CDR with the configured value.

show config apn

show config apn <apn_name>

The output of this command displays the following parameter:

Field	Description
access-link ip-frag: df-ignore	Displays the application logic applied to the APN. APN-Configured confirms if the application logic is derived from the APN (True) or from the Global level (False).

show configuration access-link

show configuration access-link

The output of this command displays the following parameter:

Field	Description
access-link ip-fragmentation normal	Displays the respective value, if configured at Global level. If the configuration is set to default or df-ignore then, no output is displayed

show configuration access-link verbose

The output of this command displays the following parameter:

Field	Description
access-link ip-fragmentation df-ignore	Displays the respective value, if configured at Global level. If the configuration is set to default or df-ignore then, df-ignore is displayed.

show config context

Table 186: show config context <context name> Command Output Descriptions

Field	Description
S-GW Service:	

Field	Description
egtp change-notification-req rat-type eutran ignore-uli-with-rai-sai-cgi	Indicates that CLI is enabled under S-GW service.
P-GW Service:	
egtp change-notification-req rat-type eutran ignore-uli-with-rai-sai-cgi	Indicates that CLI is enabled under P-GW service.
flexible-services-container	Indicates that an optional TLV Flexible Services Container is sent in Pilot packets.
ggsn-service	
handover-immediate-flush-enabled	Shows that the GGSN Service is associated with the saegw-service with an immediate flush of handover information from sessmgr to demux (egtpinmgr).
gtpc suppress-framed-route-timer	Displays that the framed route on receiving delete pdp request is removed.
gtpp group default	
gtpp v1-header-suppress-zeros	Displays that the extra zeros are removed from gtpp v1-header. 14-octet length zeros does not get included in the version-1 header.
sx-service	
vpn-validation-for-user-plane-selection	Displays tthat he userplane is successfully registered with vpn.

show configuration srp

The output of this command is enhanced to display the following field.

Table 187: show configuration srp Command Output Descriptions

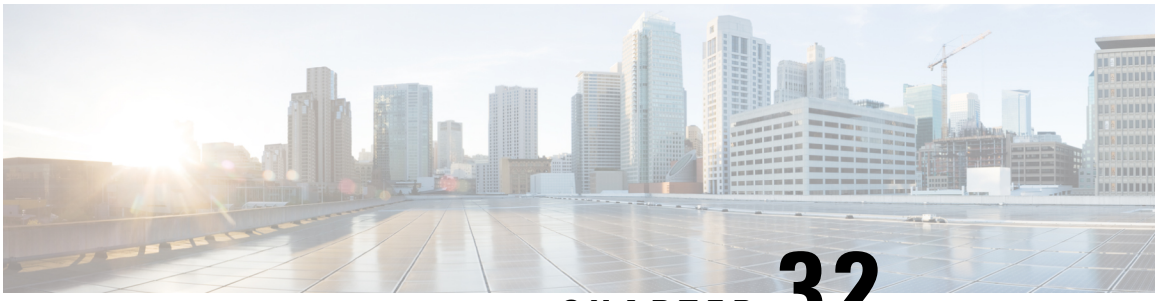
Field	Description
vrf-srp-validate	Indicates that the SRP validation for BGP VRF configuration is enabled.
srp-validate access-list	Displays that the IP and IPv6 access list configurations for the SRP checkpoint validation is enabled.

show config context verbose

Table 188: show config context <context name> verbose Command Output Descriptions

Field	Description
S-GW Service:	

Field	Description
no egtp change-notification-req rat-type eutran ignore-uli-with-rai-sai-cgi	Indicates that CLI is disabled under S-GW service.
P-GW Service:	
no egtp change-notification-req rat-type eutran ignore-uli-with-rai-sai-cgi	Indicates that CLI is disabled under P-GW service.



CHAPTER 32

show congestion-control

This chapter includes the **show congestion-control** command output tables.

- show congestion-control configuration, on page 651
- show congestion-control statistics a11mgr instance, on page 652
- show congestion-control statistics asngwmgr instance, on page 652
- show congestion-control statistics egtpinmgr, on page 653
- show congestion-control statistics mme full, on page 653

show congestion-control configuration

Table 189: show congestion-control configuration Command Output Descriptions

Field	Description
system cpu utilization	Displays the current congestion-control configuration. If the demuxmgr exclusion is configured while calculating system CPU utilization, then relevant data regarding exclusion is mentioned in the output.
system memory utilization	Displays the current congestion-control configuration. If the demuxmgr exclusion is configured while calculating system memory utilization, then relevant data regarding exclusion is mentioned in the output.
demuxmgr average cpu utilization	Displays the current congestion-control configuration. If the demuxmgr CPU utilization threshold is configured, then the respective facility is monitored for the CPU utilization.
connected-sessions-utilization	Displays the current congestion-control configuration. If the total connected session monitoring is configured, then the system wide connected session value is monitored.

show congestion-control statistics a11mgr instance

Table 190: show congestion-control statistics a11mgr instance Command Output Descriptions

Field	Description
Current congestion status	The current congestion control state as "Cleared" or "Applied".
Congestion applied	Displays the number of times the system invoked a congestion control policy for the specified service type.
Congestion Control Resource Limits	Indicates the congestion control threshold that was triggered. For more information, refer to the **congestion-control threshold** command in the Global Configuration Mode chapter of the *Command Line Interface Reference*.

show congestion-control statistics asngwmgr instance

Table 191: show congestion-control statistics asngwmgr instance Command Output Descriptions

Field	Description
current congestion status	The current congestion control state as "Cleared" or "Applied".
congestion applied	Displays the number of times the system invoked a congestion control policy for the specified service type.
congestion Control Resource Limits	Indicates the congestion control threshold that was triggered. For more information, refer to the **congestion-control threshold** command in the Global Configuration Mode chapter of the *Command Line Interface Reference*.
system cpu use exceeded	Indicates the number of time the ASNGW Manager exceeded the system CPU usage limit.
service cpu use exceeded	Indicates the number of time the ASNGW Manager exceeded the CPU usage limit specified for this service.
system memory use exceeded	Indicates the number of time the ASNGW Manager exceeded the allocated system memory usage limit.
port rx use exceeded	Indicates the number of time the ASNGW Manager exceeded the Rx port usage limit.
port tx use exceeded	Indicates the number of time the ASNGW Manager exceeded the Tx port usage limit.
port specific rx use exceeded	Indicates the number of time the ASNGW Manager exceeded the Rx port usage limit for a specific port number.
port specific tx use exceeded	Indicates the number of time the ASNGW Manager exceeded the Tx port usage limit for a specific port number.

Field	Description
max sess use exceeded	Indicates the number of time the ASNGW Manager exceeded the maximum session usage limit for a service.
license use exceeded	Indicates the number of time the ASNGW Manager exceeded the maximum license usage limit.
msg queue size use exceeded	Indicates the number of time the ASNGW Manager exceeded the message queue size usage.
msg queue wait time exceeded	Indicates the number of time the ASNGW Manager exceeded the message queue wait time.
license threshold exceeded	Indicates the number of time the ASNGW Manager exceeded the license threshold limit.
max sess threshold exceeded	Indicates the number of time the ASNGW Manager exceeded the maximum session threshold limit.
sessions disconnected due to overload disconnect	Indicates the total number of sessions disconnected due to overload.

show congestion-control statistics egtpinmgr

Table 192: show congestion-control statistics egtpinmgr Command Output Descriptions

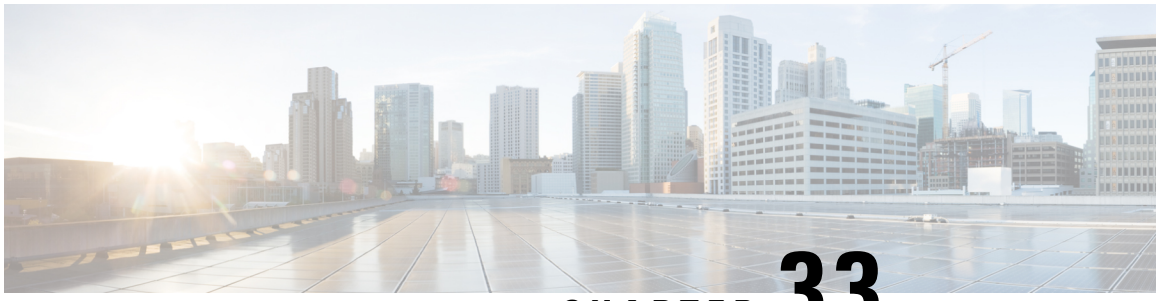
Field	Description
demuxmgr cpu use	Displays the current congestion-control statistics. If a congestion policy is applied, then an entry is made for the resource types with congestion applied.
connected sess threshold exceeded	Displays the current congestion-control statistics. If there is a congestion applied, then an entry is made for the resource types with congestion applied.

show congestion-control statistics mme full

Table 193: show congestion-control statistics mme full Command Output Descriptions

Field	Description
Critical/Major/Minor Congestion Policy Action	This section provides statistics for the Critical, Major or Minor congestion policy actions that were triggered for the MME.
Congestion Policy Applied	Displays the number of times the system invoked a congestion control policy.
PS attaches Rejected/Dropped	Indicates the number of packet switched Attach requests that were rejected/dropped.
Combined attaches Rejected/Dropped	Indicates the number of Combined Attach requests that were rejected/dropped.

Field	Description
S1-Setup Rejected/Dropped	Indicates the number of S1-Setup attempts that were rejected/dropped.
Handover Rejected/Dropped	Indicates the number of handover attempts that were rejected/dropped.
Addn-pdn-connect Rejected/Dropped	Indicates the number of additional PDN context connection attempts that were rejected/dropped.
Addn-brr-connect Rejected/Dropped	Indicates the number of additional Bearer Resource Requests that were rejected/dropped.
Brr-ctxt-mod-request Rejected/Dropped	Indicates the number of Bearer Resource Context Modification Requests dropped or rejected during a congestion condition.
Service-Request Rejected/Dropped	Indicates the number of service requests that were rejected/dropped.
TAU-Request Rejected/Dropped	Indicates the number of TAU requests that were rejected/dropped.
S1AP Overload Start Sent	Indicates the number of S1AP Overload Start messages that were sent.
S1AP Overload Stop Sent	Indicates the number of S1AP Overload Stop messages that were sent.
Excluded Emergency Events	Indicates the number of emergency events that were excluded from the Congestion Control policy based on the configuration of the **exclude-emergency-events** command. These events were allowed to proceed during a congestion condition.
Excluded Voice Events	Indicates the number of voice calls that were excluded from the Congestion Control policy based on the configuration of the **exclude-voice-events** command. These calls were allowed to proceed when a congestion condition.



CHAPTER 33

show connectedapps

This chapter describes the output of the **show connectedapps** command.

- show connectedapps, on page 655

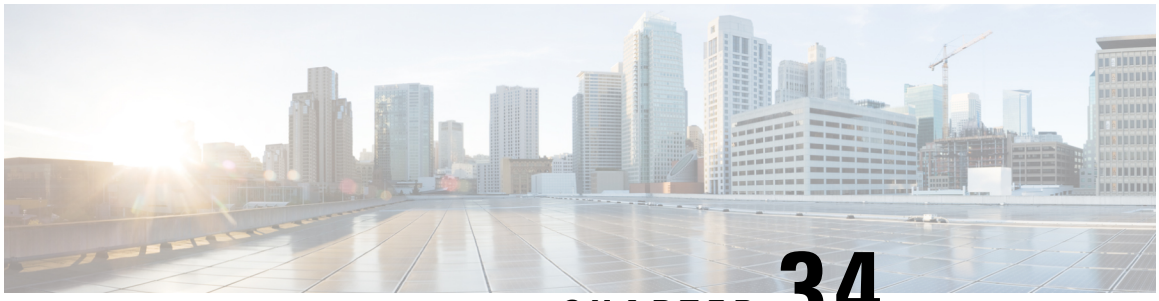
show connectedapps

Table 194: show connectedapps Command Output Descriptions

Field	Description
CA session userid	Username for the current CA session.
CA session password	Password for the current CA session.
CA session name	Name assigned to the current CA session.
CA session IP address	IP address of the current CA session
HA chassis mode	High Availability chassis mode: • **Inter** – between ASR 9000 chassis • **Intra** – within an ASR 9000 VSM • **Standalone** – No HA (standalone VSM)
HA network mode	High Availability network mode: • **L2** – Layer 2 • **L3** – Layer 3 • **NA** – Not Applicable (standalone VSM)
CA session Activation	YES (activated) or NO (not activated)
CA SRP Status	Current Session Recovery Protocol status (ICSR): • INIT – Initializing • UP • DOWN

show connectedapps

Field	Description
CA SRP State	Current Session Recovery Protocol state (ICSR): • INIT – Initializing • UP • DOWN



CHAPTER 34

show content-filtering

This chapter includes the **show content-filtering** command output tables.

- show content-filtering category database, on page 657
- show content-filtering category database all, on page 658
- show content-filtering category database facility srdbmgr all, on page 659
- show content-filtering category policy-id id, on page 660
- show content-filtering category statistics, on page 661
- show content-filtering category statistics facility srdbmgr all, on page 661
- show content-filtering category url <url> policy-id <id> verbose, on page 662
- show content-filtering server-group name, on page 663
- show content-filtering server-group statistics, on page 664

show content-filtering category database

Table 195: show content-filtering category database active verbose Command Output Descriptions

Field	Description
Database Status	Indicates latest status of rating databases. Possible status are: • **OK**: Indicates all SRDB tasks are running and database is good. • **ERROR-Database Corrupt:** Indicates all SRDB tasks are running and database is bad or corrupt. • **ERROR-No database at specified pathname**: Indicates all SRDB tasks are running and database is not available at specified path/location/directory. • **MERGING**: Displayed during merging of the incremental database with full OPTCMDB database. • **LOADING**: Displayed during loading of the database. • **n/a**: Indicates that specified database is not loaded and its status is unknown.

Field	Description
Path	Path specified to base location or folder for Static Rating Databases (SRDB). It may have one of the following flags: • ***ACTIVE***: Indicates database is valid and good. • ***NOT LODAED***: Indicates that there is an error in database.
Last Upgrade Status	Status of last attempt of rating database upgrade. Possible status are: • **Successful:** Displayed after the upgrade is completed successfully. • **Failure**: Displayed in case of failure system will rollback to previous database. • **n/a**: Displayed in case of first time loading of database.
Type	Type of SRDB with checksum. Type of SRDB may be Full or Incremental.
Version	Latest version status of SRDB.
Creation Time	Time of creation of SRDB in DAY MM DD HH:MM:SS YYYY format.
Hostname	Host server name where SRDB base directory existing.
Comment	User defined remarks/description about database.
Last Access Time	Date and time in DAY MM DD HH:MM:SS YYYY format when database was last accessed.
Last Modified Time	Date and time in DAY MM DD HH:MM:SS YYYY format when database was last modified.
Last Status Change Time	Date and time in DAY MM DD HH:MM:SS YYYY format when status of access time or modified time was changed.

show content-filtering category database all

Table 196: show content-filtering category database all Command Output Descriptions

Field	Description
Content Filtering Static Rating Databases:	
Last Upgrade Status	Status of the last attempt of rating database upgrade. Possible statuses are: • **Success**: Displayed after the upgrade is completed successfully. • **Failure**: Displayed in case the full upgrade failed. System will rollback to previous database. • **n/a**: Displayed in case of first time loading of database.

Field	Description
Path	Path specified to base location or folder for Static Rating Databases (SRDB). It may have one of the following flags: • ***ACTIVE***: to indicate database is valid and good. • ***NOT LODAED***: to indicate that there is an error in database.
Database Status	Latest status of rating databases. Possible status are: • **OK**: Indicates all SRDB tasks are running and database is good. • **ERROR-Database Corrupt:** Indicates all SRDB tasks are running and database is bad or corrupt. • **ERROR-No database at specified pathname**: Indicates all SRDB tasks are running and database is not available at specified path/location/directory. • **MERGING**: Displayed during merging of the incremental database with full OPTCMDB database. • **LOADING**: Displayed during loading of the database. • **n/a**: Indicates that specified database is not loaded and its status is unknown.

show content-filtering category database facility srdbmgr all

Table 197: show content-filtering category database facility srdbmgr all Command Output Descriptions

Field	Description
Content Filtering SRDB Instance Based Database Configuration:	
SRDB Instance	Indicates the running Static Rating Database (SRDB) Manager instance number.
DB Load Status	Indicates the database load status.
DB Version	Indicates the version of loaded database.
Volume	Indicates the database volume number.
Number of URLs	Indicates the number of URLs available in specific volume of database.
Number of Blocks/Page	Indicates the average number of blocks per page rated in URLs available in specific volume of database.
The following indicate Dynamic Content Filtering statistics at SRDB level:	
Dynamic SRDB Instance	Indicates the running Dynamic SRDB Manager instance number.

Field	Description
RaterPkg Load Status	Indicates the Dynamic Rater Package load status: • Loaded • Not-loaded
Number of Model files	Indicates the number of model files (used for language detection and category recognition) available.
Standby Dynamic SRDB Instance	Indicates standby Dynamic SRDB instance number.
RaterPkg Load Status	Indicates the Dynamic Rater Package load status: • Loaded • Not-loaded
Number of Model files	Indicates the number of model files (used for language detection and category recognition) available.

show content-filtering category policy-id id

Table 198: show content-filtering category policy-id Command Output Descriptions

Field	Description
Service Name	The content filtering service name.
Content Filtering Policy	The content filtering policy ID, and description, if set.
Content filtering Categories:	
Category	Category of the content rated.
Priority	Priority of the CF Category in the CF Policy.
Action	Action taken for the indicated result of CF analysis.
Content Insert	The content string inserted in place of message returned from prohibited or restricted site or content server.
Redirect	The URL to redirect subscriber.
EDR	The EDR file format name to generate separate CF EDRs based on action and content category.
Timeout Action	The timeout end condition if rating cannot be performed.
Discarded-Flow-Content-ID	The content ID for the discarded flows. If not configured, this field is not displayed.

show content-filtering category statistics

Table 199: show content-filtering category statistics Command Output Descriptions

Field	Description
Service Name	Name of the Content Filtering service.
Content Filtering status	Status of the current Content Filtering service.
Overall Status	Indicates capability of the system to perform Content Filtering service.
Content Filtering Statistics	Indicates the Content Filtering statistics group information.
Static Rating	Information on static rating content-filtering.
SRDB Request Count	Total number of requests received.
SRDB Response Total	Total number of responses sent for requests.
SRDB Response Successful	Total number of responses for successful requests.
SRDB Response Not Rated	Total number of responses for requests without rating.
SRDB Response Not in DB	Total number of responses for unknown or undefined requests.
Number of Incremental DB Received	Total number of incremental rating database received by the Content Filtering subsystem.
Number of Successful Incremental Upgrade Performed	Total number of incremental upgrades performed successfully with incremental rating database.
Number of Full DB Received	Total number of full rating database received by the Content Filtering subsystem.
Number of Successful Full Upgrade Performed	Total number of full upgrades performed successfully with incremental rating database.
Time Since Last Upgrade (dd:hh:mm:ss)	Time since last upgraded, full or incremental, performed.

show content-filtering category statistics facility srdbmgr all

Table 200: show content-filtering category statistics facility srdbmgr all Command Output Descriptions

Field	Description
Content Filtering status	Indicates Content Filtering service status.
Overall Status	Indicates the system's ability to perform content filtering.
Dynamic Content Filtering status	Indicates Dynamic Content Filtering service status.

Field	Description
Overall Status	Indicates the system's ability to perform dynamic content filtering.
Content Filtering SRDB Instance Based Statistics	Indicates the group statistics of content filtering based on Static Rating Database Manager instance.
Instance Number	Indicates the SRDB Manager's instance number.
Static Rating:	
Request Count	Total number of requests received.
Response Total	Total number of responses sent for requests.
Response Successful	Total number of responses for successful requests.
Response Not Rated	Total number of responses for requests without rating.
Response Not in DB	Total number of responses for unknown or undefined requests.
Average Ratings/sec	Indicates the average ratings performed per second.
Number of URLs rated by domain	Total number of URLs rated with given domain.
Dynamic Content Filtering SRDB Instance Based Statistics:	
Instance Number	Indicates the instance number of SRDB manager.
Dynamic Rating:	
Request Count	Total number of requests received.
Response Total	Total number of responses sent for requests.
Response Successful	Total number of responses for successful requests.
Response Not Rated	Total number of responses for requests without rating.
Histogram based on URL length	Indicates the histogram statistics of URLs grouped by length of URL.
Histogram for number of URLs hit per SN category (sorted on no. of URLs):	Indicates the specific category and the number of URLs hit per category. If, during runtime, an x-category was added, the x-category is also displayed.

show content-filtering category url <url> policy-id <id> verbose

Table 201: show content-filtering category url <url> policy-id <id> verbose Command Output Descriptions

Field	Description
URL	The URL path for Static Rating Category Database.

Field	Description
URL Root Domain	The URL's root domain information.
URL OPTCMDB Volume	The Optimized Content Rating Master Database (OPTCMDB) volume and version.
URL Hash	Indicates the URL hash in URL OPTCMDB.
Domain Used For Rating	Indicates whether domain name is used for URL rating. Possible values are: • TRUE • FALSE
URL Category	The URL's category.
Action Configured	Indicates the action configured. **Important** In case of multiple categories, the action configured for a category with highest priority is displayed. If Dynamic Content Filtering is enabled, the action configured for DYNAM and UNKNOW is displayed as **Dynamic** (i.e. the URL is sent for Dynamic categorization). In case more than one category is returned with DYNAM and if it is configured with higher priority then, that action will be shown.
Content Insertion String	Indicates the content insertion string. **Important** This field is displayed only if Dynamic CF is not enabled.
Redirect URL	Indicates the redirected URL. **Note** This field is displayed only in the case of multiple categories.

show content-filtering server-group name

Table 202: show content-filtering server-group name Command Output Descriptions

Field	Description
Content Filtering Group	The name of the Content Filtering Server Group (CFSG).
Context	The name of the content in which CFSG is configure.
Origin Address	IP address of the origin endpoint or ICAP client.
ICAP Address(Port)	IP address and port number of ICAP server with in CF Server Group.
Max Outstanding	Total number of unanswered outstanding messages to this ICAP server.

Field	Description
Failure Action	Displays the action taken on connection failure.
Response Timeout	Displays the configured response-timeout duration to wait for response.
Connection Retry Timeout	Displays the configured connection retry timeout duration to check the TCP connection status between ICAP sever and client.
Dictionary	Displays the configured dictionary to use for encoding the requests to the server(s).
Deny Message	Displays the configured text string message that is returned to the subscriber in a deny response.
Header Extension Options	Displays the ICAP header information if configured or displays "None" if no ICAP header is configured.

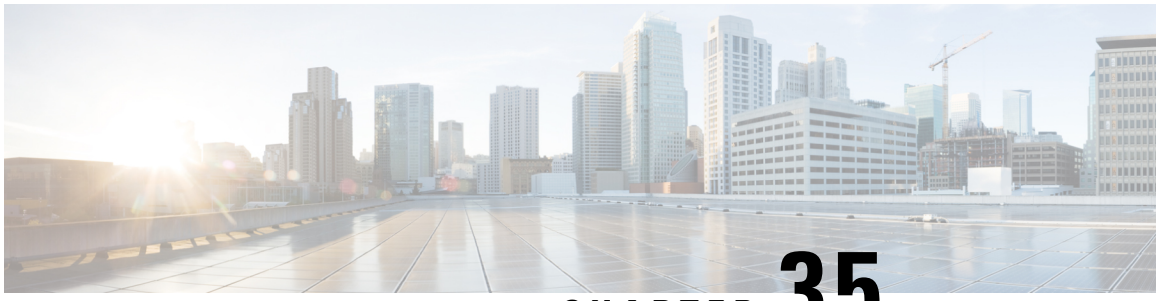
show content-filtering server-group statistics

Table 203: show content-filtering server-group statistics Command Output Descriptions

Field	Description
Content Filtering Group	The name of the Content Filtering Server Group (CFSG).
Connection Statistics	Displays the ICAP connection related statistics.
Current Open Connections	Total number of open connections.
Connection DHOST requests	Total number of DHOST requests.
Successfull Connections	Total number of successful connections.
Connections DHOST remove	Total number of connections removed from DHOST.
Connection SHUTDOWN req	Total number of requests for SHUTDOWN.
ACF Unreachable(read)	Total number of attempts for Active Content Filter server (ICAP server) to read.
ACF Unreachable(write)	Total number of attempts for Active Content Filter server (ICAP server) to write.
Reconnect attempts	Total number of reconnect attempts for ACF server (ICAP server).
Connection Timeout	Total number of connections timeout after reconnect attempts for ACF server (ICAP server).
Connection Failure Statistics	Displays connection failure statistics.
Connection DHOST errors	Total number of connection DHOST errors in connection.
Connection CONNECT error	Total number of connection CONNECT errors in connection.

Field	Description
Socket open errors	Total number of errors due to SOCKET open in connection.
Connection bind errors	Total number of BIND errors in connection.
Connection setvr errors	Total number of SETVER errors in connection.
Connection NONBLOCK errors	Total number of NONBLOCK errors in connection.
Connection SHUTDOWN errors	Total number of SHUTDOWN errors in connection.
Incomplete 3-way handshaking	Total number of errors due to incomplete 3-way handshaking in TCP connection.
ACF Statistics	Displays Active Content Filter (ICAP server) statistics.
ACF Requests Created	Total number of requests created for ACF.
Response Timeout	Total number of response timeout for requests to ACF.
Write request success	Total number of successful WRITE requests.
Write request failed	Total number of failed WRITE requests.
Read response success	Total number of successful READ response.
Read response failed	Total number of failed READ response.
HTTP Permit	Total number of HTTP URLs permitted from ACF.
WAP Permit	Total number of WAP URLs permitted from ACF.
HTTP Denny	Total number of HTTP URLs denied from ACF.
WAP Denny	Total number of WAP URLs denied from ACF.
HTTP Redirect	Total number of HTTP URLs redirected from ACF.
WAP Redirect	Total number of WAP URLs redirected from ACF.
Invalid ACTION	Total number of invalid ACTION message from ACF.
Redirect URL not defined	Total number of errors due to undefined redirect URL.
Buffer List Empty	Total number of errors due to empty buffer list.
Failure action Permit	Total number of connections permitted after connection failure.
Failure action Deny	Total number of connections denied after connection failure.
Failure action Discard	Total number of connections discarded after connection failure.
Failure action Terminate	Total number of connections terminated after connection failure.
Failure actions taken	Total number of actions taken after failure in connection failure.

Field	Description
Num pkts dropped for DENY	Total number of packets dropped after denying the connection due to failure in connection.
Num pkts dropped for REDIRECT	Total number of packets dropped after redirecting the connection due to failure in connection.
Num pkts dropped for DENY Timeout action	Total number of packets dropped after denying the connection due to timeout action.
Num pkts dropped for REDIRECT Timeout action	Total number of packets dropped after redirecting the connection due to timeout action.
ACF Resp Parse Statistics	Displays the statistics related to ACF response parsing.
Parse ACF resp success	Total number of successful ACF parse response.
Parse ACF resp ver err	Total number of successful ACF parse response version error.
Misc Statistics	Displays the miscellaneous statistics.
Total pkts sent	Total number of packets sent through ICAP connection.
Invalid ACF group config	Total number of errors due to invalid CF Server Group (Active Content Filter server groups) configuration.
Invalid bind address	Total number of errors due to invalid binding address configuration.
Invalid ICAP address	Total number of errors due to invalid ICAP server addresses.
Num req to standby server	Total number of requests sent to the standby server.



CHAPTER 35

show chassis-throughput

This chapter includes the **show chassis-throughput** command output table.

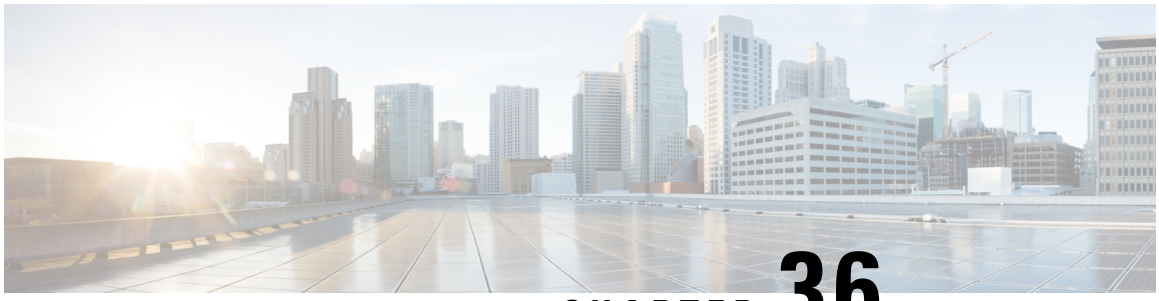
- show chassis-throughput, on page 667

show chassis-throughput

Table 204: show chassis-throughput Command Output Descriptions

Field	Description
Chassis Throughput	Indicates the configured throughput of the chassis.
Card/Cpu	Indicates individual distribution of throughput on per card, per CPU ba
Throughput	Indicates the throughput for the individual card/CPU.

show chassis-throughput



CHAPTER 36

show context all

This chapter includes the **show context all** command output tables.

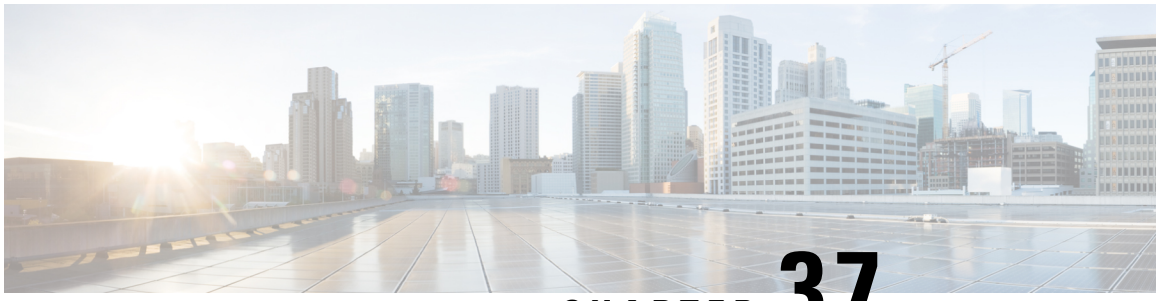
- show context all, on page 669

show context all

Table 205: show context all Command Output Descriptions

Field	Description
Context Name	The name of a configured context.
Context ID	The system ID of the context.
State	The current state of the context. The possible states are: **Active**: The VPN Manager task is running and is ready to respond to the requests.**Initializing**: The Context is configured but not yet started. The VPN Controller knows about it and is in the process of starting the VPN Manager. In other words, the VPN Manager services are not available yet.**Inactive**: The VPN Manager is configured but either the task is not running yet or the VPN Manager has just crashed and the restart process is going on.

show context all



CHAPTER 37

show cpu

This chapter includes the **show cpu** command output tables.

Important The outputs of **show cpu** commands vary based on platform ASR 5000 or ASR 5500, VPC (virtualized), card type and the StarOS release.

- show cpu info, on page 671
- show cpu info verbose, on page 672
- show cpu table, on page 674

show cpu info

Table 206: show cpu info Command Output Descriptions

Field	Description
Card	Displays the slot number of the card.
CPU	Displays the CPU number as an integer.
Status	Indicates the CPU status: **Active:** The CPU is active and available for session processing.**Standby:** The CPU is on standby. Also indicates if **Kernel Running** and **Tasks Running**.
Load Average	Indicates the average CPU load.
Total Memory	Indicates the total physical memory available to the CPU in megabytes.
Kernel Uptime	Indicates how long the kernel has been up since last boot in Days, Hours and Minutes.
Last Reading:	Displays current CPU usage statistics (snapshot).
CPU Usage	Indicates the percentage of use for user, system, I/O, IRQ and idle. In VPC systems, the value displayed excludes the poll CPU values.

Field	Description
Poll CPUs	Indicates the number of the IFTASK threads. The IFTASK threads are ommitted from the CPU utilization calculation for this command output as well as the bulk statistics output. This means that the reported CPU utilization is more accurate.
Processes / Tasks	Indicates the total number of running processes and tasks.
Network	Indicates the number of packets and bytes received and transmitted.
File Usage	Indicates the number of open and available files.
Memory Usage	Indicates the amount of physical memory used in bytes and as a percentage of available memory.
Maximum/Minimum:	Displays maximum and minimum usage statistics.
CPU Usage	Indicates the percentage of use for user, system, I/O, IRQ and idle.
Poll CPUs	Indicates the number of the IFTASK threads. The IFTASK threads are ommitted from the CPU utilization calculation for this command output as well as the bulk statistics output. This means that the reported CPU utilization is more accurate.
Processes / Tasks	Indicates the number of running processes and tasks.
Network	Indicates the number of packets and bytes received and transmitted.
File Usage	Indicates the number of open and available files.
Memory Usage	Indicates the amount of physical memory used in bytes and as a percentage of available memory. **Important** In release 21.1, **show cpu info** outputs are standardized to use Megabytes (M) as the unit of measurement for memory usage.

show cpu info verbose

Table 207: show cpu info verbose Command Output Descriptions

Field	Description
Card	Displays the slot number of the card.
CPU	Displays the CPU number as an integer.
Status	Indicates the CPU status: **Active:** The CPU is active and available for session processing.**Standby:** The CPU is on standby. Also indicates **Kernel Running** and **Tasks Running**.

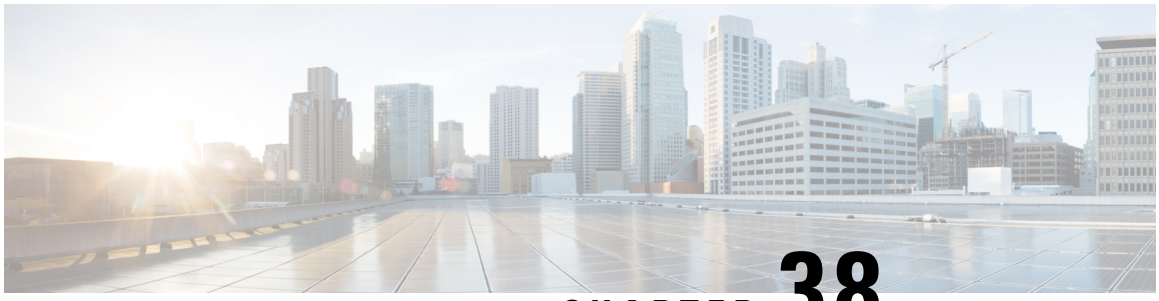
Field	Description
Load Average	Indicates the average CPU load.
Total Memory	Indicates the total physical memory available to the CPU in megabytes.
Kernel Uptime	Indicates how long the kernel has been up since last boot in Days, Hours and Minutes.
Last Reading:	Displays current CPU usage statistics (snapshot).
CPU Usage All	Indicates the percentage of use across all cores for user, system, I/O, IRQ and idle. In VPC systems, the value displayed excludes the poll CPU values.
Core *n*	Indicates the percentage of use for an individual core within the CPU for user, system, I/O, IRQ and idle. (VPC-DI only) Any Cores that are indicated as Poll CPUs are IFTASK threads that are not included in the CPU calculations.
Poll CPUs	(VPC-DI only) Number of IFTASK threads that are not included in the CPU calculations. reported by this command.
Core *n*	(VPC-DI only) Indicates the percentage of use for an individual Poll CPU core. **Note** 100% CPU utilization for DPDK is an expected behavior as the Poll Mode Driver (PMD) thread runs continuously on a core as per the DPDK driver architecture.
Processes / Tasks	Indicates the total number of running processes and tasks.
Network loeth0	Indicates the number of packets and bytes received and transmitted on the management interface.
Network ports*_p*	Indicates the number of packets and bytes received and transmitted on a service interface (*slot_port*).
File Usage	Indicates the number of open and available files.
Memory Usage	Indicates the amount of physical memory used in bytes and as a percentage of available memory.
Memory Usage	Indicates the amount of physical memory used in bytes and as a percentage of available memory. **Important** In release 21.1, **show cpu info** outputs are standardized to use Megabytes (M) as the unit of measurement for memory usage.
Memory Details:	Displays more detailed memory usage statistics.
Static	Indicates the amount of memory used by the kernel and system files in megabytes.
System	Indicates the amount of memory used for temp storage, buffers and caches in megabytes.
Process/Task	Indicates the amount of memory used for processes and tasks.

Field	Description
Free	Indicates the amount of free (available) memory (including reserved).
Usable	Indicates the amount of unreserved available memory.
5-Minute Average	Displays the average CPU usage statistics for the last five minutes.
15-Minute Average	Displays the average CPU usage statistics for the last 15 minutes.

show cpu table

Table 208: show cpu table Command Output Descriptions

Field	Description
CPU	Displays the number of the CPU in the format *slot_number*/*cpu_number*.
State	Indicates the CPU state as one of the following: **Actve:** The CPU is active and available for session processing.**Sndby:** The CPU is on standby.
Load	Indicates the CPU load for the following time intervals: **Now:** Current load**5min:** Load within the last 5 minutes**15min:** Load within the last 15 minutes
CPU-Usage	Indicates the CPU usage as a percentage for the following time intervals: **Now:** Current usage**5min:** Usage within the last 5 minutes**15min:** Usage within the last 15 minutes
Memory	Indicates the memory usage for the following time intervals: **Now:** Current usage**5min:** Usage within the last 5 minutes**15min:** Usage within the last 15 minutes In addition, the **total** memory available on the CPU is displayed. The PSC has two CPUs, the main CPU (CPU 0) contains 16 GB of memory. The second CPU is contained within the card's NPU and provides an additional 512 MB of memory.The PSC2 has two CPUs, the main CPU (CPU 0) contains 32 GB of memory.



CHAPTER 38

show crash

- show crash config, on page 675
- show crash list, on page 676
- show crash all, on page 676
- show crash number , on page 676

show crash config

This chapter includes the **show crash config** command output table.

Table 209: show crash config Command Output Descriptions

Field	Description
URL	Specifies the URL where cores are stored.
Disk Space Limit	Specifies the limit for the disk space. Displays "Not Configured" if the limit is not configured.
Rotate Core Files Limit	Specifies the limit for the rotate core files.
Core File Max-Size	Specifies the maximum size for the core file.
Core File Compression	Specifies the compression format of the core file.
Core Transmit Timeout	Specifies the timeout for core transmission.
Core Obfuscation	Specifies whether core obfuscation is enabled or disabled.
Async Core Transfer	Specifies whether async core transfer is enabled or disabled.
Mandatory VPP Core Transfer	Specifies whether mandatory VPP core transfer is enabled or disabled.
Critical Task	Specifies whether critical task is enabled or disabled.

show crash list

The following command shows list of all fatal crash records.

Table 210: show crash list Command Output Descriptions

Field	Description
Card	Serial number for the fatal crash records.
Time	The actaul time at which the fatal crash occurred.
Process	Shows the name of the Snapped Process.
Card/CPU/PID	Shows list of Card numbers, CPU complexity and PID numbers.
Harward Serial Number	Shows list of hardware serial numbers of the crashed records.

Use the following commands to view fatal crash records.

- `show crash list` **`clear crash list`** *`<no>`* `: Clears list of Fatal crash record.`
- `show crash number` **`clear crash number`** *`<no>`* `: Copies particular Fatal crash record to location.`

show crash all

The following command shows all fatal crash records.

Table 211: show crash all Command Output Descriptions

Field	Description
SW Version	Shows software version numbers of all fatal crash records.
Similar Crash Count	Shows all similar crash count numbers of fatal crash records.
Time of First Crash	Shows the actual time of the first fatal crash occurrence.

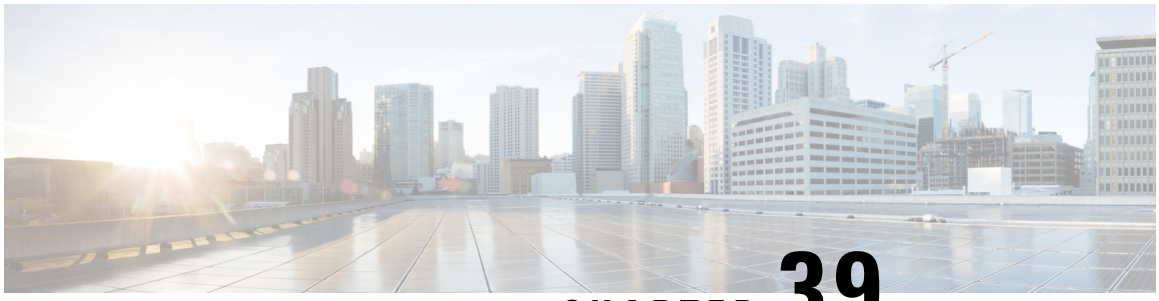
show crash number

The following command shows a particular Fatal crash record.

Table 212: show crash number Command Output Descriptions

Field	Description
SW Version	Shows the software version number of the fatal crash records.

Field	Description
Similar Crash Count	Shows the total count number of similar fatal crashes.
Time of First Crash	Shows the actual time of the first fatal crash record.



CHAPTER 39

show crypto

This chapter includes the **show crypto** command output tables.

- show crypto group summary, on page 679
- show crypto ikev2-ikesa security-associations summary, on page 680
- show crypto ikev2-ikesa security-associations summary spi, on page 680
- show crypto ipsec security-associations, on page 681
- show crypto ipsec security-associations statistics, on page 684
- show crypto ipsec security-associations summary, on page 687
- show crypto isakmp keys, on page 687
- show crypto isakmp security-associations, on page 688
- show crypto managers, on page 688
- show crypto managers instance, on page 689
- show crypto managers summary, on page 690
- show crypto map summary, on page 690
- show crypto statistics, on page 693
- show crypto statistics ikev2, on page 699
- show crypto template summary, on page 708

show crypto group summary

Table 213: show crypto group summary Command Output Descriptions

Field	Description
Crypto Group	Name of the crypto group
Primary Tunnel	Configuration information for the primary tunnel.
Secondary Tunnel	Configuration information for the secondary tunnel.

show crypto ikev2-ikesa security-associations summary

Table 214: show crypto ikev2-ikesa security-associations summary Command Output Descriptions

Field	Description
Mgr ID	SA Manager ID number
VPN	SA VPN number
Local IPsec GW	Local default gateway IP address
Port	UDP port number
Remote IPSec GW	Remote default gateway IP address
Port	UDP port number
Hostname	Name of the remote gateway
State	Authentication state • I = Initiator • R = Responder
Lifetime/Remaining	Originally configured lifetime for the SA in seconds/number of seconds left in this lifetime.

show crypto ikev2-ikesa security-associations summary spi

Table 215: show crypto ikev2-ikesa security-associations summary spi Command Output Descriptions

Field	Description
Local IPsec GW	Local default gateway IP address
Remote IPSec GW	Remote default gateway IP address
Initiator SPI	SPI (Security Parameter Index) of the Initiator
Responder SPI	SPI of the Responder
Lifetime	Originally configured lifetime for the SA in seconds/number of seconds left in this lifetime.

show crypto ipsec security-associations

Field	Description
Map Name	The name of the crypto map facilitating the security association.
Local Address	The IP address of the interface on the security gateway facilitating the security association.
Current Peer	The IP address of the interface on the peer gateway facilitating the security association.
Peer Hostname	The name of the peer.
Crypto Type	The type of crypto map facilitating the security association, which can be: • Dynamic Map • IKEv1 Map • IKEv2 Map • Manual Map
SA State	The state of the security association, which can be: • Established • Partially Established • No SAs
IPSec Manager	The identifying number of the IPsec manager facilitating the security association.
Rekeying	The state of rekeying for the security association, which can be: • Enabled • Disabled
Redundancy Status	The state of the security association, which can be: • Original Tunnel: No failure has occurred. • Recovered Session: A failure has occurred and a recovered session has been created.
Allocated Address	The IP address allocated to the Network Access Identifiers (NAIs) of the users.
Phase 1	The NAI used in Phase 1 authentication.
Phase 2	The NAI used in Phase 2 authentication.
Encoded	The number of packets and bytes of data that have been encoded for the security association.
Encoded Errors	The number of errors that occurred while the packets were being encoded.

Field	Description
Decoded	The number of packets and bytes of data that have been decoded for the security association.
Decoded Errors	The number of errors that occurred while the packets were being decoded.
Authentication Errors	The number of errors that occurred during authentication.
Replay Errors	The number of replay errors that occurred.
Too short Errors	The number of too short errors that occurred.
IPSec SA	
Diffie-Hellman Group	The number of the Diffie-Hellman group to which the security association belongs.
Outbound esp sas	
spi	The Security Parameter Index (SPI) of the outbound ESP security association.
transform	
hmac	The keyed-Hash Message Authentication Code used for the outbound ESP security association, which can be: • sha1-96 • md5-96
cipher	The cipher used for the outbound ESP security association, which can be: • null • des • 3des • aes-cbc-128 • aes-cbc-256
negotiated soft lifetime (kb/sec)	The soft lifetime in kilobits and/or seconds for the outbound ESP security association, created when a successful rekey has occurred. The soft lifetime is used to warn that the security association is about to expire, allowing the security gateway to create a new lifetime prior to the expiration of the hard lifetime.
remaining soft lifetime (kb/sec)	The remaining soft lifetime in kilobits and/or seconds.
negotiated hard lifetime (kb/sec)	The hard lifetime in kilobits and/or seconds for the outbound ESP security association. The hard lifetime is the number of kilobits and/or seconds used before the security association expires.
remaining hard lifetime (kb/sec)	The remaining hard lifetime in kilobits and/or seconds.
Encoded	The number of encoded packets and bytes of data for the outbound ESP security association.

Field	Description
Encoded Errors	The number of errors that occurred while the packets were being encoded.
Inbound esp sas	
spi	The Security Parameter Index (SPI) of the inbound ESP security association.
transform	
hmac	The keyed-Hash Message Authentication Code used for the inbound ESP security association, which can be: • sha1-96 • md5-96
cipher	The cipher used for the inbound ESP security association, which can be: • null • des • 3des • aes-cbc-128 • aes-cbc-256
negotiated soft lifetime (kb/sec)	The soft lifetime in kilobits and/or seconds for the inbound ESP security association, created when a successful rekey has occurred. The soft lifetime is used to warn that the security association is about to expire, allowing the security gateway to create a new lifetime prior to the expiration of the hard lifetime.
remaining soft lifetime (kb/sec)	The remaining soft lifetime in kilobits and/or seconds.
negotiated hard lifetime (kb/sec)	The hard lifetime in kilobits and/or seconds for the inbound ESP security association. The hard lifetime is the number of kilobits and/or seconds used before the security association expires.
remaining hard lifetime (kb/sec)	The remaining hard lifetime in kilobits and/or seconds.
Decoded	The number of packets and bytes of data that have been decoded for the inbound ESP security association.
Decoded Errors	The number of errors that occurred while the packets were being decoded.
Authentication Errors	The number of errors that occurred during authentication.
Replay Errors	The number of replay errors that occurred.
Too short Errors	The number of too short errors that occurred.

show crypto ipsec security-associations statistics

Table 216: show crypto ipsec security-associations statistics Command Output Descriptions

Field	Description
Map Name	The name of the crypto map for which statistics are being displayed.
Application Map Name	The application map name that concatenates the following: • **Application Supported:** MIP or L2TP • **Local Address:** The IP address of the interface on the system facilitating the security association (SA). • **Peer Address:** The IP address of the peer security gateway facilitating the SA. • **Traffic Type:** Control, GRE encapsulated data, or IPIP (IP-in-IP) encapsulated data **NOTE:** When a crypto map does not have any IPSec SAs established yet, i.e. No IKE negotiation has taken place OR the tunnel had been brought down after inactivity during the entire lifetime of the SAs, is marked as "Security Association is not established!"
local addr	The IP address of the interface on the system facilitating the security association (SA).
ACL	For ISAKMP or manual crypto maps, this is the name of the access control list (ACL) that is matched to the crypto map.
current peer	The IP address of the peer security gateway facilitating the SA.
Tunnel is keyed 1 times.	The number of times the tunnel was keyed. In this example, the tunnel was keyed once.
Encoded	The number of packets and bytes that have been encoded for the SA.
Encode Errors	The number of errors that have occurred while encoding packets.
Decoded	The number of packets and bytes that have been decoded for the SA.
Decode Errors	The number of errors that have occurred while decoding packets.
Authentication Errors	The number of errors that occurred during the system/security gateway authentication process.
Replay Errors	The number of replay errors that occurred for the SA.
outbound esp sas	
spi	The outbound (from the system to the security gateway) security parameter index (SPI) used for the Encapsulating Security Payload protocol.
transform	The protocols configured for the transform set used by the crypto map for outbound tunnels.

Field	Description
negotiated soft lifetime (kb/sec)	The soft lifetime negotiated by the system and the security gateway for outbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec). The soft lifetime is used to warn that the SA is about to expire allowing the systems to negotiate a new lifetime prior to the expiration of the hard lifetime.
remaining soft lifetime (kb/sec)	The amount of kilobytes and/or seconds remaining to the soft lifetime from what was initially negotiated.
negotiated hard lifetime (kb/sec)	The hard lifetime negotiated by the system and the security gateway for outbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec). The hard lifetime that dictates the maximum duration for the SA before its termination.
remaining hard lifetime (kb/sec)	The amount of kilobytes and/or seconds remaining to the hard lifetime from what was initially negotiated.
Encoded	The number of packets and bytes that have been encoded for the SA.
Encode Errors	The number of errors that have occurred while encoding packets.
inbound esp sas	
spi	The inbound (from the system to the security gateway) security parameter index (SPI) used for the Encapsulating Security Payload protocol.
transform	The protocols configured for the transform set used by the crypto map for inbound tunnels.
negotiated soft lifetime (kb/sec)	The soft lifetime negotiated by the system and the security gateway for inbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec). The soft lifetime is used to warn that the SA is about to expire allowing the systems to negotiate a new lifetime prior to the expiration of the hard lifetime.
remaining soft lifetime (kb/sec)	The amount of kilobytes and/or seconds remaining to the soft lifetime from what was initially negotiated.
negotiated hard lifetime (kb/sec)	The hard lifetime negotiated by the system and the security gateway for inbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec). The hard lifetime that dictates the maximum duration for the SA before its termination.
remaining hard lifetime (kb/sec)	The amount of kilobytes and/or seconds remaining to the hard lifetime from what was initially negotiated.
Decoded	The number of packets and bytes that have been decoded for the SA.
Decode Errors	The number of errors that have occurred while decoding packets.
Authentication Errors	The number of errors that occurred during the system/security gateway authentication process.
Replay Errors	The number of replay errors that occurred for the SA.

Field	Description
Too Short Errors	The number of too short errors that occurred for the SA.
ISAKMP sessions established for this tunnel	The total number of sessions successfully connected by this SA.
ISAKMP sessions failed for this tunnel	The total number of sessions that failed to be connected by this SA.
ISAKMP for this tunnel	**NOTE:** These items are displayed for the life of the ISAKMP SA.
Phase1 Completed as Responder	Indicates the state of the Phase 1 IPSec negotiation stage and role of the system (either responder or initiator).
Statistics	Displays statistics for the ISAKMP SA.
IN	The number of packets/bytes received.
OUT	The number of packets/bytes transmitted.
1 Phase2 negotiations	The number of negotiations that have taken place in Phase 2.
Negotiated Hard lifetime	The hard lifetime negotiated by the system and the security gateway for inbound SAs. The lifetime is measured in terms kilobytes (kb) and/or seconds (sec). The hard lifetime that dictates the maximum duration for the SA before its termination.

show crypto ipsec security-associations summary

Table 217: show crypto ipsec security-associations summary Command Output Descriptions

Field	Description
vvv	The first value (v) indicates the state of the security association (SA State), which can be: • **E**: Established • **P**: Partially Established • **N**: No SAs The second value (v) indicates the state of rekeying (Rekey/Keepalive), which can be: • **D**: Rekey Disabled • **E**: Rekey Enabled/No Keepalive • **K**: Rekey Enabled/Keepalive The third value (v) indicates the type of crypto map (Crypto Type) facilitating the security association, which can be: • **D**: Dynamic Map • **I**: IKEv1 Map • **J**: IKEv2 Map • **M**: Manual Map
Map Name	The name of the crypto map facilitating the security association.
Rekeys	The number of rekeys that occurred for the security association.
En Pkts	The number of packets that have been encrypted and transmitted over the security association.
De Pkts	The number of packets that have been received over the security association and decrypted.

show crypto isakmp keys

Table 218: show crypto isakmp keys Command Output Descriptions

Field	Description
Peer IP Address	The IP address of the security gateway(s).

Field	Description
Preshared Key	The pre-shared key(s) (in Hex) exchanged by the security gateway.

show crypto isakmp security-associations

Table 219: show crypto isakmp security-associations Command Output Descriptions

Field	Description
Local IPSec GW	The IP address of the local IPSec gateway.
Remote IPSec GW	The IP address of the remote IPSec gateway.
State	This displays the state of the SA. The two letters at the beginning of the state define the IKE mode as follows: • MM - Main Mode • QM - Quick Mode • AM - Aggressive Mode The letter in parentheses ( ) at the end of the state, describe where the state message was initiated as follows: • I - Initiator • R - Responder
Lifetime	The lifetime (time) the security association is active and amount of time remaining.

show crypto managers

Table 220: show crypto managers Command Output Descriptions

Field	Description
Total IKEv2 Invalid-MsgId Notify Sent	An invalid KE Payload was received and the receiver sent back a NOTIFY payload to indicate this. This is the number of times a NOTIFY payload was sent to indicate this error condition.
Total IKEv2 Invalid-MsgId Notify Received	A NOTFIY Payload was received indicating that the KE which had been previously sent to the peer was deemed invalid by the peer.
Total IKEv2 Invalid-KE Notify Sent	An IKE packet was received for which the message-id is invalid. A NOTIFY payload was sent to the peer to indicate that the received message-id was invalid. This maintains the count of the number of times that such a NOTIFY payload was sen.t

Field	Description
Total IKEv2 Invalid-KE Notify Received	A NOTIFY payload was received indicating that the message-id which had been previously sent to the peer was deemed invalid by the peer.
Total IKEv2 No-Prop-Chosen Notify Sent	The receiver could not accept the protocol proposal which was sent. A NOTIFY payload was sent back to indicate this. This maintains the count of the number of times such a NOTIFY payload was sent.
Total IKEv2 No-Prop-Chosen Notify Received	A NOTIFY payload was received indicating that the proposals which had been previously sent to the peer could not be accepted.

show crypto managers instance

Table 221: show crypto managers instance Command Output Descriptions

Field	Description
IKEv2 DoS Cookie-Challenge Status	Denial of Service status. • On • Off
Certificate Information	For non-expired certificates: • Serial number: <*string*> • Monitoring Timer: Running • Status: Not Expired • Next Timer <*datetime*> • Expiry: <*datetime*> For expired certificates • Serial number: <*string*> • Monitoring Timer: Stopped • Status: Expired • Next Timer: Not Scheduled • Expiry: <*datetime*>
IKEv2 Statistics	This displays the IKEv2 statistics for this manager instance
Current IKEv2 SAs	The total number of all IKEv2 SAs for this manager instance
Current half-open IKEv2 SAs	The number of IKEv2 SAs in half-open state for this manager instance

Field	Description
Current Connecting IKEv2 SAs	The number of IKEv2 SAs trying to connect for this manager instance
Current Established IKEv2 SAs	The number of established IKEv2 SAs for this manager instance
Internal Failure Sent	Indicates an internal failure in ipsecmgr or dcardmgr and a Notify message was sent to the peer.

show crypto managers summary

Table 222: show crypto managers summary Command Output Descriptions

Field	Description
demux-stats	Display sessions demux statistics on each IPsec Manager.
distribution	Display IPsec Manager distribution info.
handoff-stats	Display IKE request handoff Statistics on each IPsec Manager.
ike-stats	Display IKE statistics on each IPsec Manager.
ikev2-stats	Display IKEv2 statistics on each IPsec Manager.
ipsec-sa-stats	Display IPsec SA statistics on each IPsec Manager.

show crypto map summary

Table 223: show crypto map summary Command Output Descriptions

Field	Description
Total Crypto maps	The total number of crypto maps of all types.
Configured maps	The total number of configured crypto maps.
Service maps	The total number of service maps. There is one map per service.
Subscriber maps	The total number of subscriber maps.
Map Types	
ipsec-dynamic	The total number of dynamic IPsec tunnel crypto maps.
ipsec-l2tp	The total number of L2TP IPsec tunnel crypto maps.
ipsec-ikev1	The total number of IKEv1 IPsec tunnel crypto maps.
ipsec-manual	The total number of manual (static) IPsec tunnel crypto maps.

Field	Description
ipsec-ikev2-subscriber	The total number of IKEv2 subscriber tunnel crypto maps.
ipsec-mobile-ip	The total number of mobile IP IPsec tunnel crypto maps.
IKEv2 SA	
Cipher null	The total number of IKEv2 security associations using the block cipher NULL. All IKEv2 security association protected traffic is sent in the clear.
Cipher des	The total number of IKEv2 security associations using the block cipher Data Encryption Standard in Cypher Block Chaining (CBC) mode.
Cipher 3des	The total number of IKEv2 security associations using the block cipher Triple Data Encryption Standard in Cypher Block Chaining (CBC) mode.
Cipher aes-cbc-128	The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 128-bit key in Cypher Block Chaining (CBC) mode.
Cipher aes-cbc-256	The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 256-bit key in Cypher Block Chaining (CBC) mode.
PRF sha1	The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) with the cryptographic hash function Secure Hash Algorithm-1.
PRF md5	The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) with the cryptographic hash function Message Digest 5.
HMAC sha1	The total number of IKEv2 security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Secure Hash Algorithm-1 truncated to 96 bits.
HMAC md5	The total number of IKEv2 security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Message Digest 5 truncated to 96 bits.
DH Group 1	The total number of IKEv2 security associations using Diffie-Hellman Group 1 security (the lowest security level). DH Group 1 provides 768 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
DH Group 2	The total number of IKEv2 security associations using Diffie-Hellman Group 2 security. DH Group 2 (the default) provides 1024 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
DH Group 5	The total number of IKEv2 security associations using Diffie-Hellman Group 5 security. DH Group 5 provides 1536 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.

Field	Description
DH Group 14	The total number of IKEv2 security associations using Diffie-Hellman Group 14 security (the highest security level). DH Group 14 provides 2048 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
IPSec SA	
Protocol esp	The total number of IPsec security associations using Encapsulating Security Payload (ESP) protocol.
Protocol ah	The total number of IPsec security associations using Authentication Header (AH) protocol.
Cipher null	The total number of IPsec security associations using the block cipher NULL. All IKEv2 IPsec security association derived traffic is sent in the clear.
Cipher des	The total number of IPsec security associations using the block cipher Data Encryption Standard in Cypher Block Chaining (CBC) mode.
Cipher 3des	The total number of IPsec security associations using the block cipher Triple Data Encryption Standard in Cypher Block Chaining (CBC) mode.
Cipher aes-cbc-128	The total number of IPsec security associations using the block cipher Advanced Encryption Standard with a 128-bit key in Cypher Block Chaining (CBC) mode.
Cipher aes-cbc-256	The total number of IPsec security associations using the block cipher Advanced Encryption Standard with a 256-bit key in Cypher Block Chaining (CBC) mode.
HMAC sha1-96	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Secure Hash Algorithm-1 truncated to 96 bits (the default).
HMAC md5-96	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Message Digest 5 truncated to 96 bits.
DH Group 1	The total number of IPsec security associations using Diffie-Hellman Group 1 security (the lowest security level). DH Group 1 provides 768 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
DH Group 2	The total number of IPsec security associations using Diffie-Hellman Group 2 security. DH Group 2 (the default) provides 1024 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
DH Group 5	The total number of IPsec security associations using Diffie-Hellman Group 5 security. DH Group 5 provides 1536 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.

Field	Description
DH Group 14	The total number of IPsec security associations using Diffie-Hellman Group 14 security (the highest security level). DH Group 14 provides 2048 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.

show crypto statistics

Table 224: show crypto statistics Command Output Descriptions

Field	Description
Combined ipsec statistics for context <context-name>	The name of the system context for which statistics are displayed.
Transmit Statistics	
ESP Encode	The total number of packets and bytes that were transmitted having been encoded for the SA using the Encapsulating Security Payload (ESP) protocol.
AH Encode	The total number of packets and bytes that were transmitted having been encoded for the SA using the Authentication Header (AH) protocol.
Transmit Error Counters	
Encode Packets	The total number of packets which have errors while encoding.
Encode Bytes	The total number of bytes which have errors while encoding.
Receive Statistics	
ESP Decode	The total number of packets and bytes that were received having been encoded for the SA using the Encapsulating Security Payload (ESP) protocol.
AH Decode	The total number of packets and bytes that were received having been encoded for the SA using the Authentication Header (AH) protocol.
Receive Error Counters	
Decode Packets	The total number of packets which have errors while decoding.
Decode Bytes	The total number of bytes which have errors while encoding.
Replay Packets	The total number of packets which have been replayed.
Replay Bytes	The total number of bytes which have been replayed.
Combined Control Statistics for Context	The name of the system context for which statistics are displayed.
IKE Flow Counts	

Field	Description
IKE Gateway Flows	The number of UDP flows, incremented when UDP flows are allocated and decremented when UDP flows are freed.
IKE Session Flows	The number of cookie flows, incremented when cookie flows are allocated and decremented when cookie flows are freed.
Transmit Statistics	
IKE Packets	The total number of total IKE packets transmitted.
Receive Statistics	
IKE Packets Received	The total number of IKE packets received.
New IKE Req	The total number of IKE packets sent for new IKE requests.
Gateway Flow Packets	The total number of UDP flow packets received.
Session Flow Packets	The total number of cookie flow packets received.
Rekey Statistics	
IKE Rekeys	The total number of times the IKE SAs negotiated during phase 1 of the IPSec negotiation have been rekeyed. This field is for IKEv1 only and it will be 0 for IKEv2.
Dead Peer Detection (DPD) Statistics	
Req Sent	The total number of DPD R-U-THERE packets sent.
Rsp Rcvd	The total number of DPD R-U-THERE-ACK packets received.
Req Rcvd	The total number of DPD R-U-THERE packets received.
Rsp Sent	The total number of DPD R-U-THERE-ACK packets sent.
Disconnects	The total number of DPD disconnects that occurred between the peers.
Timeouts	The total number of ISAKMP DPD protocol messages that have exceeded their configured timeout period.
NAT-T Statistics	
Keepalives Sent	The total number of NATT keepalive packets sent.
Keepalives Rcvd	The total number of NATT keepalive packets received.
Detailed IKE Statistics	
Active IKE SAs	The total number of SAs: • Initiated • Responded.

Field	Description
Total IKE SAs	The total number of SAs (cumulative history): • Initiated • Responded.
Total Attempts	The total cumulative attempts made to establish SAs: • Initiated • Responded.
Total IKE SA Deletes	• Req Sent • Rsp Rcvd • Req Rcvd • Rsp Sent
Total Packets In	The total cumulative IKE packets received.
Total Packets Out	The total cumulative IKE packets sent.
Total Octets In	The total cumulative IKE octets received.
Total Octets Out	The total cumulative IKE octets sent.
Establishment Failure Statistics	
Initiation Neg Error	The total number of initiated negotiations that failed because of errors.
Initiation Neg Time Out	The total number of initiated negotiations that failed because of timeouts (no response).
Response Neg Error	The total number of responded negotiations that failed because of errors.
Congestion Reject	The total number of packets which were rejected due to congestion control.
Congestion Drop	The total number of packets which were dropped due to congestion control.
Total Cookie Error	Total errors in cookie challenge. Refer to the detailed counters in IKEv2 section.
Total Auth Failures	Total errors due to authentication failures during IKE_AUTH exchanges.
IKEv2 Statistics	
Current state:	• Current IKEv2 SAs • Current half-open IKEv2 SAs • Current connecting IKEv2 SAs • Current established IKEv2 SAs • Current child SAs

Field	Description
IKEv2 Timer Stats	• Total IKESA Retrans expirations • Total IKESA Setup expirations (no exchange) • Total IKESA Setup expirations • Total IKESA Lifetime (soft) expirations • Total IKESA Lifetime (hard) expirations • Total TSELSA Lifetime (soft) expirations • Total TSELSA Lifetime (hard) expirations
IKEv2 Exchanges dropped	• Total IKEv2 Resp Pkts Drop - No IKESA • Total invalid resp • Total non-init exch drop--no IKESA • Total invalid message ID • Total invalid major version • Total IKESA error • Total unknown critical payload
IKEv2 Cookie Statistics	• Total cookie notify packets sent • Total cookie notify packets received • Total cookie notify match • Total cookie notify not match
IKEv2 Rekey Statistics	• Total IKESA Rekey sent • Total IKESA Rekey received • Total IKESA Rekey ignored • Total ChildSA Rekey sent • Total ChildSA Rekey received • Total ChildSA Rekey ignored
IKEv2 MOBIKE Statistics	• Total MOBIKE notify sent • Total MOBIKE received • Total Mobike ignored
IKEv2 Misc Statistics	• Total SA create failure • Total SA flow operation failure • Total NAT Keepalive received • Total Invalid-KE notify sent • Total Invalid-KE notify received • Total Invalid-msgID notify received • Total No-Prop-Chosen notify sent • Total No-Prop-Chosen notify received

Field	Description
IKEv2 Exchange Decode failure statistics	• Total pkts failure • Total internal errors • Total invalid IP HDR • Total invalid UDR HDR • Total invalid IKE HDR • Total invalid IKE HDR payload • Total invalid IKE HDR MJ ver • Total invalid IKE HDR MN ver • Total invalid IKE HDR exchange type • Total invalid IKE HDR Rsvd flag • Total invalid IKE HDR length • Total invalid payload syntax • Total invalid payload len • Total unknown crit payload • Total too many payloads • Total invalid SA payload len • Total invalid SA proposal HDR • Total invalid SA proposal HDR Reserved • Total too many transforms • Total invalid SA proposal HDR len • Total too many proposals • Total invalid protocol ID • Total invalid first SA proposal num • Total invalid SA proposal num • Total invalid transform len • Total invalid transform HDR • Total invalid transform HDR Rsvd • Total invalid transform type • Total invalid transform ID

Field	Description
IKEv2 Exchange Decode failure statistics (continued)	• Total invalid KE payload len • Total invalid KE DH Group len • Total invalid ID payload type • Total invalid ID payload len • Total invalid KE DH group • Total invalid KE DH groups • Total invalid Transform ID • Total invalid auth payload len • Total invalid nonce payload len • Total invalid notify payload len • Total invalid notify payload SPI size • Total Invalid Notify payload Proto ID • Total invalid notify payload NATT • Total invalid notify payload Cookie • Total Invalid notify payload Rekey • Total invalid notify payload NATT • Total invalid notify payload Cookie • Total invalid notify payload Rekey • Total invalid EAP payload len • Total invalid CP payload len • Total invalid CP payload attr len • Total invalid payload unknown attr • Total invalid Encrypted Payload len • Total invalid TS payload len • Total invalid TS payload Rsvd • Total invalid TS payload TS-type • Total unsupported crit payload • Total unsupported cert payload • Total unsupported Auth method
IKEv2 Exchange Decode failure statistics (continued)	• Total unsupported SA payload Prot AH • Total unsupported Notify Prot AH • Total unsupported payload Crit VID • Total unsupported TS payload TS_Type • Total unsupported method • Total unknown error
IKEv2 Decrypt Failure statistics	• Total Pkts failure • Total HMAC mismatch • Total pad length error

Field	Description
IKEv2 Xchg statistics	• Total Bad Msg ID • Total bad response • Total stale message ID • Total unknown error • Total state lookup failure

show crypto statistics ikev2

Table 225: show crypto statistics IKEv2 Command Output Descriptions

Field	Description
Flow Counts	
Current UDP flows	The total number of UDP port based flows in the data path.
Current Cookie flows	The total number of cookie challenge based flows in the data path.
Transmit Statistics	
IKE Packets	The total number of total IKE packets transmitted.
Receive Statistics	
IKE Packets Received	The total number of IKE packets received.
New IKE Requests	The total number of IKE packets sent for new IKE requests.
UDP flow Packets	The total number of packets that matched the UDP flow.
Cookie flow Packets	The total number of packets that matched the cookie flow.
Rekey Statistics	
IKE Rekeys	The total number of successful IKE_SA rekeys.
Dead Peer Detection (DPD) Statistics	
Requests sent	The total number of DPD R-U-THERE packets sent.
Replies received	The total number of DPD R-U-THERE-ACK packets received.
Requests received	The total number of DPD R-U-THERE packets received.
Replies sent	The total number of DPD R-U-THERE-ACK packets sent.
Collisions	The total number of events that IKEv2 keepalive exchanges occur simultaneously from the PDIF and the MS.
Disconnects	The total number of DPD disconnects that occurred between the peers.

Field	Description
Timeouts	The total number of DPD protocol messages that have exceeded their configured timeout period.
NAT-T Statistics	
Keepalives sent	The total number of NAT-T keepalive packets sent.
Detailed IKE Statistics	
Active IKE SAs	The total number of IKE SAs.
Initiated	The total number of the active SAs initiated locally.
Responded	The total number of the active SAs responded.
Total IKE SAs so far	The total number of SAs (cumulative history).
Initiated	The total cumulative IKE SAs initiated locally.
Responded	The total cumulative IKE SAs responded to.
Total attempts so far	The total cumulative attempts made to establish SAs.
Initiated	The total number of SA establishment attempts initiated locally.
Responded	The total number of SA establishment attempts responded to.
Total deletes so far	The total cumulative deletes so far.
Requests received	The total number of requests received.
Requests sent	The total number of requests sent.
Replies received	The total number of replies received.
Replies sent	The total number of replies sent.
Total packets in	The total cumulative IKEv2 packets received.
Total packets out	The total cumulative IKEv2 packets sent.
Total octets in	The total cumulative IKEv2 octets received.
Total octets out	The total cumulative IKEv2 octets sent.
Failed initiated negotiations with errors	The total number of initiated negotiations that failed because of errors.
Failed initiated negotiations with time out:	The total number of initiated negotiations that failed because of timeouts (no response).
Failed responded negotiations with errors	The total number of responded negotiations that failed because of errors.
Total cookie errors	The total number of cookie errors encountered.

Field	Description
Congestion rejects	The total number of packets rejected due to congestion.
Congestion drops	The total number of packets dropped due to congestion.
Total Unknown Exchange SPI	The total number of unknown exchange SPIs.
IKEv2 Detail Statistics	
Current State	
Current IKEv2 SAs	The number of current IKEv2 SAs.
Current Half-Open IKEv2 SAs	The number of IKEv2 SAs in a half-open state.
Current Connecting IKEv2 SAs	The number of IKEv2 SAs currently connecting.
Current Established IKEv2 SAs	The number of established IKEv2 SAs.
Current Child SAs	The number of current child SAs.
Total IKEv2 Timer Statistics	
IKESA Retrans Expirations	The total number of retransmission expirations.
IKESA Setup Expirations (no Xchg)	The number of IKESA setups that expired with no exchange.
IKESA Setup Expirations	The total number of IKESA Session setups expired.
IKESA Lifetime (Soft) Expirations	The number of IKESA soft lifetime timer expirations.
IKESA Lifetime (Hard) Expirations	The number of IKESA hard lifetime timer expirations.
CHILD_SA Setup Expirations (no Xchg)	The number of Child SA setups that expired with no exchange.
CHILD_SA Lifetime (Soft) Expirations	The number of Child SA soft lifetime timer expirations.
CHILD_SA Lifetime (Hard) Expirations	The number of Child SA hard lifetime timer expirations.
Total IKEv2 Multiple Authentication Statistics	
Phase 1 Auth Successes	The number of multi-auth Phase 1 EAP authentication successes.
Phase 1 Auth Failures	The number of multi-auth Phase 1 EAP authentication failures.
Phase 1 Auth Req Sent	The number of multi-auth Phase 1 EAP authentication requests sent.
Phase 1 Auth Resp Rcvd	The number of multi-auth Phase 1 EAP authentication responses received.
Phase 2 Auth Successes	The number of multi-auth Phase 2 EAP authentication successes.
Phase 2 Auth Failures	The number of multi-auth Phase 2 EAP authentication failures.

Field	Description
Phase 2 Auth Req Sent	The number of multi-auth Phase 2 EAP authentication requests sent.
Phase 2 Auth Resp Rcvd	The number of multi-auth Phase 2 EAP authentication responses received.
Phase 2 Auth MD5 Successes	The number of multi-auth Phase 2 EAP authentication with MD5 successes.
Phase 2 Auth MD5 Failures	The number of multi-auth Phase 2 EAP authentication with MD5 failures.
Phase 2 Auth GTC Successes	The number of multi-auth Phase 2 EAP authentication with GTC mode successes.
Phase 2 Auth GTC Failures	The number of multi-auth Phase 2 EAP authentication with GTC mode failures.
Hash match failures	The number of hash match failures.
Signing failures	The number of signing failures.
MSK missing at phase 1 comp	The number of EAP Master Session Keys (MSK) not found.
Miss Another Auth Follows	The number of missed authentications that follow.
Total IKEv2 Exchanges Dropped	
Resp Pkts Drop - No IKESA	The number of IKEv2 response packets dropped without an IKEv2 SA being created.
Invalid Resp	The total number of invalid response messages.
Non-Init Exch Drop - No IKESA	The total number of IKEv2 exchanges dropped without an IKEv2 SA being created.
Invalid MSG ID	The total number of sessions dropped due to packets with invalid MSG ID.
Invalid Major Version	The total number of sessions dropped due to packets with invalid major version.
IKESA error	The total number of IKESA error messages.
Unknown Crit Payload	The total number of unknown critical payload messages.
Retransmitted request	IKEV2 Stack does not process the packets in the order they are received. New packets are queued if any packet is under processing. After completing the processing, stack consider processing the packets queue first instead of taking the latest packet received from network directly and leaving the packets in queue for later. And if any message is received with same message ID which is currently under processing, then that message will be discarded as retransmitted message received. The count for such request is 'Retransmitted Request'.
Total IKEv2 Notify Statistics	
Cookie Notify Sent	The total number of IKEv2 Denial of Service (DoS) cookie notify packets sent.
Cookie Notify Received	The total number of IKEv2 DoS cookie notify packets received.
Cookie Notify Match	The total number of IKEv2 DoS cookie notify messages that match.
Cookie Notify Not Match	The total number of IKEv2 DoS cookie notify messages that do not match.

Field	Description
Multi Auth Supported	The total number of multiple authentications supported.
Another Auth Follows	The total number of authentications that follow.
PDN Type IPv4 Sent	Displays the status of the IPv4 PDN type sent.
PDN Type IPv6 Sent	Displays the status of the IPv6 PDN type sent.
Total IKEv2 Rekey Statistics	
IKESA Rekey Sent	The total number of IKESA Rekey Request messages sent.
IKESA Rekey Rcvd	The total number of IKESA Rekey Request messages received.
IKESA Rekey Ignored	The total number of IKESA Rekey messages ignored.
ChildSA Rekey Req Sent	The total number of Child SA Rekey Request messages sent.
ChildSA Rekey Req Rcvd	The total number of Child SA Rekey Request messages received.
ChildSA Rekey Rsp Sent	The total number of Child SA Rekey Response messages sent.
ChildSA Rekey Rsp Rcvd	The total number of Child SA Rekey Response messages received.
ChildSA Rekey Ignored	The total number of Child SA Rekey messages ignored.
Total IKEv2 MOBIKE Statistics	
MOBIKE Notify Sent	The total number of MOBIKE notify messages sent. MOBIKE is not supported. All MOBIKE messages are treated as if they were never received.
MOBIKE Recvd	The total number of MOBIKE packets received.
MOBIKE Ignored	The total number of MOBIKE packets dropped.
Total IKEv2 Misc Statistics	
SA Create Failure	The total number of SA creations failed.
SA Flow Operation Failure	The total number of SA flow operations failed.
Total IKEv2 Notify Payload Sent Statistics	
Invalid KE Payload	The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Invalid KE Payload.
Invalid Major Version	The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Invalid Major Version.
Invalid Message ID	The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Invalid Message ID.
Invalid Syntax	The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Invalid Syntax.

Field	Description
No Additional SAs	The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type No Additional SAs.
No Proposal Chosen	The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type No Proposal Chosen.
TS Unacceptable	The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type TS Unacceptable.
Unsupported Critical Payload	The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Unsupported Critical Payload.
Internal Failure Sent	The total number of IKEv2 NOTIFY payloads sent of the NOTIFY type Internal Failure Sent.
Total IKEv2 Notify Payload Received Statistics	
Invalid KE Payload	The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Invalid KE Payload.
Invalid Major Version	The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Invalid Major Version.
Invalid Message ID	The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Invalid Message ID.
Invalid Syntax	The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Invalid Syntax.
No Additional SAs	The total number of IKEv2 NOTIFY payloads received of the NOTIFY type No Additional SAs.
No Proposal Chosen	The total number of IKEv2 NOTIFY payloads received of the NOTIFY type No Proposal Chosen.
TS Unacceptable	The total number of IKEv2 NOTIFY payloads received of the NOTIFY type TS Unacceptable.
Unsupported Critical Payload	The total number of IKEv2 NOTIFY payloads received of the NOTIFY type Unsupported Critical Payload.
IKEv2 Exchange Decode Failure Statistics	
Packet Failures	The number of IKEv2 packets that fail to decode.
Internal Errors	The total number of failures due to internal errors.
Invalid IP HDR	The total number of failures due to an invalid IP header.
Invalid UDP HDR	The total number of failures due to an invalid UDP header.
Invalid IKE HDR	The total number of failures due to an invalid IKE header.
Invalid IKE HDR Payload	The total number of failures due to an invalid IKE header payload.

Field	Description
Invalid IKE HDR Init SPI	The total number of failures due to an invalid IKE header initiator security parameter index.
Invalid IKE HDR Resp SPI	The total number of failures due to an invalid IKE header responder security parameter index.
Invalid IKE HDR Major Ver	The total number of failures due to an invalid IKE header major version.
Invalid IKE HDR Minor Ver	The total number of failures due to an invalid IKE header minor version.
Invalid IKE HDR Xchg Type	The total number of failures due to an invalid IKE header exchange type.
Invalid IKE HDR Rcvd Flag	The total number of failures due to an invalid IKE header received flags.
Invalid IKE HDR Len	The total number of failures due to an invalid IKE header length.
Invalid Syntax	The total number of failures due to an invalid syntax.
Invalid Payload Syntax	The total number of failures due to an invalid payload syntax.
Invalid Payload Len	The total number of failures due to an invalid payload length.
Unknown Crit Payload	The total number of failures due to an unknown critical payload.
Too many payloads	The total number of failures due to many payloads.
Invalid SA Payload Len	The total number of failures due to an invalid SA payload length.
Invalid SA Proposal HDR	The total number of failures due to an invalid SA proposal header.
Invalid SA Proposal HDR Rcvd	The total number of failures due to an invalid SA proposal header received.
Too many transforms	The total number of failures due to many transform-sets in the SA payload.
Invalid SA Proposal HDR Len	The total number of failures due to an invalid SA proposal header length.
Too many proposals	The total number of failures due to many proposals in SA payload.
Invalid first SA Proposal num	The total number of failures due to an invalid first SA proposal number.
Invalid SA Proposal ID	The total number of failures due to an invalid Protocol ID in SA payload.
Invalid SA Proposal num	The total number of failures due to an invalid SA proposal number.
Invalid Transform Len	The total number of failures due to an invalid transform-set length.
Invalid Transform HDR	The total number of failures due to an invalid transform-set header.
Invalid Transform HDR Rcvd	The total number of failures due to an invalid transform-set header received.
Invalid Transform Type	The total number of failures due to an invalid transform-set type.
Invalid Transform ID	The total number of failures due to an invalid transform-set ID.
Invalid KE Payload Len	The total number of failures due to an invalid key exchange payload length.

Field	Description
Invalid KE DH Group	The total number of failures due to an invalid key exchange Diffie-Hellman group number.
Invalid KE DH Group Len	The total number of failures due to an invalid ID payload length.
Invalid ID Pld Len	The total number of failures due to an invalid ID payload length.
Invalid ID Pld Type	The total number of failures due to an invalid ID payload type.
Invalid ID Pld Data	The total number of packets for which ID payload syntax validation has failed.
Invalid Auth Pld Len	The total number of failures due to an invalid authorization payload length.
Invalid Nonce Payload Len	The total number of failures due to an invalid nonce payload length.
Invalid Notify Payload Len	The total number of failures due to an invalid notify payload length.
Invalid Notify Payload SPI Len	The total number of failures due to an invalid notify payload security parameter index size.
Invalid Notify Payload NAT	The total number of failures due to an invalid notify payload Network Address Translation-Traversal.
Invalid Notify payload Proto Id	The total number of failures due to an invalid notify payload protocol ID.
Invalid EAP Payload len	The total number of failures due to an invalid Encapsulation Authentication Protocol payload length.
Invalid Notify Payload Rekey	The total number of failures due to an invalid notify payload rekey.
Invalid CP Payload len	The total number of failures due to an invalid CP payload length.
Invalid Notify Payload Cookie	The total number of failures due to an invalid notify payload cookie.
Invalid TS Payload len	The total number of failures due to an invalid transform-set payload length.
Invalid CP Payload Attr Len	The total number of failures due to an invalid CP payload unknown attribute length.
Invalid TS Payload Rcvd	The total number of failures due to an invalid transform-set payload received.
Invalid Encrypted Payload Len	The total number of failures due to an invalid encrypted payload length.
Invalid TS payload TS-Type	The total number of failures due to an invalid transform-set payload transform-set type.
Unsupported Crit Payload	The total number of failures due to an unsupported critical payload.
Unsupported Cert Payload	The total number of failures due to an unsupported certified payload.
Unsupported Notify Prot AH	The total number of failures due to an unsupported notify payload protocol Authentication Header.
Unsupported Auth method	The total number of failures due to an unsupported authentication method.
Unsupported Payload Crit VID	The total number of failures due to an unsupported payload critical V-LAN ID.

Field	Description
Unsupported method	The total number of failures due to an unsupported method.
Unknown Error	The total number of failures due to an unknown error.
Unsupported SA Payload Prot AH	The total number of failures due to an unsupported SA payload protocol Authentication Header.
Unsupported TS payload TS-Num	The total number of failures due to an unsupported transform-set payload number.
Unsupported TS Payload TS-Type	The total number of failures due to an unsupported transform-set payload transform-set-type.
Unsupported TS Payload TS-Prot	The total number of failures due to an unsupported transform-set payload protocol.
Unsupported CP Payload No IP Attr	The total number of failures due to an invalid CP because of no available IP attribute.
Invalid CP Payload UNK ATTR	The total number of failures due to an invalid CP because of an unknown attribute.
Total IKEv2 Decrypt Failure Statistics	
Packets Failure	The total number of session failures due to packets that failed to decrypt.
HMAC mismatch	The total number of session failures due to a HMAC mismatch.
Pad length error	The total number of failures due to a pad length error in the packet.
Total IKEv2 Xchg Statistics	
Bad Msg Id	The total number of session failures due to a bad message ID.
Bad Response	The total number of session failures due to a bad response.
Stale Msg ID	The total number of session failures due to a stale message ID.
Unknown error	The total number of session failures due to unknown errors.
Stale Lookup Failure	The total number of session failures due to a stale lookup failure.
Combined Crypto map Statistics	
Current Tunnels	The number of tunnels currently connected by the SA.
Current Tunnels Established	The number of tunnels successfully connected by the SA.
IKE Fails	The total number of tunnels that failed to be connected by the SA.
Total Tunnels	The total number of tunnels connected by the SA.
Total Tunnels Established	The total number of tunnels successfully connected by the SA.
Call Req Rejects	The total number of call request reject messages.
IKEv2 Authentication Failures Statistics	
No DEA message	The total number of non DEA messages.

Field	Description
Missing AVP in DEA	The total number of missing AVPs in the DEA message.
Invalid APN	The total number of invalid APNs.
Key mismatch	The total number of key mismatches in the authentication vectors.
Invalid result code or AVP in DEA	The total number of invalid result code or AVP in the DEA message.
Invalid NAI format	The total number of invalid NAI formats.
APN validation failed	The total number of failed APN validations.
Misc. auth failures	The total number of miscellaneous authentication failures.

show crypto template summary

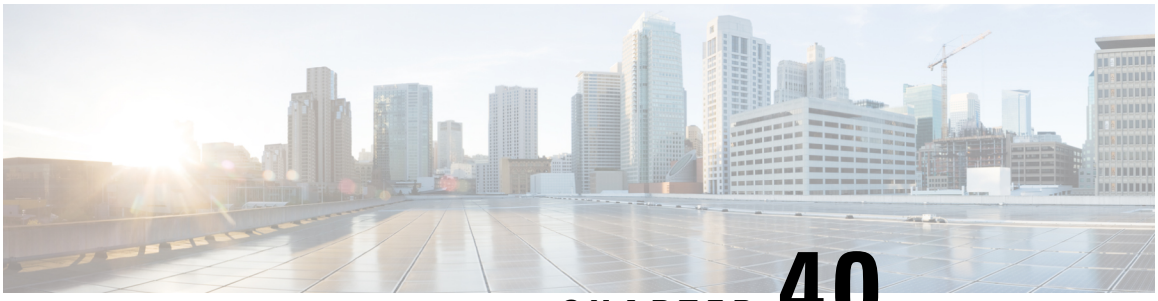
Table 226: show crypto template summary Command Output Descriptions

Field	Description
Total Crypto maps	
Configured maps	The total number of crypto maps configured in this context.
Service maps	The total number of service maps. There is one map per service.
Subscriber maps	The total number of subscriber maps.
Map Types:	
ipsec-dynamic	The total number of dynamic IPsec tunnel crypto maps.
ipsec-ikev1	The total number of IKEv1 IPsec tunnel crypto maps.
ipsec-ikev1pst-subscr	The total number of IKEv1 PST subscriber tunnel maps.
ipsec-ikev2	The total number of IKEv2 subscriber tunnel crypto maps.
ipsec-ikev2-subscriber	The total number of IKEv2 subscriber tunnel crypto maps.
ipsec-l2tp	The total number of L2TP IPsec tunnel crypto maps.
ipsec-manual	The total number of manual (static) IPsec tunnel crypto maps.
ipsec-mobile-ip	The total number of mobile IP IPsec tunnel crypto maps.
IKEv2 SA:	
Cipher 3des	The total number of IKEv2 security associations using the block cipher Triple Data Encryption Standard in Cypher Block Chaining (CBC) mode.

Field	Description
Cipher aes-cbc-128	The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 128-bit key in Cypher Block Chaining (CBC) mode.
Cipher aes-cbc-256	The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 256-bit key in Cypher Block Chaining (CBC) mode.
Cipher des	The total number of IKEv2 security associations using the block cipher Data Encryption Standard in Cypher Block Chaining (CBC) mode.
Cipher null	The total number of IKEv2 security associations using the block cipher NULL. All IKEv2 security association protected traffic is sent in the clear.
DH Group 1	The total number of IKEv2 security associations using Diffie-Hellman Group 1 security (the lowest security level). DH Group 1 provides 768 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
DH Group 2	The total number of IKEv2 security associations using Diffie-Hellman Group 2 security. DH Group 2 (the default) provides 1024 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
DH Group 5	The total number of IKEv2 security associations using Diffie-Hellman Group 5 security. DH Group 5 provides 1536 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
DH Group 14	The total number of IKEv2 security associations using Diffie-Hellman Group 14 security (the highest security level). DH Group 14 provides 2048 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
HMAC aes-xcbc-96	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) using the AES block cipher with a block size of 128 bits.
HMAC md5-96	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Message Digest 5 truncated to 96 bits.
HMAC sha2-256-128	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) in conjunction with the SHA-256 algorithm truncated to 128 bits.
HMAC sha2-384-192	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) in conjunction with the SHA-384 algorithm truncated to 192 bits.
HMAC sha2-512-256	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) in conjunction with the SHA-512 algorithm truncated to 256 bits.

Field	Description
PRF sha1	The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) with the cryptographic hash function Secure Hash Algorithm-1.
PRF aes-xcbc-128	The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) in conjunction with Advanced Encryption Standard (AES) with a key length restriction of 128 bits.
PRF md5	The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) with the cryptographic hash function Message Digest 5.
PRF sha2-256	The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) using the SHA-2 algorithm truncated to 256 bits.
PRF sha2-384	The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) using the SHA-2 algorithm truncated to 384 bits.
PRF sha2-512	The total number of IKEv2 security associations using the IKE pseudo-random function (PRF) using the SHA-2 algorithm truncated to 512 bits.
IPSec SA	
Protocol esp	The total number of IPsec security associations using Encapsulating Security Payload (ESP) protocol.
Protocol ah	The total number of IPsec security associations using Authentication Header (AH) protocol.
Cipher 3des	The total number of IKEv2 security associations using the block cipher Triple Data Encryption Standard in Cypher Block Chaining (CBC) mode.
Cipher aes-cbc-129	The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 129-bit key in Cypher Block Chaining (CBC) mode.
Cipher aes-cbc-256	The total number of IKEv2 security associations using the block cipher Advanced Encryption Standard with a 256-bit key in Cypher Block Chaining (CBC) mode.
Cipher des	The total number of IKEv2 security associations using the block cipher Data Encryption Standard in Cypher Block Chaining (CBC) mode.
Cipher null	The total number of IKEv2 security associations using the block cipher NULL. All IKEv2 security association protected traffic is sent in the clear.
DH Group 1	The total number of IKEv2 security associations using Diffie-Hellman Group 1 security (the lowest security level). DH Group 1 provides 768 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
DH Group 2	The total number of IKEv2 security associations using Diffie-Hellman Group 2 security. DH Group 2 (the default) provides 1024 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.

Field	Description
DH Group 5	The total number of IKEv2 security associations using Diffie-Hellman Group 5 security. DH Group 5 provides 1536 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
DH Group 14	The total number of IKEv2 security associations using Diffie-Hellman Group 14 security (the highest security level). DH Group 14 provides 2048 bits of key exchange cryptographic strength. This is a modular exponential (MODP) DH group.
HMAC aes-xcbc-96	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) using the AES block cipher with a block size of 128 bits.
HMAC md5-96	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Message Digest 5 truncated to 96 bits.
HMAC sha1-96	The total number of IPsec security associations using a keyed-Hash Message Authentication Code (HMAC) with the cryptographic hash function Secure Hash Algorithm-1 truncated to 96 bits (the default).



CHAPTER 40

show cs-network

This chapter includes the **show cs-network** command output tables.

- show cs-network all status, on page 713
- show cs-network statistics ranap-only, on page 715
- show cs-network statistics sccp-only, on page 719

show cs-network all status

Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 227: show cs-network all status Command Output Descriptions

Field	Description
CS Network name	Indicates the name of the Circuit Switched (CS) network instance for which status is displayed.
Associated SCCP-Network	Indicates the name of the Signalling Connection Control Part (SCCP) network service instance which in associated with referecned CS network instance.
Associated Alcap-Service	Indicates the name of the Access Link Control Application Protocol (ALCAP) service instance which in associated with referecned CS network instance.
Alcap Context Name	Indicates the name of the context in which ALCAP service instance is configured.
Associated RTP Pool	Indicates the name of the RTP IP pool configured and associated with referecned CS network instance for RTP stream management.
RTP Pool Context Name	Indicates the name of the context in which RTP IP pool is configured for RTP stream management.
MSC Point Code	Indicates the address of MSC in SS7 point code notation which is serving the referenced CS network instance.
Status	Indicates the status of MSC which is serving the referenced CS network instance.

Field	Description
Network Status	Indicates the status of network in which the referenced CS network instance is placed.
RTP IP Addresses	Indicates the session manager instances and associated IP pools with them for RTP stream management support.
NRI	Indicates the Network Resource Identication (NRI) bit configuration status for the referenced CS network.
IDNNS	Indicates the Intra-Domain NAS Node Selector (IDNNS) configuration status for the referenced CS network to transport the NRI value.
Lac range <*nnn*> to <*nnn*> MSC Point-code <*x.x.x*>	Indicates the mapping configured between MSC point-code and range of LAC for multiple MSC selection without Iu-Flex in CS network.
CORE NODE MAP	Indicates the core node mapping configuration status for the referenced CS network.
Initiated Ranap Reset	Indicates if the HNB-GW Initiated RANAP Reset function is enabled or disabled. **Important** Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs.
Ranap Reset Ack Timer	The timer value, in seconds, that defines how long the HNB-GW waits for a RESET ACK message from the MSC after transmitting a RESET message. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. **Important** Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs.
Ranap Reset Maximum Retransmissions	Sets the maximum number of retries allowed for the HNB-GW to transmit a RANAP RESET message to the MSC if the RESET ACK timer expires. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. **Important** Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs.
Ranap Reset Guard Timer	The timer that the HNB-GW starts after receiving a RESET message from the CS core network. While this timer is running, the HNB-GW discards any new RESET messages that it receives. **Important** Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs.
Global RNC-Id	This group displays the information related to global Radio Network Controller settings for use by the CS core network for HNB-GW service(s) on a chassis. It is configured under the PLMN-ID.
MCC	The Mobile Country Code defined for use with this HNB-GW service. It consists of the first 3 digits of the Available Radio Network PLMN ID.

Field	Description
MNC	The Mobile Network Code defined for use with this HNB-GW service. It consists of the last 3 digits of the Available Radio Network PLMN ID.
Id	The Radio Network Controller ID provided to HNBs for use by the CS core network for this HNB-GW service. It is configured under the PLMN-ID

show cs-network statistics ranap-only

Table 228: show cs-network statistics ranap-only Command Output Descriptions

Field	Description
RANAP	This group displays the statistics of RANAP in a CS network on chassis.
Initial UE Tx	Total number of initial UE requests transmitted.
Direct Transfer Rx	Total number of Direct Transfer requests received.
Direct Transfer Tx	Total number of Direct Transfer responses sent.
Reset Rx	Total number of RESET requests received.
Reset Tx	Total number of RESET responses sent.
Reset Ack Rx	Total number of RESET Ack requests received.
Reset Ack Tx	Total number of responses against RESET Ack request sent.
Reset Resource Rx	Total number of RESET RESOURCE requests received.
Reset Resource Tx	Total number of RESET RESOURCE responses sent.
Reset Resource Ack Rx	Total number of RESET RESOURCE Ack requests received.
Reset Resource Ack Tx	Total number of responses against RESET RESOURCE Ack request sent.
Iu Release Request Tx	Total number of Iu RELEASE requests sent.
Iu Release Command Rx	Total number of Iu RELEASE command received.
Iu Release Complete Tx	Total number of Iu RELEASE Complete response sent.
Paging Request Rx	Total number of Paging rquests received.
RAB Assignment Request Rx	Total number of RAB assignment requests received.
RAB Setup/Mod Rx	Total number of RAB setup or modification requests received.
RAB Release Rx	Total number of RAB Release requests received.
RAB Assignment Response Tx	Total number of responses against RAB assignment requests sent.

Field	Description
RAB Setup/Mod Success Tx	Total number of RAB setup or modification Success response sent.
Total RAB Setup/Mod Fail Tx	Total number of RAB setup or modification Fail response sent.
RAB Setup/Mod Fail(Local) Tx	Total number of RAB setup or modification Fail response sent where RAB setup or modification failed due to local reason/cause.
RAB Release Success Tx	Total number of RAB Release Success response sent.
Total RAB Release Fail Tx	Total number of RAB Release Success response sent.
RAB Release Fail(Local) Tx	Total number of RAB Release Fail response sent where RAB Release failed due to local reason/cause.
RAB Queued Tx	Total number of RAB messages quesed for transmission.
RAB Setup/Mod Timer Exp	Total number of instances where RAB setup/modification timer expired before process of request.
RAB Release Timer Exp	Total number of instances where RAB Reelase timer expired before process of request.
RAB Set/Mod/Rel Local Fail	This group displays the total number of RAB setup or modification or release requests failed due to local reason/cause.
Local Failure Cause	This group idendifies the local cause for RAB setup or modification or release request failure.
Radio Network Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in radio network layer.
Invalid Rab Id	Total number of RAB setup or modification or release requests failed due to invalid RAB id in radio network layer.
Interaction With Other Proc	Total number of RAB setup or modification or release requests failed as system was interacting with another process.
Transport Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in Transport layer.
Sig Trans Res Fail	Total number of RAB setup or modification or release requests failed due to Sig trans Resource failure in transport layer.
Iu Tran Conn failed to Estab	Total number of RAB setup or modification or release requests failed where Iu Transmission connection failed to establish in transport layer.
Protocol Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in Protocol layer.
Transfer syntax error	Total number of RAB setup or modification or release requests failed due to transfer syntax error in Protocol layer.
Asn error(Reject)	Total number of RAB setup or modification or release requests failed due to ASN (Reject) syntax error in Protocol layer.

Field	Description
Asn error	Total number of RAB setup or modification or release requests failed due to ASN syntax error in Protocol layer.
Msg not comp with Rcvr state	Total number of RAB setup or modification or release requests failed as message was not compatible with Recovery state in Protocol layer.
Semantic error	Total number of RAB setup or modification or release requests failed due to semantic error in Protocol layer.
Asn error(Falsely const msg)	Total number of RAB setup or modification or release requests failed due to ASN error (falsely constructed messages) in Protocol layer.
Miscellaneous Cause	This group idendifies the total number of RAB setup or modification or release request failure due to miscellaneous cause (not listed in this table).
No Resource Available	Total number of RAB setup or modification or release requests failed due to non availability of resourcse.
Unspecified	Total number of RAB setup or modification or release request failure due to sunspecified cause (not listed in this table).
<*codec_name*> Codec	This group displays the total number of RAB setup or modification or release request failure grouped in Codec name <*codec_name*>. Following groups are supported: • UMTS AMR Codec • UMTS AMR2 Codec • Other Codec • No Codec • Unknown Codec
RAB Setup/Mod Rx	Total number of RAB setup or modification requests received for specific codec.
RAB Setup/Mod Success Tx	Total number of RAB setup or modification sucess messages sent for specific codec.
RAB Release Rx	Total number of RAB Release requests received for specific codec.
Total RAB Setup/Mod Fail Tx	Total number of RAB setup or modification failure messages sent for specific codec.
RAB Setup/Mod Fail(Local) Tx	Total number of RAB setup or modification failure messages sent for specific codec where RAB setup or modification failed due to local reason/cause.
RAB Release Success Tx	Total number of RAB Release success messages sent for specific codec.
Total RAB Release Fail Tx	Total number of RAB Release fail messages sent for specific codec.
RAB Release Fail(Local) Tx	Total number of RAB Release fail messages sent for specific codec where RAB setup or modification failed due to local reason/cause.
RAB Queued Tx	Total number of RAB messages queued for processing or transmission.
Relocation Request Rx	Total number of RAB Relocation request received by system for this CS network.

Field	Description
RAB Setup Rx	Total number of RAB Relocation setup request received by system for this CS network.
Relocation Request ACK Tx	Total number of RAB Relocation Ack messages sent agains setup request received by system for this CS network.
RAB Setup Success Tx	Total number of RAB setup success messages sent agains setup request received by system for this CS network.
Total RAB Setup Fail Tx	Total number of RAB setup fail messages sent agains setup request received by system for this CS network.
RAB Setup Fail(Local) Tx	Total number of RAB setup failure messages sent from this system where RAB setup or modification failed due to local reason/cause.
Local Failure Cause	This group idendifies the local cause for RAB setup or modification or release request failure.
Radio Network Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in radio network layer.
Invalid Rab Id	Total number of RAB setup or modification or release requests failed due to invalid RAB id in radio network layer.
Interaction With Other Proc	Total number of RAB setup or modification or release requests failed as system was interacting with another process.
Transport Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in Transport layer.
Sig Trans Res Fail	Total number of RAB setup or modification or release requests failed due to Sig trans Resource failure in transport layer.
Iu Tran Conn failed to Estab	Total number of RAB setup or modification or release requests failed where Iu Transmission connection failed to establish in transport layer.
Protocol Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in Protocol layer.
Transfer syntax error	Total number of RAB setup or modification or release requests failed due to transfer syntax error in Protocol layer.
Asn error(Reject)	Total number of RAB setup or modification or release requests failed due to ASN (Reject) syntax error in Protocol layer.
Asn error	Total number of RAB setup or modification or release requests failed due to ASN syntax error in Protocol layer.
Msg not comp with Rcvr state	Total number of RAB setup or modification or release requests failed as message was not compatible with Recovery state in Protocol layer.
Semantic error	Total number of RAB setup or modification or release requests failed due to semantic error in Protocol layer.

Field	Description
Asn error(Falsely const msg)	Total number of RAB setup or modification or release requests failed due to ASN error (falsely constructed messages) in Protocol layer.
Miscellaneous Cause	This group idendifies the total number of RAB setup or modification or release request failure due to miscellaneous cause (not listed in this table).
No Resource Available	Total number of RAB setup or modification or release requests failed due to non availability of resourcse.
Unspecified	Total number of RAB setup or modification or release request failure due to sunspecified cause (not listed in this table).
<*codec_name*> Codec	This group displays the total number of RAB Setup request grouped in Codec name <*codec_name*>.
RAB Setup Rx	Total number of RAB setup requests received for specific codec.
RAB Setup Success Tx	Total number of RAB setup sucess messages sent for specific codec.
Total RAB Setup Fail Tx	Total number of RAB setup failure messages sent for specific codec.
RAB Setup Fail(Local) Tx	Total number of RAB setup failure messages sent for specific codec where RAB setup failed due to local reason/cause.
Relocation Detect Tx	Total number of RAB Relocation Detect messages sent by system in this CS network.
Relocation Required Tx	Total number of RAB Relocation Required request messages sent by system in this CS network.
Fwd SRNS Context Request Tx	Total number of FWD SRNS Context request messages sent by system in this CS network.
Relocation Prep Failure Rx	Total number of Relocation Preparation failure response messages sent by system in this CS network.
Relocation Cancel Tx	Total number of Relocation cancle command messages received by system in this CS network.
Relocation Command Rx	Total number of Relocation command messages received by system in this CS network.
Srns Context Request Rx	Total number of SRNS Context Request messages received by system in this CS network.
Srns Context Response Tx	Total number of response sent for SRNS Context Request messages received by system in this CS network.

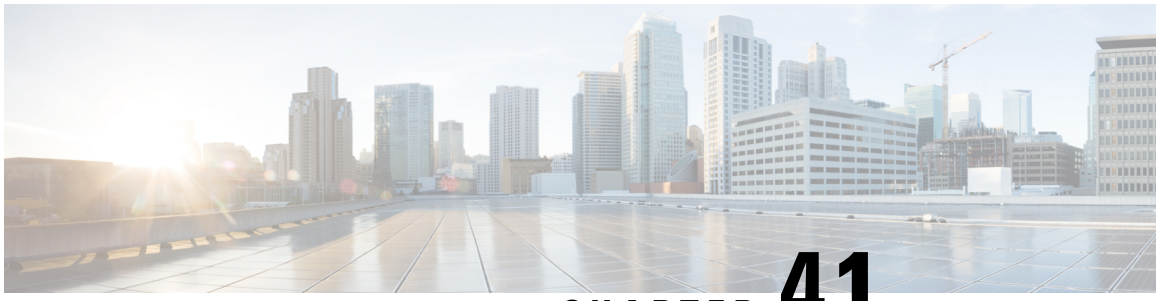
show cs-network statistics sccp-only

Important In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

Table 229: show cs-network statistics sccp-only Command Output Descriptions

Field	Description
SCCP	This group displays the statistics of SCCP in a CS network on chassis.
SCCP Connection Request Rx	Total number of SCCP connection Request received by HNB-GW from the Core Node. This counter changes when Core Node initiates SCCP connection during Relocation.
SCCP Connection Request Tx	Total number of SCCP connection Request sent by HNB-GW towards the CN after getting RUA Connect Request for a Registered UE. This counter changes when RUA Connect Request sent for a Registered UE.
SCCP Connection Confirm Rx	Total number of SCCP Connection Confirmation messages received by HNB-GW from the Core Node. This counter changes when CN sends the SCCP connection confirmation for a requested SCCP Connection Request.
SCCP Connection Confirm Tx	Total number of SCCP Connection Confirmation response messages sent by HNB-GW to the Core Node. This counter changes when HNB-GW sends the SCCP connection confirmation response for a requested SCCP Connection Request to CN.
SCCP Connection Reject Rx	Total number of SCCP Connection Reject messages received by HNB-GW from the Core Node. This counter changes when Core node Rejects the SCCP Conn Request due to some parameter mismatch, etc.
SCCP Connection Reject Tx	Total number of SCCP Connection Rejection response messages sent by HNB-GW to the Core Node. This counter changes when HNBGW initiates the tear Down on receiving RUA disconnect from HNB which doesn't contain RANAP Iu-release complete message and other failure scenarios.
SCCP Connection Data Rx	Total data received by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when CN sends the data towards HNB-GW over SCCP connection.
SCCP Connection Data Tx	Total data sent by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when HNB-GW sends the data towards CN over SCCP connection.
SCCP Disconnect Rx	Total number of SCCP Disconnect messages received by HNB-GW from Core Node. This counter changes when CN initiate tear-down procedure for SCCP connection.
SCCP Disconnect Tx	Total number of SCCP Disconnect response messages sent by HNB-GW to Core Node. This counter changes when HNBGW initiates the tear-down procedure on receiving RUA disconnect from HNB which doesn't contain RANAP Iu-release complete message and other failure scenarios.

Field	Description
SCCP Uni Data Rx	Total Connection-less data, like paging, received by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when CN sends any connection-less data, like paging, towards HNB-GW over SCCP connection.
SCCP Uni Data Tx	Total Connection-less data, RANAP Reset, RANAP reset Resource, sent by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when HNB-GW sends or forward any Connection-less data, like RANAP reset, RANAP Reset Resource, towards CN over SCCP connection.



CHAPTER 41

show cscf

This chapter includes the **show cscf** command output tables.

- show cscf nat media mapping all, on page 723
- show cscf peer-servers full, on page 724
- show cscf service li-packet-cable statistics, on page 725
- show cscf service statistics name <service_name> all, on page 725
- show cscf sessions counters, on page 744
- show cscf sessions duration, on page 746
- show cscf sip statistics, on page 747
- show cscf tcp connections, on page 752

show cscf nat media mapping all

Table 230: show cscf nat media mapping all Command Output Descriptions

Field	Description
UE-Origin	The IP address and port number of the UE origin.
UE-Destination	The IP address and port number of the UE destination.
Nwk-Origin	The IP address and port number of the network origin.
Nwk-Destination	The IP address and port number of the network destination.
Nwk-Core-context	The context in which the network core configuration resides.
UE-Access-context	The context in which the UE access configuration resides.

show cscf peer-servers full

Table 231: show cscf peer-servers full Command Output Descriptions

Field	Description
Peer-Server name	The name of the peer server group.
Context	The context in which the peer server group configuration resides.
Server type	The type of servers in the peer server group.
Hunting-method	The hunting method used by the servers in the peer server group.
server	The name of the peer server.
Address	The IP address of the peer server expressed in IPv4 or IPv6 dotted decimal notation.
domain	The domain name of the peer server.
Monitor status	The monitoring status of the peer servers as determined by the CLI command Enabled/Disabled.
monitor-interval (seconds)	The time period, in seconds, between monitor intervals.
monitor-message	The SIP message (OPTIONS) to be sent after each monitoring interval.
monitor-response-timer (seconds)	The response wait timer, in seconds, for each monitor message.
Server mode	The mode of the peer server as determined by the CLI command Active/Standby.
Server status	The status of the peer server. Possible statuses are: • OUT_OF_SERVICE — Peer server mode changed to standby through CLI command. • AVAILABLE — Peer server mode is Active and peer server sends response to monitor message. • UNAVAILABLE— Peer server mode is Active, however, peer server does not send response to monitor message.
Network session template	Binds the nw-session-template name with the peer server.
IMS Capable	Indicates if the peer server is ims-capable or not.
Request Rx	The number of requests received by the sip-as peer server from S-CSCF during load balancing.

show cscf service li-packet-cable statistics

Refer to the *ASR 5000 Lawful Intercept Configuration Guide* for descriptions of these statistics.

show cscf service statistics name <service_name> all

Table 232: show cscf service statistics name <service_name> all Command Output Descriptions

Field	Description
CSCF Service	The name of the service and context.
CSCF Active Subscriptions	
Originating	The total current number of active subscriptions originating on this service.
Terminating (UE originated)	The total current number of UE-originated active subscriptions terminating on this service.
Terminating (PCSCF Originated)	The total current number of Proxy CSCF-originated active subscriptions terminating on this service.
Terminating (AS Originated)	The total current number of AS-originated active subscriptions terminating on this service.
Proxied	The total current number of active subscriptions proxied on this service.
CSCF Calls	
Total CallSetupAttempts Rx	The total current number of call setup attempts received by this service.
Total CallSetupAttempts Tx	The total current number of call setup attempts transmitted by this service.
Total CallSetupSuccess Rx	The total current number of successful call setups received by this service.
Total CallSetupSuccess Tx	The total current number of call setups successfully transmitted by this service.
Total CallSetupFailures Rx	The total current number of call setup failures received by this service.
Total CallSetupFailures Tx	The total current number of failed call setups transmitted by this service.
Total 3xx Responses Rx	The total current number of 3xx responses received by this service.
Total 3xx Responses Tx	The total current number of 3xx responses transmitted by this service.
Total 402 Payment Required Rx	The total current number of 402 Payment Required responses received by this service.
Total 402 Payment Required Tx	The total current number of 402 Payment Required responses transmitted by this service.
Total 403 Forbidden Rx	The total current number of 403 Forbidden responses received by this service.

Field	Description
Total 403 Forbidden Tx	The total current number of 403 Forbidden responses transmitted by this service.
Total 404 Not Found Rx	The total current number of 404 Not Found responses received by this service.
Total 404 Not FoundTx	The total current number of 404 Not Found responses transmitted by this service.
Total 405 Method Not Allowed Rx	The total current number of 405 Method Not Allowed responses received by this service.
Total 405 Method Not AllowedTx	The total current number of 405 Method Not Allowed responses transmitted by this service.
Total 407 Proxy Auth Required Rx	The total current number of 407 Proxy Auth Required responses received by this service.
Total 407 Proxy Auth Required Tx	The total current number of 407 Proxy Auth Required responses transmitted by this service.
Total 408 Request Timeout Rx	The total current number of 408 Request Timeout responses received by this service.
Total 408 Request Timeout Tx	The total current number of 408 Request Timeout responses transmitted by this service.
Total 420 Bad Extension Rx	The total current number of 420 Bad Extension responses received by this service.
Total 420 Bad Extension Tx	The total current number of 420 Bad Extension responses transmitted by this service.
Total 421 Extension Required Rx	The total current number of 421 Extension Required responses received by this service.
Total 421 Extension Required Tx	The total current number of 421 Extension Required responses transmitted by this service.
Total 480 Temp Not Available Rx	The total current number of 480 Temp Not Available responses received by this service.
Total 480 Temp Not Available Tx	The total current number of 480 Temp Not Available responses transmitted by this service.
Total 486 Busy Here Rx	The total current number of 486 Busy Here responses received by this service.
Total 486 Busy Here Tx	The total current number of 486 Busy Here responses transmitted by this service.
Total 487 Request Cancel Rx	The total current number of 487 Request Cancel responses received by this service.
Total 487 Request Cancel Tx	The total current number of 487 Request Cancel responses transmitted by this service.
Total 488 Not Acceptable Media Rx	The total current number of 488 Not Acceptable Media responses received by this service.

Field	Description
Total 488 Not Acceptable Media Tx	The total current number of 488 Not Acceptable Media responses transmitted by this service.
Total 4xx Responses Rx	The total current number of 4xx responses received by this service.
Total 4xx Responses Tx	The total current number of 4xx responses transmitted by this service.
Total 5xx Responses Rx	The total current number of 5xx responses received by this service.
Total 5xx Responses Tx	The total current number of 5xx responses transmitted by this service.
Total 500 Internal Error Rx	The total current number of 500 Internal Error responses received by this service.
Total 500 Internal Error Tx	The total current number of 500 Internal Error responses transmitted by this service.
Total 503 Service Unavailable Rx	The total current number of 503 Service Unavailable responses received by this service.
Total 503 Service Unavailable Tx	The total current number of 503 Service Unavailable responses transmitted by this service.
Total 6xx Responses Rx	The total current number of 6xx responses received by this service.
Total 6xx Responses Tx	The total current number of 6xx responses transmitted by this service.
Total CallReleaseAttempts Rx	The total current number of call release attempts received by this service.
Total CallReleaseAttempts Tx	The total current number of call release attempts transmitted by this service.
Total CallReleaseSuccess Rx	The total current number of call releases successfully received by this service.
Total CallReleaseSuccess Tx	The total current number of successful call releases transmitted by this service.
Total CallReleaseFailures Rx	The total current number of call release failures received by this service.
Total CallReleaseFailures Tx	The total current number of failed call releases transmitted by this service.
Total Call Attempts Challenged	The total current number of call attempts challenged on this service.
Total Session Timer Expires	The total current number of sessions on this service with expired timers.
Total Call Rejects from PCRF/PDF	The total current number of calls rejected by the PCRF/PDF from this service.
Total Call Rejects from Proxy (local)	The total current number of calls rejected by the local proxy from this service.
Total Too Large SIP Messages	The total current number of too large SIP messages on this service.
Total HSS Accesses	The total current number of HSS accesses by this service.
Total Emergency Calls	The total current number of emergency calls made through this service.
Total Toll Free Calls	The total current number of toll-free calls made through this service.
Total Premium Service Calls	The total current number of premium-service calls made through this service.

Field	Description
Total International Calls	The total current number of international calls made through this service.
Total LongDistance Calls	The total current number of long distance calls made through this service.
Total Operator Assisted Calls	The total current number of operator-assisted calls made through this service.
Total Directory Assisted Calls	The total current number of directory-assisted calls made through this service.
Total Media (audio) Loss Call Releases	The total current number of media (audio) loss call releases by this service.
Total RTP Packets Sent	The total current number of RTP packets sent by this service.
Total RTP Packets Received	The total current number of RTP packets received by this service.
Total MSRP Packets Sent	The total current number of MSRP TCP packets sent by this service.
Total MSRP Packets Received	The total current number of MSRP TCP packets received by this service.
Total RTCP Packets Sent	The total current number of RTCP packets sent by this service.
Total RTCP Packets Received	The total current number of RTCP packets received by this service.
Total Call Releases initiated by UE	The total current number of UE-initiated call releases. • For P-CSCF, the number of BYE initiated by UE. • For S-CSCF, the number of BYE received from P-CSCF (initiated by UE/P-CSCF).
Total Call Releases initiated by Network	The total current number of network-initiated call releases. • For P-CSCF, the number of BYE received from S-CSCF. • For S-CSCF, the number of BYE received from AS, etc.
Total Call Releases initiated by Radio Loss	The total current number of Radio Loss-initiated call releases; the number of BYE originated by P-CSCF due to radio coverage loss of UE.
Total Call Releases initiated by CSCF (Local)	The total current number of CSCF (Local)-initiated call releases; the number of BYE originated by CSCF due to CLI, radio loss, network-initiated de-registration, and internal processing failure.
Total Calls rejected due to Concurrent Call limit exceeded	The total current number of calls rejected due to concurrent call limit exceeded by this service.
CSCF Congestion Control Statistcs	
Registration Attempts Rejected	The total current number of registration (SIP REGISTER message) attempts rejected by CSCF service due to congestion trigger.
Re-Registration Attempts Rejected	The total current number of re-registration (SIP REGISTER message) attempts rejected by CSCF service due to congestion trigger.

Field	Description
Call Setup Attempts Rejected	The total current number of call setup attempts (SIP INVITE) rejected by CSCF service due to congestion trigger.
Message Attempts Rejected	The total current number of SIP MESSAGE requests rejected by CSCF service due to congestion trigger.
Subscription Attempts Rejected	The total current number of SIP SUBSCRIBE requests rejected by CSCF service due to congestion trigger.
Notification Attempts Rejected	The total current number of SIP NOTIFY requests rejected by CSCF service due to congestion trigger.
Publish Attempts Rejected	The total current number of SIP PUBLISH attempts rejected by CSCF service due to congestion trigger.
Other SIP Message Attempts Rejected	The total current number of other SIP requests (excepts those mentioned above) rejected by CSCF service due to congestion trigger.
Messages dropped due to congestion	The total current number of SIP messages dropped by CSCF service due to congestion trigger.
TCP packets dropped due to congestion	The total current number of TCP packets dropped by CSCF service due to congestion trigger.
Number of times congestion applied	The number of times the sessmgr congestion control is triggered.This value is collected from all sessmgrs running the CSCF service.
Number of times congestion cleared	The number of times the sessmgr congestion control is cleared. This value is collected from all sessmgrs running the CSCF service.
CSCF MESSAGE Statistics	
Message Attempts Received	The total current number of message attempts received by this service.
Message Attempts Transmitted	The total current number of message attempts transmitted by this service.
Message Success Received	The total current number of successful messages received by this service.
Message Success Transmitted	The total current number of messages successfully transmitted by this service.
Message Failures Received	The total current number of message failures received by this service.
Message Failures Transmitted	The total current number of failed messages transmitted by this service.
3xx Response Received	The total current number of 3xx Response messages received on this service.
3xx Response Transmitted	The total current number of 3xx Response messages transmitted by this service.
400 Bad Request Received	The total current number of 400 Bad Request messages received on this service.
400 Bad Request Transmitted	The total current number of 400 Bad Request messages transmitted by this service.
403 Forbidden Received	The total current number of 403 Forbidden messages received on this service.

Field	Description
403 Forbidden Transmitted	The total current number of 403 Forbidden messages transmitted by this service.
404 Not Found Received	The total current number of 404 Not Found messages received on this service.
404 Not Found Transmitted	The total current number of 404 Not Found messages transmitted by this service.
413 Request Entity Too Large	The total current number of 413 Request Entity Too Large messages received on this service.
413 Request Entity Too Large	The total current number of 413 Request Entity Too Large messages transmitted by this service.
415 Unsupport Media Type Received	The total current number of 415 Unsupport Media Type messages received on this service.
415 Unsupport Media Type Transmitted	The total current number of 415 Unsupport Media Type messages transmitted by this service.
416 Unsupport URI Scheme Received	The total current number of 416 Unsupport URI Scheme messages received on this service.
416 Unsupport URI Scheme Transmitted	The total current number of 416 Unsupport URI Scheme messages transmitted by this service.
420 Bad Extension Received	The total current number of 420 Bad Extension messages received on this service.
420 Bad Extension Transmitted	The total current number of 420 Bad Extension messages transmitted by this service.
421 Extension Required Received	The total current number of 421 Extension Required messages received on this service.
421 Extension Required Transmitted	The total current number of 421 Extension Required messages transmitted by this service.
480 Temp Not Available Received	The total current number of 480 Temp Not Available messages received on this service.
480 Temp Not Available Transmitted	The total current number of 480 Temp Not Available messages transmitted by this service.
488 Not Acceptable Media Received	The total current number of 488 Not Acceptable Media messages received on this service.
488 Not Acceptable Mediad Transmitted	The total current number of 488 Not Acceptable Media messages transmitted by this service.
4xx Response Received	The total current number of 4xx Response messages received on this service.
4xx Response Transmitted	The total current number of 4xx Response messages transmitted by this service.
500 Internal Error Received	The total current number of 500 Internal Error messages received on this service.

Field	Description
500 Internal Error Transmitted	The total current number of 500 Internal Error messages transmitted by this service.
513 Message Too Large Received	The total current number of 513 Message Too Large messages received on this service.
513 Message Too Large Transmitted	The total current number of 513 Message Too Large messages transmitted by this service.
5xx Response Received	The total current number of 5xx Response messages received on this service.
5xx Response Transmitted	The total current number of 5xx Response messages transmitted by this service.
6xx Response Received	The total current number of 6xx Response messages received on this service.
6xx Response Transmitted	The total current number of 6xx Response messages transmitted by this service.
CSCF Performance	
Invite Processing Time	Minimum and maximum time (in ms) required to process an INVITE message (time elapsed between the INVITE entering the proxy and the INVITE forwarded out of the proxy).
First Response Time	Minimum and maximum time (in ms) between sending an INVITE message out of the proxy and the first response received for the INVITE (any 1xx).
Post Dial Delay	Minimum and maximum time (in ms) between sending an INVITE message out of the proxy and receiving the ringing message or any final response to the INVITE.
Session Setup Delay	Minimum and maximum time (in ms) between when an INVITE message was received by the proxy and a 200 OK (invite) sent out of the proxy.
Post Answer Delay	Minimum and maximum time (in ms) between a 200 OK INVITE message received by the proxy and the ACK message (for invite) sent out of the proxy.
Session Release Delay	Minimum and maximum time (in ms) between when a BYE message is received by the proxy and a 200 OK BYE is sent out of the proxy.
CSCF Registrations	
Current Registered Users	The current number of users registered to this service.
Current Secure Connections	The current number of secure connections to this service.
Current Unsecure Connections	The current number of unsecure connections to this service.
Total Failed Authentications	The total current number of failed authentications for this service.
Total Registration Expires	The total current number of expired registrations on this service.
Total Registration from Roaming UE	The total number of registrations from Roaming UE.

Field	Description
Total Successful Registration from Roaming UE	The total number 200 ok to registrations from Roaming UE.
Total Failed Registration from Roaming UE	The total number of failed registrations from Roaming UE.
Total 403 response to Registration from Roaming UE	The total number of 403 response to registration from Roaming UE.
Total Re-Registration from Roaming UE	The total number of re-registration from Roaming UE.
Total Successful Re-Registration from Roaming UE	The total number 200 ok to re-registrations from Roaming UE.
Total Failed Re-Registration from Roaming UE	The total number of failed re-registrations from Roaming UE.
Total 403 response to Re-Registration from Roaming UE	The total number of 403 response to re-registration from Roaming UE.
Total De-Registration from Roaming UE	The total number of de-registration from Roaming UE.
Total Successful De-Registration from Roaming UE	The total number 200 ok to de-registrations from Roaming UE.
Total Failed De-Registration from Roaming UE	The total number of failed de-registrations from Roaming UE.
Total 403 response to De-Registration from Roaming UE	The total number of 403 response to de-registration from Roaming UE.
Total De-registrations initiated by UE	The total current number of UE-initiated de-registration requests on this service.
Total De-registrations initiated by Network	The total current number of network-initiated de-registration requests received by P-CSCF from S-CSCF or by S-CSCF/SIP Proxy from internal/HSS trigger on this service.
Total Secure Registrations	The total current number of secure registrations on this service.
Total Failed Secure Registrations	The total current number of failed secure registrations on this service.
Registration Statistics	
Registration Attempts Received	The total current number of registration attempts received on this service.
Registration Attempts Transmitted	The total current number of registration attempts transmitted by this service.
Registration Success Received	The total current number of registration successes received on this service.
Registration Success Transmitted	The total current number of registration successes transmitted by this service.
Registration Failures Received	The total current number of registration failures received on this service.
Registration Failures Transmitted	The total current number of registration failures transmitted by this service.

Field	Description
401 Unauthorized (Registration) Received	The total current number of 401 Unauthorized responses to registration received on this service.
401 Unauthorized (Registration) Transmitted	The total current number of 401 Unauthorized responses to registration transmitted by this service.
403 Forbidden (Registration) Received	The total current number of 403 Forbidden responses to registration received on this service.
403 Forbidden (Registration) Transmitted	The total current number of 403 Forbidden responses to registration transmitted by this service.
404 Not Found (Registration) Received	The total current number of 404 Not Found responses to registration received on this service.
404 Not Found (Registration) Transmitted	The total current number of 404 Not Found responses to registration transmitted by this service.
420 Bad Extension (Registration) Received	The total current number of 420 Bad Extension responses to registration received on this service.
420 Bad Extension (Registration) Transmitted	The total current number of 420 Bad Extension responses to registration transmitted by this service.
439 First HopLackOb (Registration) Received	The total current number of 439 First Hop Lack Outbound responses to registration received on this service.
439 First HopLackOb (Registration) Transmitted	The total current number of 439 First Hop Lack Outbound responses to registration transmitted by this service.
4xx Responses (Registration) Received	The total current number of 4xx responses to registration received on this service.
4xx Responses (Registration) Transmitted	The total current number of 4xx responses to registration transmitted by this service.
500 Internal Error (Registration) Received	The total current number of 500 Internal Error responses to registration received on this service.
500 Internal Error (Registration) Transmitted	The total current number of 500 Internal Error responses to registration transmitted by this service.
5xx Responses (Registration) Received	The total current number of 5xx responses to registration received on this service.
5xx Responses (Registration) Transmitted	The total current number of 5xx responses to registration transmitted by this service.
6xx Responses (Registration) Received	The total current number of 6xx responses to registration received on this service.
6xx Responses (Registration) Transmitted	The total current number of 6xx responses to registration transmitted by this service.
Re-Registration Statistics	

Field	Description
Re-Registration Attempts Received	The total current number of re-registration attempts received on this service.
Re-Registration Attempts Transmitted	The total current number of re-registration attempts transmitted by this service.
Re-Registration Success Received	The total current number of re-registration successes received on this service.
Re-Registration Success Transmitted	The total current number of re-registration successes transmitted by this service.
Re-Registration Failures Received	The total current number of re-registration failures received on this service.
Re-Registration Failures Transmitted	The total current number of re-registration failures transmitted by this service.
401 Unauthorized (Re-Registration) Received	The total current number of 401 Unauthorized responses to re-registration received on this service.
401 Unauthorized (Re-Registration) Transmitted	The total current number of 401 Unauthorized responses to re-registration transmitted by this service.
403 Forbidden (Re-Registration) Received	The total current number of 403 Forbidden responses to re-registration received on this service.
403 Forbidden (Re-Registration) Transmitted	The total current number of 403 Forbidden responses to re-registration transmitted by this service.
404 Not Found (Re-Registration) Received	The total current number of 404 Not Found responses to re-registration received on this service.
404 Not Found (Re-Registration) Transmitted	The total current number of 404 Not Found responses to re-registration transmitted by this service.
420 Bad Extension (Re-Registration) Received	The total current number of 420 Bad Extension responses to re-registration received on this service.
420 Bad Extension (Re-Registration) Transmitted	The total current number of 420 Bad Extension responses to re-registration transmitted by this service.
439 First HopLackOb (Re-Registration) Received	The total current number of 439 First Hop Lack Outbound responses to re-registration received on this service.
439 First HopLackOb (Re-Registration) Transmitted	The total current number of 439 First Hop Lack Outbound responses to re-registration transmitted by this service.
4xx Responses (Re-Registration) Received	The total current number of 4xx responses to re-registration received on this service.
4xx Responses (Re-Registration) Transmitted	The total current number of 4xx responses to re-registration transmitted by this service.
500 Internal Error (Re-Registration) Received	The total current number of 500 Internal Error responses to re-registration received on this service.
500 Internal Error (Re-Registration) Transmitted	The total current number of 500 Internal Error responses to re-registration transmitted by this service.

Field	Description
5xx Responses (Re-Registration) Received	The total current number of 5xx responses to re-registration received on this service.
5xx Responses (Re-Registration) Transmitted	The total current number of 5xx responses to re-registration transmitted by this service.
6xx Responses (Re-Registration) Received	The total current number of 6xx responses to re-registration received on this service.
6xx Responses (Re-Registration) Transmitted	The total current number of 6xx responses to re-registration transmitted by this service.
De-Registration Statistics	
De-Registration Attempts Received	The total current number of de-registration attempts received on this service.
De-Registration Attempts Transmitted	The total current number of de-registration attempts transmitted by this service.
De-Registration Success Received	The total current number of de-registration successes received on this service.
De-Registration Success Transmitted	The total current number of de-registration successes transmitted by this service.
De-Registration Failures Received	The total current number of de-registration failures received on this service.
De-Registration Failures Transmitted	The total current number of de-registration failures transmitted by this service.
401 Unauthorized (De-Registration) Received	The total current number of 401 Unauthorized responses to de-registration received on this service.
401 Unauthorized (De-Registration) Transmitted	The total current number of 401 Unauthorized responses to de-registration transmitted by this service.
403 Forbidden (De-Registration) Received	The total current number of 403 Forbidden responses to de-registration received on this service.
403 Forbidden (De-Registration) Transmitted	The total current number of 403 Forbidden responses to de-registration transmitted by this service.
404 Not Found (De-Registration) Received	The total current number of 404 Not Found responses to de-registration received on this service.
404 Not Found (De-Registration) Transmitted	The total current number of 404 Not Found responses to de-registration transmitted by this service.
420 Bad Extension (De-Registration) Received	The total current number of 420 Bad Extension responses to de-registration received on this service.
420 Bad Extension (De-Registration) Transmitted	The total current number of 420 Bad Extension responses to de-registration transmitted by this service.
439 First HopLackOb (De-Registration) Received	The total current number of 439 First Hop Lack Outbound responses to de-registration received on this service.

Field	Description
439 First HopLackOb (De-Registration) Transmitted	The total current number of 439 First Hop Lack Outbound responses to de-registration transmitted by this service.
4xx Responses (De-Registration) Received	The total current number of 4xx responses to de-registration received on this service.
4xx Responses (De-Registration) Transmitted	The total current number of 4xx responses to de-registration transmitted by this service.
500 Internal Error (De-Registration) Received	The total current number of 500 Internal Error responses to de-registration received on this service.
500 Internal Error (De-Registration) Transmitted	The total current number of 500 Internal Error responses to de-registration transmitted by this service.
5xx Responses (Re-Registration) Received	The total current number of 5xx responses to de-registration received on this service.
5xx Responses (De-Registration) Transmitted	The total current number of 5xx responses to de-registration transmitted by this service.
6xx Responses (De-Registration) Received	The total current number of 6xx responses to de-registration received on this service.
6xx Responses (De-Registration) Transmitted	The total current number of 6xx responses to de-registration transmitted by this service.
Unclassified Requests (Registration) Received	The total current number of unclassified request responses to registration received on this service.
4XX Responses (Unclassified Requests) Transmitted	The total current number of 4XX responses (Unclassified Requests) transmitted by this service.
5XX Responses (Unclassified Requests) Transmitted	The total current number of 5XX Responses (Unclassified Requests) transmitted by this service.
IP-Security Statistics	
Total Secure Connection	The total number of subscribers with secure connections on this service.
Total Unsecure Connection	The total number of subscribers with unsecure connections on this service.
Total Security Association Rejects	The total number of security association rejections on this service.
Total Secure Registrations	The total number of secure registrations on this service.
Total Secure Re-registrations	The total number of secure re-registrations on this service.
Total Secure De-registrations	The total number of secure de-registrations on this service.
Total Emergency Registrations	The total number of emergency registrations on this service.
Total Failed Secure Registrations	The total number of failed secure registrations on this service.

Field	Description
Total IP-Sec Packets Received	The total number of IPSec packets received on this service.
Total IP-Sec Packets Transmitted	The total number of IPSec packets transmitted by this service.
Total IP-Sec Octets Received	The total number of IPSec octets received on this service.
Total IP-Sec Octets Transmitted	The total number of IPSec octets transmitted by this service.
Total Registration Rejects Due to Sec-Agree	The total number of registration rejections due to security agreement on this service.
Total Registration Rejects Due to Algorithm Mismatch	The total number of registration rejections due to algorithm mismatch on this service.
Total Messages Dropped Due to Error	The total number of messages dropped due to error on this service.
Total Messages With Incorrect Security Verify	The total number of messages with incorrect security verification on this service.
MSRP TCP Connection Statistics	
Total TCP Subscribers	The total number of subscribers having TCP connections for MSRP Signaling on this service.
Active Connections	The total number of active TCP connections for MSRP Signaling on this service.
Total Connections Closed	The total number of TCP connections for MSRP Signaling closed on this service.
Total Successful Outgoing Connections	The total number of successful outgoing TCP connections for MSRP Signaling on this service.
Total Failed Outgoing Connections	The total number of failed outgoing TCP connections for MSRP Signaling on this service.
Total Successful Incoming Connections	The total number of successful incoming TCP connections for MSRP Signaling on this service.
Total Failed Incoming Connections	The total number of failed incoming TCP connections for MSRP Signaling on this service.
Total Packets Sent	The total number of TCP/IP packets transmitted by CSCF service.
Total Packets Received	The total number of TCP/IP packets received by CSCF service.
Total Bytes Sent	The total number of bytes transmitted.
Total Bytes Received	The total number of bytes received.
Others	
Current CSCF Sessions	The number of currently active CSCF sessions existing on this service.

Field	Description
Total CSCF Sessions	Total number of CSCF sessions created so far for originating/proxying SIP messages. This counter should not include CSCF sessions created for internal processing, like ROUTE REQUEST. Also, this counter should not get incremented for REGISTER requests received by S-CSCF as it acts as registrar and S-CSCF callleg itself can handle this.
Total TCP Subscribers	Total number of subscribers with an active TCP connection (MSRP, SIP, or both) existing on this service.
Active TCP Connections	Total number of currently active TCP connections for both MSRP and SIP existing on this service.
Current IPsec TCP Connections	Total number of currently active IPSec TCP connections existing on this service.
405 Method Not Allowed Rejections	Total number of 405 Method Not Allowed Rejections existing on this service.
SigComp Statistics	
Total Requests Compressed	The total number of SIP request messages compressed by this service.
Total Requests Decompressed	The total number of SIP request messages decompressed by this service.
Total Responses Compressed	The total number of SIP response messages compressed by this service.
Total Responses Decompressed	The total number of SIP response messages decompressed by this service.
Total NACK Packets Received	The total number of NACK (negative acknowledgement) packets received by this service.
Total NACK Packets Transmitted	The total number of NACK (negative acknowledgement) packets transmitted by this service.
Total Compression Failures	The current total number of compression failures that occurred in this service.
Total Decompression Failures	The current total number of decompression failures that occurred in this service.
SigComp Effectiveness Ratio results in this section are derived using the following formula: (Sb - Sa)*100/(Sb) where Sb = the size of the message before compression and Sa = the size of the message after compression.	
Best compression ratio (Outgoing message)	The current best compression ratio achieved for messages sent by this service.
Worst compression ratio (Outgoing message)	The current worst compression ratio achieved for messages sent by this service. Usually this will be a negative value indicating that the message had expanded instead of compressed.
Average compression ratio (Outgoing message)	The running average compression of messages sent by this service. The average is derived using the following formula: (S(Sb) - S(Sa))*100/(S(Sb)).
Best compression ratio (Incoming message)	The current best compression ratio achieved for messages received by this service.

Field	Description
Worst compression ratio (Incoming message)	The current worst compression ratio achieved for messages received by this service. Usually this will be a negative value indicating that the message had expanded instead of compressed.
Average compression ratio (Incoming message)	The running average compression of messages received by this service. The average is derived using the following formula: (S(Sb) - S(Sa))*100/(S(Sb)).
SIP TCP Connection Statistics	
Total TCP Subscribers	The total number of subscribers having TCP connections for SIP Signaling on this service.
Active Connections	The total number of active TCP connections for SIP Signaling on this service.
Total Connections Closed	The total number of TCP connections for SIP Signaling closed on this service.
Total Successful Outgoing Connections	The total number of successful outgoing TCP connections for SIP Signaling on this service.
Total Failed Outgoing Connections	The total number of failed outgoing TCP connections for SIP Signaling on this service.
Total Successful Incoming Connections	The total number of successful incoming TCP connections for SIP Signaling on this service.
Total Failed Incoming Connections	The total number of failed incoming TCP connections for SIP Signaling on this service.
Total Migrated Connections	The total number of TCP conenctions migrated from Cscfmgr to Sessmgr for load balancing.
Total Packets Sent	The total number of TCP/IP packets transmitted by CSCF service.
Total Packets Received	The total number of TCP/IP packets received by CSCF service.
Total Bytes Sent	The total number of bytes transmitted.
Total Bytes Received	The total number of bytes received.
Subscription Package	
Subscription Attempts Received	The total current number of subscription attempts received on this service.
Subscription Attempts Transmitted	The total current number of subscription attempts transmitted by this service.
Subscription Success Received	The total current number of subscription successes received on this service.
Subscription Success Transmitted	The total current number of subscription successes transmitted by this service.
Subscription Failures Received	The total current number of subscription failures received on this service.
Subscription Failures Transmitted	The total current number of subscription failures transmitted by this service.

Field	Description
200 OK (Subscription) Received	The total current number of 200 OK responses to registration received on this service.
200 OK (Subscription) Transmitted	The total current number of 200 OK responses to registration transmitted by this service.
202 Accepted (Subscription) Received	The total current number of 202 Accepted responses to registration received on this service.
202 Accepted (Subscription) Transmitted	The total current number of 202 Accepted responses to registration transmitted by this service.
400 Bad Request (Subscription) Received	The total current number of 400 Bad Request responses to registration received on this service.
400 Bad Request (Subscription) Transmitted	The total current number of 400 Bad Request responses to registration transmitted by this service.
403 Forbidden (Subscription) Received	The total current number of 403 Forbidden responses to registration received on this service.
403 Forbidden (Subscription) Transmitted	The total current number of 403 Forbidden responses to registration transmitted by this service.
481 Trans Does Not Exist (Subscription) Received	The total current number of 481 Trans Does Not Exist responses to registration received on this service.
481 Trans Does Not Exist (Subscription) Transmitted	The total current number of 481 Trans Does Not Exist responses to registration transmitted by this service.
489 Bad Event (Subscription) Received	The total current number of 489 Bad Event responses to registration received on this service.
489 Bad Event (Subscription) Transmitted	The total current number of 489 Bad Event responses to registration transmitted by this service.
500 Internal Error (Subscription) Received	The total current number of 500 Internal Error responses to registration received on this service.
500 Internal Error (Subscription) Transmitted	The total current number of 500 Internal Error responses to registration transmitted by this service.
Re-Subscription Attempts Received	The total current number of re-subscription attempts received on this service.
Re-Subscription Attempts Transmitted	The total current number of re-subscription attempts transmitted by this service.
Re-Subscription Success Received	The total current number of re-subscription successes received on this service.
Re-Subscription Success Transmitted	The total current number of re-subscription successes transmitted by this service.
Re-Subscription Failures Received	The total current number of re-subscription failures received on this service.
Re-Subscription Failures Transmitted	The total current number of re-subscription failures transmitted by this service.

Field	Description
200 OK (Re-Subscription) Received	The total current number of 200 OK responses to re-registration received on this service.
200 OK (Re-Subscription) Transmitted	The total current number of 200 OK responses to re-registration transmitted by this service.
202 Accepted (Re-Subscription) Received	The total current number of 202 Accepted responses to re-registration received on this service.
202 Accepted (Re-Subscription) Transmitted	The total current number of 202 Accepted responses to re-registration transmitted by this service.
400 Bad Request (Re-Subscription) Received	The total current number of 400 Bad Request responses to re-registration received on this service.
400 Bad Request (Re-Subscription) Transmitted	The total current number of 400 Bad Request responses to re-registration transmitted by this service.
403 Forbidden (Re-Subscription) Received	The total current number of 403 Forbidden responses to re-registration received on this service.
403 Forbidden (Re-Subscription) Transmitted	The total current number of 403 Forbidden responses to re-registration transmitted by this service.
481 Trans Does Not Exist (Re-Subscription) Received	The total current number of 481 Trans Does Not Exist responses to re-registration received on this service.
481 Trans Does Not Exist (Re-Subscription) Transmitted	The total current number of 481 Trans Does Not Exist responses to re-registration transmitted by this service.
489 Bad Event (Re-Subscription) Received	The total current number of 489 Bad Event responses to re-registration received on this service.
489 Bad Event (Re-Subscription) Transmitted	The total current number of 489 Bad Event responses to re-registration transmitted by this service.
500 Internal Error (Re-Subscription) Received	The total current number of 500 Internal Error responses to re-registration received on this service.
500 Internal Error (Re-Subscription) Transmitted	The total current number of 500 Internal Error responses to re-registration transmitted by this service.
Un-Subscription Attempts Received	The total current number of un-subscription attempts received on this service.
Un-Subscription Attempts Transmitted	The total current number of un-subscription attempts transmitted by this service.
Un-Subscription Success Received	The total current number of un-subscription successes received on this service.
Un-Subscription Success Transmitted	The total current number of un-subscription successes transmitted by this service.
Un-Subscription Failures Received	The total current number of un-subscription failures received on this service.
Un-Subscription Failures Transmitted	The total current number of un-subscription failures transmitted by this service.

Field	Description
200 OK (Un-Subscription) Received	The total current number of 200 OK responses to un-registration received on this service.
200 OK (Un-Subscription) Transmitted	The total current number of 200 OK responses to un-registration transmitted by this service.
202 Accepted (Un-Subscription) Received	The total current number of 202 Accepted responses to un-registration received on this service.
202 Accepted (Un-Subscription) Transmitted	The total current number of 202 Accepted responses to un-registration transmitted by this service.
400 Bad Request (Un-Subscription) Received	The total current number of 400 Bad Request responses to un-registration received on this service.
400 Bad Request (Un-Subscription) Transmitted	The total current number of 400 Bad Request responses to un-registration transmitted by this service.
403 Forbidden (Un-Subscription) Received	The total current number of 403 Forbidden responses to un-registration received on this service.
403 Forbidden (Un-Subscription) Transmitted	The total current number of 403 Forbidden responses to un-registration transmitted by this service.
481 Trans Does Not Exist (Un-Subscription) Received	The total current number of 481 Trans Does Not Exist responses to un-registration received on this service.
481 Trans Does Not Exist (Un-Subscription) Transmitted	The total current number of 481 Trans Does Not Exist responses to un-registration transmitted by this service.
489 Bad Event (Un-Subscription) Received	The total current number of 489 Bad Event responses to un-registration received on this service.
489 Bad Event (Un-Subscription) Transmitted	The total current number of 489 Bad Event responses to un-registration transmitted by this service.
500 Internal Error (Un-Subscription) Received	The total current number of 500 Internal Error responses to un-registration received on this service.
500 Internal Error (Un-Subscription) Transmitted	The total current number of 500 Internal Error responses to un-registration transmitted by this service.
Notify Attempts Received	The total current number of notify attempts received on this service.
Notify Attempts Transmitted	The total current number of notify attempts transmitted by this service.
Notify Success Received	The total current number of notify successes received on this service.
Notify Success Transmitted	The total current number of notify successes transmitted by this service.
Notify Failures Received	The total current number of notify failures received on this service.
Notify Failures Transmitted	The total current number of notify failures transmitted by this service.

Field	Description
Publish Attempts Received	The total current number of publish attempts received on this service.
Publish Attempts Transmitted	The total current number of publish attempts transmitted by this service.
Publish Success Received	The total current number of publish successes received on this service.
Publish Success Transmitted	The total current number of publish successes transmitted by this service.
Publish Failures Received	The total current number of publish failures received on this service.
Publish Failures Transmitted	The total current number of publish failures transmitted by this service.
Un-Publish Attempts Received	The total current number of un-publish attempts received on this service.
Un-Publish Attempts Transmitted	The total current number of un-publish attempts transmitted by this service.
Un-Publish Success Received	The total current number of un-publish successes received on this service.
Un-Publish Success Transmitted	The total current number of un-publish successes transmitted by this service.
Un-Publish Failures Received	The total current number of un-publish failures received on this service.
Un-Publish Failures Transmitted	The total current number of un-publish failures transmitted by this service.
TCP Connection Statistics	
Active IP-Sec Connections	The total number of active IPSec TCP connections on this service.
Total IP-Sec Connections Closed	The total number of IPSec TCP connections closed on this service.
Total Successful IP-Sec Outgoing Connections	The total number of successful outgoing IPSec TCP connections on this service.
Total Failed IP-Sec Outgoing Connections	The total number of failed outgoing IPSec TCP connections on this service.
Total Successful IP-Sec Incoming Connections	The total number of successful incoming IPSec TCP connections on this service.
Total Failed IP-Sec Incoming Connections	The total number of failed incoming IPSec TCP connections on this service.
ATCF Call Statistics	
Access Transfer Attempts	Total number of Access Transfer Attempts received/transmitted.
Access Transfer Success	Total number of Access Transfer Successes received/transmitted.
Access Transfer Failures	Total number of Access Transfer Failures received/transmitted.
404 Error Response	Total number of 404 received/transmitted for Access Transfer requests.
500 Internal Error	Total number of 500 internal errors received/transmitted for Access Transfer requests.
488 Response	Total number of 488 received/transmitted for Access Transfer requests.

Field	Description
4xx Responses	Total number of 4XX received/transmitted for Access Transfer requests.
5xx Responses	Total number of 5XX received/transmitted for Access Transfer requests.
6xx Responses	Total number of 6XX received/transmitted for Access Transfer requests.
EATF Call Statistics	
Total Emergency call Access Transfer Request	The total number of Emergency call Access Transfer (EATF) requests.
Total Emergency call Access Transfer Success	The total number of Emergency call Access Transfer (EATF) successes.
Total Emergency call Access Transfer Failure	The total number of Emergency call Access Transfer (EATF) failures.
480 Error responses	The total number of 480 responses received.
488 Error responses	The total number of 488 responses received.
500 Error responses	The total number of 500 responses received.
4xx Error responses	The total number of 4XX responses received.
5xx Error responses	The total number of 5XX responses received.
Internal Error responses	The total number of internal error responses received.

show cscf sessions counters

Table 233: show cscf sessions counters Command Output Descriptions

Field	Description
Interval	
<200ms	The number of sessions that had a duration of less than 200 millisecond.
200..400ms	The number of sessions that had a duration between 200 and 400 milliseconds.
400..600ms	The number of sessions that had a duration between 400 and 600 milliseconds.
600..800ms	The number of sessions that had a duration between 600 and 800 milliseconds.
800..1000ms	The number of sessions that had a duration between 800 and 1000 milliseconds.
1000..1200ms	The number of sessions that had a duration between 1000 and 1200 milliseconds.
1200..1400ms	The number of sessions that had a duration between 1200 and 1400 milliseconds.
1400..1600ms	The number of sessions that had a duration between 1400 and 1600 milliseconds.

Field	Description
1600..1800ms	The number of sessions that had a duration between 1600 and 1800 milliseconds.
1800..2000ms	The number of sessions that had a duration between 1800 and 2000 milliseconds.
2000..2200ms	The number of sessions that had a duration between 2000 and 2200 milliseconds.
2200..2400ms	The number of sessions that had a duration between 2200 and 2400 milliseconds.
2400..2600ms	The number of sessions that had a duration between 2400 and 2600 milliseconds.
2600..2800ms	The number of sessions that had a duration between 2600 and 2800 milliseconds.
2800..3000ms	The number of sessions that had a duration between 2800 and 3000 milliseconds.
3..5sec	The number of sessions that had a duration between three and five seconds.
5..7sec	The number of sessions that had a duration between five and seven seconds.
7..9sec	The number of sessions that had a duration between seven and nine seconds.
9..11sec	The number of sessions that had a duration between nine and 11 seconds.
11..13sec	The number of sessions that had a duration between 11 and 13 seconds.
13..15sec	The number of sessions that had a duration between 13 and 15 seconds.
15..17sec	The number of sessions that had a duration between 15 and 17 seconds.
17..19sec	The number of sessions that had a duration between 17 and 19 seconds.
19..21sec	The number of sessions that had a duration between 19 and 21 seconds.
>21sec	The number of sessions that had a duration of more than 21 seconds.
Count The following provide total counts for each session type per specified interval.	
Invite Processing Time	Time required to process an INVITE message (time elapsed between the INVITE entering the proxy and the INVITE forwarded out of the proxy).
First Response Delay	Time between sending an INVITE message out of the proxy and the first response received for the INVITE (any 1xx).
Post Dial Delay	Time between sending an INVITE message out of the proxy and receiving the ringing message or any final response to the INVITE.
Session Setup Delay	Time between when an INVITE message was received by the proxy and a 200 OK (invite) sent out of the proxy.
Post Answer Delay	Time between a 200 OK INVITE message received by the proxy and the ACK message (for invite) sent out of the proxy.
Session Release Delay	Time between when a BYE message is received by the proxy and a 200 OK BYE is sent out of the proxy.

show cscf sessions duration

Table 234: show cscf sessions duration Command Output Descriptions

Field	Description
<1s	The number of sessions that had a duration of less than one second.
01..10sec	The number of sessions that had a duration between one and 10 seconds.
10..30sec	The number of sessions that had a duration between 10 and 30 seconds.
30..60sec	The number of sessions that had a duration between 30 and 60 seconds.
01..03min	The number of sessions that had a duration between one and three minutes.
03..05min	The number of sessions that had a duration between three and five minutes.
05..07min	The number of sessions that had a duration between five and seven minutes.
07..09min	The number of sessions that had a duration between seven and nine minutes.
09..11min	The number of sessions that had a duration between nine and 11 minutes.
11..13min	The number of sessions that had a duration between 11 and 13 minutes.
13..15min	The number of sessions that had a duration between 13 and 15 minutes.
15..17min	The number of sessions that had a duration between 15 and 17 minutes.
17..19min	The number of sessions that had a duration between 17 and 19 minutes.
19..21min	The number of sessions that had a duration between 19 and 21 minutes.
21..23min	The number of sessions that had a duration between 21 and 23 minutes.
23..25min	The number of sessions that had a duration between 23 and 25 minutes.
25..27min	The number of sessions that had a duration between 25 and 27 minutes.
27..29min	The number of sessions that had a duration between 27 and 29 minutes.
29..60min	The number of sessions that had a duration between 29 and 60 minutes.
>60min	The number of sessions that had a duration of more than 60 minutes.
<1hr	The number of sessions that had a duration of less than one hour.
1..2hrs	The number of sessions that had a duration between one and two hours.
2..3hrs	The number of sessions that had a duration between two and three hours.
3..4hrs	The number of sessions that had a duration between three and four hours.
4..5hrs	The number of sessions that had a duration between four and five hours.

Field	Description
5..6hrs	The number of sessions that had a duration between five and six hours.
6..7hrs	The number of sessions that had a duration between six and seven hours.
7..8hrs	The number of sessions that had a duration between seven and eight hours.
8..9hrs	The number of sessions that had a duration between eight and nine hours.
9..10hrs	The number of sessions that had a duration between nine and 10 hours.
>10hrs	The number of sessions that had a duration of more than 10 hours.

show cscf sip statistics

Table 235: show cscf sip statistics Command Output Descriptions

Field	Description
CSCF Service	The name of the service and context.
Peer IP Address	The IP address of the peer server expressed in IPv4 or IPv6 dotted decimal notation.
SIP Request Statistics	
Register	The total number of SIP Register requests received (Rx) or transmitted (Tx) by this service.
Invite	The total number of INVITE requests received (Rx) or transmitted (Tx) by this service.
Ack	The total number of ACK requests received (Rx) or transmitted (Tx) by this service.
Bye	The total number of Bye requests received (Rx) or transmitted (Tx) by this service.
Info	The total number of Info requests received (Rx) or transmitted (Tx) by this service.
Prack	The total number of PRACK requests received (Rx) or transmitted (Tx) by this service.
Refer	The total number of Refer requests received (Rx) or transmitted (Tx) by this service.
Cancel	The total number of Cancel requests received (Rx) or transmitted (Tx) by this service.
Notify	The total number of Notify requests received (Rx) or transmitted (Tx) by this service.
Update	The total number of Update requests received (Rx) or transmitted (Tx) by this service.

Field	Description
Message	The total number of Message requests received (Rx) or transmitted (Tx) by this service.
Options	The total number of Options requests received (Rx) or transmitted (Tx) by this service.
Publish	The total number of Publish requests received (Rx) or transmitted (Tx) by this service.
Subscribe	The total number of Subscribe requests received (Rx) or transmitted (Tx) by this service.
Notify	The total number of Notify requests received (Rx) or transmitted (Tx) by this service.
SIP Response Statistics	
100 Trying	The total number of 100 Trying responses received (Rx) or transmitted (Tx) by this service.
180 Ringing	The total number of 180 Ringing responses received (Rx) or transmitted (Tx) by this service.
181 Forwarding	The total number of 181 Forwarded responses received (Rx) or transmitted (Tx) by this service.
182 Queued	The total number of 182 Queued responses received (Rx) or transmitted (Tx) by this service.
183 Progress	The total number of 183 Progress responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Register)	The total number of 200 OK Register responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Invite)	The total number of 200 OK Invite responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Bye)	The total number of 200 OK Bye responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Info)	The total number of 200 OK Info responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Prack)	The total number of 200 OK PRACK responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Refer)	The total number of 200 OK Refer responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Cancel)	The total number of 200 OK Cancel responses received (Rx) or transmitted (Tx) by this service.

Field	Description
200 Ok (Notify)	The total number of 200 OK Notify responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Update)	The total number of 200 OK Update responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Message)	The total number of 200 OK Message responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Options)	The total number of 200 OK Options responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Publish)	The total number of 200 OK Publish responses received (Rx) or transmitted (Tx) by this service.
200 Ok (Subscribe)	The total number of 200 OK Subscribe responses received (Rx) or transmitted (Tx) by this service.
202 Accepted (Refer)	The total number of 202 Accepted Refer responses received (Rx) or transmitted (Tx) by this service.
202 Accepted (Subscribe)	The total number of 202 Accepted Subscribe responses received (Rx) or transmitted (Tx) by this service.
300 Multiple Choices	The total number of Multiple Choices responses received (Rx) or transmitted (Tx) by this service.
301 Moved Permanently	The total number of Moved Permanently responses received (Rx) or transmitted (Tx) by this service.
302 Moved Temporarily	The total number of Moved Temporarily responses received (Rx) or transmitted (Tx) by this service.
305 Use Proxy	The total number of Use Proxy responses received (Rx) or transmitted (Tx) by this service.
380 Alternative Service	The total number of Alternative Service responses received (Rx) or transmitted (Tx) by this service.
400 Bad Request	The total number of 400 Bad Request errors received (Rx) or transmitted (Tx) by this service.
401 Unauthorized	The total number of 401 Unauthorized errors received (Rx) or transmitted (Tx) by this service.
403 Forbidden	The total number of 403 Forbidden errors received (Rx) or transmitted (Tx) by this service.
404 Not Found	The total number of 404 Not Found errors received (Rx) or transmitted (Tx) by this service.

Field	Description
405 Method Not Allowed	The total number of 405 Method Not Allowed errors received (Rx) or transmitted (Tx) by this service.
406 Not Acceptable	The total number of 406 Not Acceptable errors received (Rx) or transmitted (Tx) by this service.
407 Proxy Auth Required	The total number of 407 Proxy Auth Required errors received (Rx) or transmitted (Tx) by this service.
408 Request Timeout	The total number of 408 Request Timeout errors received (Rx) or transmitted (Tx) by this service.
410 Gone	The total number of 410 Gone errors received (Rx) or transmitted (Tx) by this service.
412 Conditional Req Fail	The total number of 412 Conditional Request Fail errors received (Rx) or transmitted (Tx) by this service.
413 Req Entity Too Large	The total number of 413 Request Entity Too Large errors received (Rx) or transmitted (Tx) by this service.
414 Req URI Too Long	The total number of 414 Request URI Too Long errors received (Rx) or transmitted (Tx) by this service.
415 Unsupport Media Type	The total number of 415 Unsupported Media Type errors received (Rx) or transmitted (Tx) by this service.
416 Unsupport URI Scheme	The total number of 416 Unsupported URI Scheme errors received (Rx) or transmitted (Tx) by this service.
420 Bad Extension	The total number of 420 Bad Extension errors received (Rx) or transmitted (Tx) by this service.
421 Extension Required	The total number of 421 Extension Required errors received (Rx) or transmitted (Tx) by this service.
423 Interval Too Brief	The total number of 423 Interval Too Brief errors received (Rx) or transmitted (Tx) by this service.
480 Temp Not Available	The total number of 480 Temp Not Available errors received (Rx) or transmitted (Tx) by this service.
481 Trans Does Not Exist	The total number of 481 Transaction Does Not Exist errors received (Rx) or transmitted (Tx) by this service.
482 Loop Detected	The total number of 482 Loop Detected errors received (Rx) or transmitted (Tx) by this service.
483 Too Many Hops	The total number of 483 Too Many Hops errors received (Rx) or transmitted (Tx) by this service.
484 Address Incomplete	The total number of 484 Address Incomplete errors received (Rx) or transmitted (Tx) by this service.

Field	Description
485 Ambiguous	The total number of 485 Ambiguous errors received (Rx) or transmitted (Tx) by this service.
486 Busy Here	The total number of 486 Busy Here errors received (Rx) or transmitted (Tx) by this service.
487 Request Cancel	The total number of 487 Request Cancel errors received (Rx) or transmitted (Tx) by this service.
488 Not Acceptable Media	The total number of 488 Not Acceptable Media errors received (Rx) or transmitted (Tx) by this service.
489 Bad Event	The total number of 489 Bad Event errors received (Rx) or transmitted (Tx) by this service.
491 Request Pending	The total number of 491 Request Pending errors received (Rx) or transmitted (Tx) by this service.
493 Undecipherable	The total number of 493 Undecipherable errors received (Rx) or transmitted (Tx) by this service.
500 Internal Error	The total number of 500 Internal Error errors received (Rx) or transmitted (Tx) by this service.
501 Not Implemented	The total number of 501 Not Implemented errors received (Rx) or transmitted (Tx) by this service.
502 Bad Gateway	The total number of 502 Bad Gateway errors received (Rx) or transmitted (Tx) by this service.
503 Service Unavailable	The total number of 503 Service Unavailable errors received (Rx) or transmitted (Tx) by this service.
504 Gateway Timeout	The total number of 504 Gateway Timeout errors received (Rx) or transmitted (Tx) by this service.
505 Bad SIP Version	The total number of 505 Bad SIP Version errors received (Rx) or transmitted (Tx) by this service.
513 Message Too Large	The total number of 513 Message Too Large errors received (Rx) or transmitted (Tx) by this service.
580 Precondition Failure	The total number of 580 Precondition Failure errors received (Rx) or transmitted (Tx) by this service.
600 Busy Everywhere	The total number of 600 Busy Everywhere errors received (Rx) or transmitted (Tx) by this service.
603 Decline	The total number of 603 Decline errors received (Rx) or transmitted (Tx) by this service.

Field	Description
604 Not Exist Anywhere	The total number of 604 Not Exist Anywhere errors received (Rx) or transmitted (Tx) by this service.
606 Not Acceptable	The total number of 606 Not Acceptable errors received (Rx) or transmitted (Tx) by this service.
Total Invalid Messages	The total number of SIP Invalid Messages received (Rx) or transmitted (Tx) by this service.
Total Messages	The total number of SIP Messages received (Rx) or transmitted (Tx) by this service.
TCP Request	The total number of SIP requests received (Rx) or transmitted (Tx) over TCP by this service.
TCP Response	The total number of SIP responses received (Rx) or transmitted (Tx) over TCP by this service.
Auto switch to TCP on MTU size limit	The total number of times CSCF switched from UDP to TCP because of message size larger than MTU.

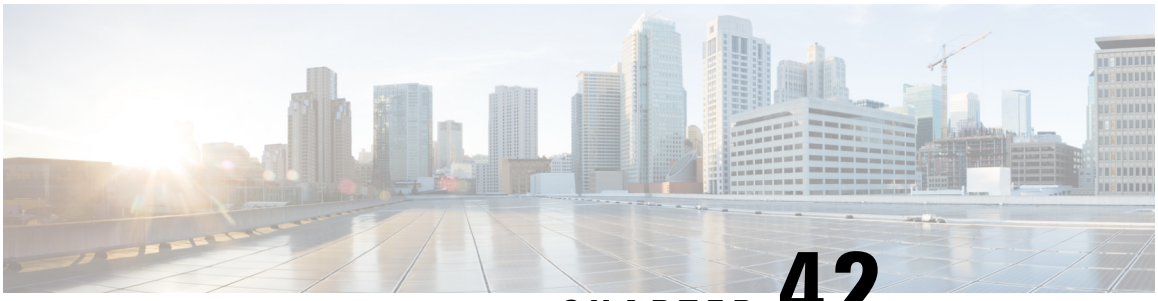
show cscf tcp connections

Table 236: show cscf tcp connections Command Output Descriptions

Field	Description
TCP Connection Details	
LocalIp	The local IP address, expressed in IPv4 or IPv6 dotted decimal notation, of the TCP connection.
Local Port	The local port number of the TCP connection.
RemoteIp	The remote IP address, expressed in IPv4 or IPv6 dotted decimal notation, of the TCP connection.
Remote Port	The remote port number of the TCP connection.
Facility	Facility type for which connection details have to be retrieved—CscfMgr or SessMgr.
Instance	The instance number of the facility that the connection belongs to.
SockDesc	The socket descriptor id.

Field	Description
State	The state of the connection. TCP states are: • CLOSED • LISTEN • SYNCSENT • SYNCRCVD • ESTABLISHED • CLOSEWAIT • FINWAIT1 • CLOSING • LASTACK • FINWAIT2 • TIMEWAIT • INVALID
BytesInRecvQueue	Data size in the receive queue, in bytes.
BytesInSendQueue	Data size in the send queue, in bytes.
RecvQueueSize	Size of the receive queue, in bytes.
SendQueueSize	Size of the send queue, in bytes.
MaxSendWind	Maximum send window seen so far.
SndUna	Send unacknowledged sequence value.
SndNext	Send next sequence value.
MaxSndNext	Highest sequence number sent.
Iss	Initial send sequence number.
Irs	Initial receive sequence number.
Rto	Retransmission timeout.
SndWL1	Send segment sequence number used for last window update.
SndWL2	Send segment acknowledgment number used for last window update.
MaxSndWind	Maximum send window seen so far.
RecvNxt	Receive next sequence.
RecvWind	Receive window sequence.

Field	Description
RecvAdv	Sequence number of right edge of advertised window.
CWind	Send congestion window.
Ssthresh	Send slow start threshold size.
BackLog	Back logs.
DupAck	Duplicate ACKs.
RetransSegments	Number of retransmitted segments.
AckAfterRetrans	Number of non duplicate acks after duplicate ACK.
TcpFlags	TCP flags.
Total TCP sockets	The total number of TCP sockets.



CHAPTER 42

show decor

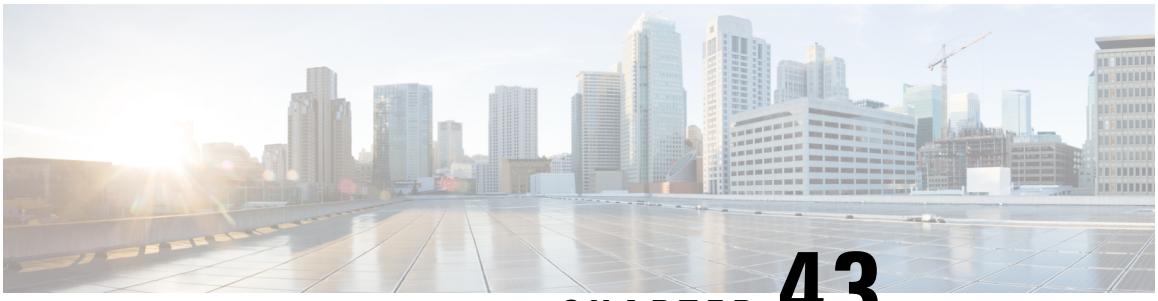
This chapter includes the **show decor** command output tables.

- show decor-profile full all, on page 755

show decor-profile full all

Table 237: show decor-profile full all Command Output Descriptions

Field	Description
Decor Profile Name	Displays the configured decor-profile name.
UE Usage Types	Displays the configured UE usage types.
MMEGI	Displays the MMEGI value.
DNS	Indicates whether DNS is enabled or disabled.
DCN Id	Displays the configured DCN identifier. Displays "Not Defined" if not configured.
PLMN ID	Displays the configured PLMN identifier. Displays "Not Defined" if not configured.
Serving DCN	Indicates whether MME is serving the DCN. Displays "Not Defined" if not configured.
Relative Capacity	Indicates the configured relative capacity.
DNS Service Param	Displays the configured DNS service parameter.



CHAPTER 43

show demux-mgr

This chapter includes the **demux-mgr** command output tables.

- show demux-mgr statistics egtpegmgr all, on page 757
- show demux-mgr statistics egtpinmgr all, on page 757
- show demux-mgr sessions egtpinmgr all, on page 758

show demux-mgr statistics egtpegmgr all

Table 238: show demux-mgr statistics egtpegmgr all Command Output Descriptions

Field	Description
IMSI Manager Stats	
max sess threshold exceeded	Indicates if the maximum session threshold is exceeded.
connected sess threshold exceeded	Indicates if the connected sessions threshold is exceeded.
Sessions disconnected due to overload disconnect	Indicates the number of sessions disconnected due to an overload.
Peer Salvation Stats	
No of peer salvation requests sent by demux	Indicates the number of peer salvation requests sent by the Demux.
No of peer salvaged on demux	Indicates the number of peers salvaged on the Demux.

show demux-mgr statistics egtpinmgr all

Table 239: show demux-mgr statistics egtpinmgr all Command Output Descriptions

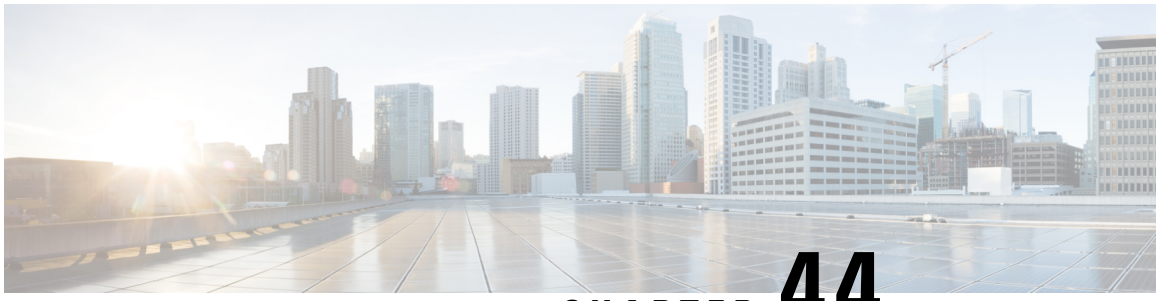
Field	Description
IMSI Manager Stats	
max sess threshold exceeded	Indicates if the maximum session threshold is exceeded.

Field	Description
connected sess threshold exceeded	Indicates if the connected sessions threshold is exceeded.
Sessions disconnected due to overload disconnect	Indicates the number of sessions disconnected due to an overload.
Peer Salvation Stats	
No of peer salvation requests sent by demux	Indicates the number of peer salvation requests sent by the Demux.
No of peer salvaged on demux	Indicates the number of peers salvaged on the Demux.
DCNR	
#DCNR	Indicates the instance number of the DCNR session.

show demux-mgr sessions egtpinmgr all

Table 240: show demux-mgr statistics egtpinmgr all Command Output Descriptions

Field	Description
DCNR Session	Indicates if the session is a DCNR session or not.



CHAPTER 44

show dhcp

This chapter includes the **show dhcp** command output tables.

- show dhcp call-id, on page 759
- show dhcp chaddr, on page 762
- show dhcp dhcp-service, on page 762
- show dhcp msid, on page 765
- show dhcp full msid, on page 765
- show dhcp status, on page 768
- show dhcp-service, on page 769
- show dhcp statistics, on page 771
- show dhcpv6 statistics, on page 776
- show dhcp username, on page 778
- show dhcp full username, on page 779

show dhcp call-id

Table 241: show dhcp call-id Command Output Descriptions

Field	Description
Session Counters	
Total Current	The total number of currently active sessions on the system that received DHCP-assigned IP addresses.
DHCP Proxy	The total number of currently active sessions that were assigned IP addresses using the DHCP Proxy method.
DHCP Messages	
DISCOVER TX	The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER retransmitted	The number of DHCPDISCOVER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.

Field	Description
DISCOVER relayed	The number of DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay method.
OFFER RX	The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER Discarded	The number of DHCPOFFER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER relayed	The number of DHCPOFFER messages relayed by the system to the mobile as part of the DHCP Relay method.
REQUEST TX	The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST retransmitted	The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST relayed	The number of DHCPREQUEST messages relayed by the system to the mobile as part of the DHCP Relay method.
ACK RX	The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method.
ACK for INFORM	The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
ACK relayed	The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method.
NAK RX	The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method.
NAK for INFORM	The number of number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
NAK relayed	The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method.
DECLINE relayed	The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
RELEASE relayed	The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
INFORM relayed	The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method.
DHCP OFFER Discard Reasons: (dhcp-proxy)	

Field	Description
Parse error	The number of DHCPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
Lease less than min	The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system.
Lease greater than max	The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system.
IP Validation failed	The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context.
XID mismatch:	The number of DHCPOFFER messages discarded by the system due to an XID mismatch.
DHCP ACK Discard Reasons: (dhcp-proxy)	
Parse error	The number of DHCPACK messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
XID mismatch:	The number of DHCPACK messages discarded by the system due to an XID mismatch.
DHCP DECLINE Reasons: (dhcp-proxy)	
IP mismatch	The number of DHCP DECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER.
IP Lease Renewals	The number of address lease renewal requests successfully processed.
DHCP Call Type	Type of DHCP call.

Field	Description
DHCP State	Status of DHCP call. • Bound : Call Established • Renewing: Call renewing after expiry of leased time. • Rebinding: Making call for same call id after expiry of
Lease time received	Time in seconds allotted for a specific call-Id.
Lease time remaining	Time in seconds available for a specific call-Id.

show dhcp chaddr

Table 242: show dhcp chaddr Command Output Descriptions

Field	Description
User Name	The user name associated with this session.
User Address	The IP address of the user's PDP context in dotted decimal notation.
DHCP Service	The DHCP service name.
Server Address	The server address.
DHCP Call Type	The DHCP call type.
DHCP State	The DHCP state.
Lease time received	The IP address lease time received.
Lease time remaining	The IP address lease time remaining.
Total DHCP sessions matching specified criteria	The total number of DHCP sessions matching specified criteria.

show dhcp dhcp-service

Table 243: show dhcp dhcp-service Command Output Descriptions

Field	Description
Session Counters	
Total Current	The total number of currently active PDP contexts on the system that received DHCP-assigned IP addresses as facilitated by the specified criteria.

Field	Description
DHCP Proxy	The total number of PDP contexts that were assigned IP addresses using the DHCP Proxy method.
DHCP Relay Agent	The total number of PDP contexts that were assigned IP addresses using the DHCP Relay method.
DHCP Messages	
DISCOVER TX	The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER retransmitted	The number of DHCPDISCOVER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER relayed	The number of DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay method.
OFFER RX	The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER Discarded	The number of DHCPOFFER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER relayed	The number of DHCPOFFER messages relayed by the system to the mobile as part of the DHCP Relay method.
REQUEST TX	The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST retransmitted	The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST relayed	The number of DHCPREQUEST messages relayed by the system to the mobile as part of the DHCP Relay method.
ACK RX	The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method.
ACK for INFORM	The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
ACK relayed	The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method.
NAK RX	The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method.
NAK for INFORM	The number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
NAK relayed	The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method.

Field	Description
DECLINE relayed	The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
RELEASE relayed	The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
INFORM relayed	The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method.
DHCP OFFER Discard Reasons	
Parse error	The number of DHCPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
Lease less than min	The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system.
Lease greater than max	The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system.
IP Validation failed	The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context.
DHCP ACK Discard Reasons: (dhcp-proxy)	
Parse error	The number of DHCPACK messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
DHCP DECLINE Reasons: (dhcp-proxy)	
IP mismatch	The number of DHCPDECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER.
IP Lease Renewals	The number of address lease renewal requests successfully processed.

show dhcp msid

Table 244: show dhcp msid Command Output Descriptions

Field	Description
User Name	The user name associated with this session.
User Address	IP address of the user's PDP context in dotted decimal notation.
DHCP Service	The DHCP service name.
Server Address	The server address.
DHCP Chaddr of MS	The Client Hardware (MAC) Address (CHADDR) of MS.
DHCP Call Type	The DHCP call type.
DHCP State	The DHCP state.
Lease time received	The IP address lease time received.
Lease time remaining	The IP address lease time remaining.
Total DHCP sessions matching specified criteria	The total number of DHCP sessions matching specified criteria.

show dhcp full msid

Table 245: show dhcp full msid Command Output Descriptions

Field	Description
User Name	The user name associated with this session.
User Address	IP address of the user's PDP context in dotted decimal notation.
DHCP Service	The DHCP service name.
Server Address	The server address.
DHCP Call Type	The DHCP call type.
DHCP State	The DHCP status.
Lease time received	Time allotted in seconds.
Lease time remaining	Time available in seconds.
DHCP Messages:	

Field	Description
DISCOVER TX	The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER retransmitted	The number of DHCPDISCOVER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER RX	The number of DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER retried RX	The number of retried DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER relayed	The number of DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay method.
OFFER RX	The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER Discarded	The number of DHCPOFFER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER TX	The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER relayed	The number of DHCPOFFER messages relayed by the system to the mobile as part of the DHCP Relay method.
REQUEST TX	The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST retransmitted	The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST RX	The number of DHCPREQUEST messages received by the system as part of the DHCP Proxy method.
REQUEST renewal RX	The number of DHCPREQUEST renewal messages received by the system as part of the DHCP Proxy method.
REQUEST relayed	The number of DHCPREQUEST messages relayed by the system to the mobile as part of the DHCP Relay method.
ACK RX	The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method.
ACK for INFORM	The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
ACK TX	The number of DHCPACK messages send to the DHCP server as part of the DHCP Proxy method.
ACK Renewing TX	The number of DHCPACK messages renewed from the DHCP server as part of the DHCP Proxy method.

Field	Description
ACK relayed	The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method.
NAK RX	The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method.
NAK for INFORM	The number of number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
NAK TX	The number of DHCPNAK messages sent to the DHCP server as part of the DHCP Proxy method.
NAK relayed	The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method.
DECLINE relayed	The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
RELEASE relayed	The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
INFORM relayed	The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method.
DHCP OFFER Discard Reasons: (dhcp-proxy)	
Parse error	The number of DHCPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
Lease less than min	The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system.
Lease greater than max	The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system.
IP Validation failed	The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context.
DHCP ACK Discard Reasons: (dhcp-proxy)	

Field	Description
Parse error	The number of DHCPACK messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
DHCP DECLINE Reasons: (dhcp-proxy)	
IP mismatch	The number of DHCP DECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER.
IP Lease Renewals	The number of address lease renewal requests successfully processed.
Session Counters:	
Total Current	The total number of currently active sessions on the system that received DHCP-assigned IP addresses.
DHCP Proxy	The total number of sessions that were assigned IP addresses using the DHCP Proxy method.
DHCP Relay Agent	The total number of sessions that were assigned IP addresses using the DHCP Relay method.
DHCP Server	The DHCP server's IP address.
Total DHCP sessions matching specified criteria	The total number of DHCP sessions matching the specified criteria.

show dhcp status

Table 246: show dhcp status Command Output Descriptions

Field	Description
DHCP Type	Indicates the type of DHCP service active. Possible types are: • (P) - DHCP Proxy • (R) - DHCP Relay • (S) - DHCP Server • (u) - unknown call
Lease State	The lease state for the DHCP service.

Field	Description
DHCP Service	The name of the DHCP service.
DHCP Server	The IP address of DHCP server.
Status	Indicates the status of the DHCP server. Possible status are: • Up • Active
Current Leased Address	The total number of DHCP Relay-assigned IP addresses currently leased to this service.
Total Leased Address	The total number of DHCP Relay-assigned IP addresses available for this service.

show dhcp-service

Table 247: show dhcp-service name Command Output Descriptions

Field	Description
Service name	The DHCP service name.
Context	The context name.
Bind	Indicates the bind status.
Local IP Address	The IP address of DHCP server.
Next Hop Address	Indicates the nexthop-forwarding address configured in DHCP service for MPLS traffic.
DHCP Subnet mask used	Indicates the host mask.
MPLS-label	Indicates the MPLS labels configured in DHCP service for MPLS traffic.
Service Status	Indicates the service status, whether started or not.
Retransmission Timeout	The retransmission timeout period that must pass with no response before the system re-attempts to communicate with the DHCP server, in milliseconds.
Max Retransmissions	The maximum number of times that the system attempts to communicate with unresponsive DHCP server before it is considered a failure.
Lease Time	The lease time, in seconds.
Minimum Lease Duration	The minimum allowable lease duration accepted in responses from DHCP servers, in seconds.
Maximum Lease Duration	The maximum allowable lease duration accepted in responses from DHCP servers, in seconds.

Field	Description
DHCP Dead Time	The DHCP deadtime, in seconds, indicating the time period that the system waits prior to re-communicating with a DHCP server that was previously marked as down.
DHCP Dead consecutive Failure	The number of consecutive failures for the to be declared dead.
DHCP T1 Threshold Timer	The DHCP T1 threshold timer indicating the percentage of the allocated IP address lease time at which the DHCP call-line state is changed to "RENEWING".
DHCP T2 Threshold Timer	The DHCP T2 threshold timer indicating the percentage of the allocated IP address lease time at which the DHCP call-line state is changed to "REBINDING".
DHCP Client Identifier	Indicates the behavior relating to inclusion of client identifier DHCP option in DHCP messages. Possible values are: • msisdn • none.
DHCP Algorithm	The algorithm used to select DHCP servers with which to communicate when multiple servers are configured.
DHCP Servers configured	The IP address and priority information of the DHCP servers configured.
VRF Name	Indicates the name of the virtual routing and forwarding context instance associated with this DHCP service. Note: For DHCP over MPLS feature to work in StarOS 9.0 onward VRF context must be associated in DHCP service. Without this association the DHCP service using MPLS labels will not be started.
Input	Indicates the MPLS labels configured in DHCP service for inward MPLS traffic. Note: For DHCP over MPLS feature to work in StarOS 9.0 onward VRF context must be associated in DHCP service. Without this association the DHCP service using MPLS labels will not be started.
Output	Indicates the MPLS labels configured in DHCP service for outward MPLS traffic.
DHCP server rapid-commit	Indicates if the rapid commit option is enabled/disabled for DHCP server.
DHCP client rapid-commit	Indicates if the rapid commit option is enabled/disabled for DHCP clients.
DHCP server check msg size	Indicates if the checking of message size is enabled/disabled for DHCP messages sent from server to client.
DHCP relay agent option	Indicates if the DHCP relay agent option is enabled/disabled.
DHCP chaddr validation	Indicates the behavior of the client hardware address (chaddr) validation in DHCP messages.

show dhcp statistics

Table 248: show dhcp statistics Command Output Descriptions

Field	Description
Session Stats	
Total Current	The total number of currently active sessions on the system that received DHCP-assigned IP addresses.
DHCP Proxy	The total number of currently active sessions that were assigned IP addresses using the DHCP Proxy method.
DHCP Relay Agent	The total number of currently active sessions that were assigned IP addresses using the DHCP Relay method.
DHCP Server	The total number of currently active sessions that were assigned IP addresses using the DHCP Server.
Total Setup	The cumulative total number of sessions facilitated by the system that received DHCP-assigned IP addresses.
DHCP Proxy	The cumulative total number of sessions facilitated by the system that were assigned IP addresses using the DHCP Proxy method.
DHCP Relay Agent	The cumulative total number of sessions facilitated by the system that were assigned IP addresses using the DHCP Relay method.
DHCP Server	The cumulative total number of sessions facilitated by the system that were assigned IP addresses using the DHCP Server.
Total Released	The total number of IP addresses that have been returned to the DHCP server(s).
Session Release Reasons: (dhcp-proxy)	
Admin Releases	The number of DHCP Proxy-assigned IP addresses released due to administrative intervention.
Bearer Call Terminated	The number of DHCP Proxy-assigned IP addresses released due to session termination.
Lease Exp Policy	The number of DHCP Proxy-assigned IP addresses released due to the expiration of the address lease policy.
Lease Renew Failure	The number of DHCP Proxy-assigned IP addresses released due to a failure experienced during lease renewal.
IP Address mismatch	The number of DHCP Proxy-assigned IP addresses released due to the offering of an invalid IP address.
Lease time mismatch	The number of DHCP Proxy-assigned IP addresses released due to the offering of an unacceptable lease time.

Field	Description
Chaddr mismatch	The number of DHCP Proxy-assigned IP addresses released due to the mis-match in client hardware address (MAC) or unknown/invalid client hardware address.
Client-identifier mis-match	The number of DHCP Proxy-assigned IP addresses released due to the mis-match in client id or unknown/invalid client id.
Other Reasons	The number of DHCP Proxy-assigned IP addresses released due to reasons other than those listed here.
Session Release Reasons: (dhcp-relay)	
Admin Releases	The number of DHCP Relay-assigned IP addresses released due to administrative intervention.
Bearer Call Terminated	The number of DHCP Relay-assigned IP addresses released due to session termination.
Lease Timed-out	The number of DHCP Relay-assigned IP addresses released due to the expiration of the address lease.
Other Reasons	The number of DHCP Relay-assigned IP addresses released due to reasons other than those listed here.
Session Release Reasons: (dhcp-local-server)	
Admin Releases	The number of DHCP local-server-assigned IP addresses released due to administrative intervention.
Bearer Call Terminated	The number of DHCP local-server-assigned IP addresses released due to session termination.
Lease Timed-out	The number of DHCP local-server-assigned IP addresses released due to the expiration of the address lease.
Other Reasons	The number of DHCP local-server-assigned IP addresses released due to reasons other than those listed here.
DHCP Messages	
DISCOVER TX	The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER retransmitted	The number of DHCPDISCOVER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER RX	The number of DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER retried RX	The number of retried DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER relayed	The number of DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay method.

Field	Description
DISCOVER retrasmitted relayed	The number of retransmitted DHCPDISCOVER messages relayed by the system to the mobile as part of the DHCP Relay
OFFER RX	The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER Discarded	The number of DHCPOFFER messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER relayed	The number of DHCPOFFER messages relayed by the system to the mobile as part of the DHCP Relay method.
REQUEST TX	The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST retransmitted	The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST relayed	The number of DHCPREQUEST messages relayed by the system to the mobile as part of the DHCP Relay method.
REQUEST renewing relayed	The number of DHCPREQUEST renewal messages relayed by the system to the mobile as part of the DHCP Relay method.
ACK RX	The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method.
ACK for INFORM	The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
ACK Renewing RX	The number of DHCPACK renewal messages received from the DHCP server as part of the DHCP Proxy method.
ACK TX	The number of DHCPACK messages sent to the DHCP server as part of the DHCP Proxy method.
ACK Renewing TX	The number of DHCPACK renewal messages sent to the DHCP server as part of the DHCP Proxy method
ACK relayed	The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method.
ACK renewing relayed	The number of DHCPACK renewal messages relayed by the system to the mobile as part of the DHCP Relay method.
NAK RX	The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method.
NAK for INFORM	The number of number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
NAK TX	The number of DHCPNAK messages sent to the DHCP server as part of the DHCP Proxy method.

Field	Description
NAK relayed	The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method.
DECLINE TX	The number of DHCPDECLINE messages sent by the system to the DHCP server as part of the DHCP Proxy method.
DECLINE RX	The number of DHCPDECLINE messages received from the DHCP server as part of the DHCP Proxy method.
DECLINE relayed	The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
RELEASE TX	The number of DHCPRELEASE messages sent by the system to the DHCP server as part of the DHCP Proxy method.
RELEASE RX	The number of DHCPRELEASE messages received from the DHCP server as part of the DHCP Proxy method.
RELEASE relayed	The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
RELEASE for relay call	The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
INFORM TX	The number of DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
INFORM retransmitted	The number of DHCPINFORM messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
INFORM RX	The number of DHCPINFORM messages received from the DHCP server as part of the DHCP Proxy method.
INFORM relayed	The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method.
DHCP OFFER Discard Reasons:	
Parse error	The number of DHCPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
Lease less than min	The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system.
Lease greater than max	The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system.

Field	Description
IP Validation failed	The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context.
XID mismatch:	The number of DHCPOFFER messages discarded by the system due to an XID mismatch.
DHCP ACK Discard Reasons:	
Parse error	The number of DHCPACK messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
XID mismatch:	The number of DHCPACK messages discarded by the system due to an XID mismatch.
DHCP DECLINE Reasons: (dhcp-proxy)	
IP mismatch	The number of DHCPDECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER.
DHCP DISCOVER Discard Reasons:	
Parse error	The number of DHCPDISCOVER messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
DHCP REQUEST Discard Reasons:	
Parse error	The number of DHCREQUEST messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
DHCP RELEASE Discard Reasons:	

Field	Description
Parse error	The number of DHCPRELEASE messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
Renewal Statistics: (dhcp-proxy)	
IP Lease Renewals	The number of address lease renewal requests successfully processed.
Failed IP Lease Renewals	The number of address lease renewal requests for which failures occurred. This is the sum of the following errors: • No reply from server • Server NAK • IP address mis-match • Lease mismatch
No reply from server	The number of address lease renewal requests made for which there was no reply from the DHCP server within the stipulated time. The time required to wait for the server's response is described in RFC 2131, section 4.4.5.
Server NAK	The number of address lease renewal requests for which a negative acknowledgement was received from the server.
IP address mis-match	The number of address lease renewal requests for which there was an IP address mis-match condition- the IP Addresses assigned to the client (in the first ACK) and the IP address returned in the successive ACK (in response to lease renewal DHCP REQUEST) did not match.
Lease mis-match	The number of address lease renewal requests for which there was a lease time mis-match condition- to be lease returned in the first ACK was within the limits of the DHCP Service Configuration parameters, but the lease returned in the ACK (in response to lease renewal DHCP REQUEST) did not match.

show dhcpv6 statistics

Field	Description
Session Stats	
Total Current	The total number of active sessions on the system that received DHCPv6-assigne addresses.

Field	Description
DHCP Proxy	The total number of active sessions that are assigned IP addresses using the D Proxy method.
DHCP Server	The total number of active sessions that are assigned IP addresses using the D Server.
DHCP PD	The total number of active sessions that are assigned IP addresses using the D Prefix Delegation.
Radius/SMF PD	The total number of active sessions for Radius/ SMF Prefix Delegation.
Local PD	The total number of active sessions in local Prefix Delegation.
Total Setup	The cumulative total number of sessions facilitated by the system that receiv DHCPv6-assigned IP addresses.
DHCP Proxy	The cumulative total number of sessions facilitated by the system that were a IP addresses using the DHCPv6 Proxy method.
DHCP Server	The cumulative total number of sessions facilitated by the system that were a IP addresses using the DHCP Server.
DHCP PD	The cumulative total number of sessions facilitated by the system that were a IP addresses using the DHCPv6 Prefix Delegation.
Radius/SMF PD	The cumulative total number of sessions facilitated by the system that were a for Radius/ SMF Prefix Delegation.
Local PD	The cumulative total number of sessions facilitated by the system that were a in local Prefix Delegation.
Total Released	The total number of IP addresses that have been returned to the DHCPv6 ser
Session Release Reasons: (dhcp-proxy)	
Admin Releases	The number of DHCPv6 Proxy-assigned IP addresses released due to admin intervention.
Bearer Call Terminated	The number of DHCPv6 Proxy-assigned IP addresses released due to sessio termination.
Lease Exp Policy	The number of DHCPv6 Proxy-assigned IP addresses released due to the ex of the address lease policy.
No Address Available	The number of DHCPv6 Proxy-assigned IP addresses that are not available.
IP Address mismatch	The number of DHCPv6 Proxy-assigned IP addresses released due to the off an invalid IP address.
Unspecified Failure	The number of DHCPv6 Proxy-assigned IP addresses that are failed due to uns reasons.
Not on Link Status	The number of DHCPv6 Proxy-assigned IP addresses that shows not on link

Field	Description
Other Reasons	The number of DHCPv6 Proxy-assigned IP addresses released due to reasons o than those listed here.
Session Release Reasons: (dhcp-prefix-delegation)	
PDNs Released	The number of DHCPv6 Prefix Delegation addresses that were PDNs released du the session.
UE Initiated Release	The number of DHCPv6 Prefix Delegation addresses that were UE initiated rele in the session.
Lease Exp Policy	The number of DHCPv6 Prefix Delegation IP addresses released due to the expira of the address lease policy.
Other Reasons	The number of DHCPv6 Prefix Delegation IP addresses released due to reasons o than those listed here.

show dhcp username

Table 249: show dhcp username Command Output Descriptions

Field	Description
User Name	The user name associated with this session.
User Address	IP address of the user's PDP context in dotted decimal notation.
DHCP Service	The DHCP service name.
Server Address	The server address.
DHCP Call Type	The DHCP call type.
DHCP State	The DHCP state.
Lease time received	The IP address lease time received.
Lease time remaining	The IP address lease time remaining.
Total DHCP sessions matching specified criteria	The total number of DHCP sessions matching specified criteria.

show dhcp full username

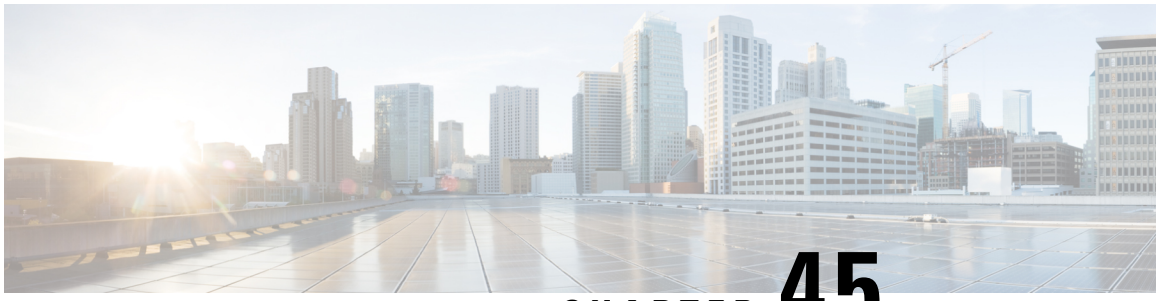
Table 250: show dhcp full username Command Output Descriptions

Field	Description
User Name	The user name associated with this session.
User Address	IP address of the user's PDP context in dotted decimal notation.
DHCP Service	The DHCP service name.
Server Address	The server address.
DHCP Chaddr of MS	The Client Hardware (MAC) Address (CHADDR) of MS.
Primary DNS Address	Specifies the primary Domain Name Server (DNS) IP address in IPv4 notation. **NOTE:** This is the DNS/NBNS value received from the DHCP server for the particular subscriber session sent to the subscriber in a GTP Create PDP Context Response message. If the DNS/NBNS value received from DHCP is not sent to the subscriber, nothing will be displayed.
Secondary DNS Address	Specifies the secondary Domain Name Server (DNS) IP address in IPv4 notation. **NOTE:** This is the DNS/NBNS value received from the DHCP server for the particular subscriber session sent to the subscriber in a GTP Create PDP Context Response message. If the DNS/NBNS value received from DHCP is not sent to the subscriber, nothing will be displayed.
Primary NBNS Address	Specifies the primary NetBIOS Name Server (NBNS) IP address in IPv4 notation. **NOTE:** This is the DNS/NBNS value received from the DHCP server for the particular subscriber session sent to the subscriber in a GTP Create PDP Context Response message. If the DNS/NBNS value received from DHCP is not sent to the subscriber, nothing will be displayed.
Secondary NBNS Address	Specifies the secondary NetBIOS Name Server (NBNS) IP address in IPv4 notation. **NOTE:** This is the DNS/NBNS value received from the DHCP server for the particular subscriber session sent to the subscriber in a GTP Create PDP Context Response message. If the DNS/NBNS value received from DHCP is not sent to the subscriber, nothing will be displayed.
DHCP Call Type	The DHCP call type.
DHCP State	The DHCP state.
Lease time received	The IP address lease time received.
Lease time remaining	The IP address lease time remaining.
DHCP Messages:	

Field	Description
DISCOVER TX	The number of DHCPDISCOVER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER retransmitted	The number of DHCPDISCOVER messages retransmitted by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER RX	The number of DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER retried RX	The number of retried DHCPDISCOVER messages received by the system to the DHCP server as part of the DHCP Proxy method.
DISCOVER relayed	The number of DHCPDISCOVER messages relayed by the system to the DHCP server as part of the DHCP Proxy method.
OFFER RX	The number of DHCPOFFER messages received by the system to the DHCP server as part of the DHCP Proxy method.
OFFER Discarded	The number of DHCPOFFER messages discarded by the system to the DHCP server as part of the DHCP Proxy method.
OFFER TX	The number of DHCPOFFER messages sent by the system to the DHCP server as part of the DHCP Proxy method.
OFFER relayed	The number of DHCPOFFER messages relayed by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST TX	The number of DHCPREQUEST messages sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST retransmitted	The number of DHCPREQUEST messages re-sent by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST RX	The number of DHCPREQUEST messages received by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST renewal RX	The number of DHCPREQUEST renewal messages received by the system to the DHCP server as part of the DHCP Proxy method.
REQUEST relayed	The number of DHCPREQUEST messages relayed by the system to the DHCP server as part of the DHCP Proxy method.
ACK RX	The number of DHCPACK messages received from the DHCP server as part of the DHCP Proxy method.
ACK for INFORM	The number of acknowledgements received for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
ACK TX	The number of DHCPACK messages sent to the DHCP server as part of the DHCP Proxy method.
ACK Renewing TX	The number of DHCPACK renewal messages sent to the DHCP server as part of the DHCP Proxy method.

Field	Description
ACK relayed	The number of DHCPACK messages relayed by the system to the mobile as part of the DHCP Relay method.
NAK RX	The number of DHCPNAK messages received from the DHCP server as part of the DHCP Proxy method.
NAK for INFORM	The number of negative acknowledgements for DHCPINFORM messages sent by the system to the DHCP server as part of the DHCP Proxy method.
NAK TX	The number of DHCPNAK messages sent to the DHCP server as part of the DHCP Proxy method.
NAK relayed	The number of DHCPNAK messages relayed by the system to the mobile as part of the DHCP Relay method.
DECLINE relayed	The number of DHCPDECLINE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
RELEASE relayed	The number of DHCPRELEASE messages relayed by the system to the DHCP server as part of the DHCP Relay method.
INFORM relayed	The number of DHCPINFORM messages relayed by the system to the DHCP server on behalf of the mobile as part of the DHCP Relay method.
DHCP OFFER Discard Reasons: (dhcp-proxy)	
Parse error	The number of DHCPOFFER messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
Lease less than min	The number of DHCPOFFER messages discarded by the system due to the offered lease time being less than the minimum acceptable value configured on the system.
Lease greater than max	The number of DHCPOFFER messages discarded by the system due to the offered lease time being greater than the maximum acceptable value configured on the system.
IP Validation failed	The number of DHCPOFFER messages discarded by the system due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context.
DHCP ACK Discard Reasons: (dhcp-proxy)	

Field	Description
Parse error	The number of DHCPACK messages discarded by the system due to parsing errors in the OFFER message such as: • "magic cookie invalid" • missing "end" option • "xid" does not match xid of any outstanding requests • the message is a "short message"
DHCP DECLINE Reasons: (dhcp-proxy)	
IP mismatch	The number of DHCPDECLINE messages sent by the system due to a mismatch in the IP address returned in the OFFER and the IP address returned in ACK. A DECLINE message is sent for the IP address sent in the OFFER.
IP Lease Renewals	The number of address lease renewal requests successfully processed.
Session Counters	
Total Current	The total number of currently active sessions on the system that received DHCP-assigned IP addresses.
DHCP Proxy	The total number of currently active sessions that were assigned IP addresses using the DHCP Proxy method.
DHCP Relay Agent	The total number of sessions that were assigned IP addresses using the DHCP Relay method.
DHCP Server	The DHCP server's IP address.
Total DHCP sessions matching specified criteria	The total number of DHCP sessions matching specified criteria.



CHAPTER 45

show diameter

This chapter includes the **show diameter** command output tables.

- show diameter aaa-statistics, on page 783
- show diameter aaa-statistics misc-data, on page 795
- show diameter authentication servers, on page 796
- show diameter diactrl proxy-vm-map, on page 796
- show diameter dynamic-dictionary all, on page 797
- show diameter endpoints all, on page 797
- show diameter message-queue counters outbound endpoint, on page 798
- show diameter osid-info sessmgr, on page 800
- show diameter osid-info sessmgr all, on page 800
- show diameter peers full all, on page 801
- show diameter statistics, on page 802
- show diameter tps-statistics verbose, on page 810

show diameter aaa-statistics

Table 251: show diameter aaa-statistics Command Output Descriptions

Field	Description
Authentication Servers Summary	
Message Stats	Total Diameter session message statistics.
Total MA Requests	Total number of Multimedia-Auth-Requests.
Total MA Answers	Total number of Multimedia-Auth-Answers.
MAR - Retries	Total number of Multimedia-Auth-Request retries.
MAA Timeouts	Total number of Multimedia-Auth-Answer timeouts.
MAA - Dropped	Total number of Multimedia-Auth-Answer dropped.
Total SA Requests	Total number of Server-Assignment-Requests.

Field	Description
Total SA Answers	Total number of Server-Assignment-Answers.
SAR - Retries	Total number of Server-Assignment-Request retries.
SAA Timeouts	Total number of Server-Assignment-Answer timeouts.
SAA - Dropped	Total number of Server-Assignment-Answers dropped.
Total UA Requests	Total number of User-Authorization-Requests.
Total UA Answers	Total number of User-Authorization-Answers.
UAR - Retries	Total number of User-Authorization-Request retries.
UAA Timeouts	Total number of User-Authorization-Answer timeouts.
UAA - Dropped	Total number of User-Authorization-Answers dropped.
Total LI Requests	Total number of Location-Info-Requests.
Total LI Answers	Total number of Location-Info-Answers.
LIR - Retries	Total number of Location-Info-Request retries.
LIA Timeouts	Total number of Location-Info-Answer timeouts.
LIA - Dropped	Total number of Location-Info-Answers dropped.
Total RT Requests	Total number of Registration-Termination-Requests.
Total RT Answers	Total number of Registration-Termination-Answers.
RTR - Rejected	Total number of Registration-Termination-Requests rejected.
Total PP Requests	Total number of Push-Profile-Requests.
Total PP Answers	Total number of Push-Profile-Answers.
PPR - Rejected	Total number of Push-Profile-Requests rejected.
Total DE Requests	Total number of Diameter-EAP-Requests.
Total DE Answers	Total number of Diameter-EAP-Answers.
DEA - Accept	Total number of Diameter-EAP-Answers accepted.
DEA - Reject	Total number of Diameter-EAP-Answers rejected.
DER - Retries	Total number of Diameter-EAP-Request retries.
DEA Timeouts	Total number of Diameter-EAP-Answer timeouts.
DEA - Dropped	Total number of Diameter-EAP-Answer dropped.

Field	Description
Total AA Requests	Indicates the total number of AA (Authentication and/or Authorization) Request messages sent by P-GW on S6b interface to AAA Server/Proxy.
Total AA Answers	Indicates the total number of AA (Authentication and/or Authorization) Answer messages received by P-GW on S6b interface from AAA Server/Proxy.
AAR - Retries	Indicates the total number of AAR (AA Request) messages retransmitted by P-GW on S6b interface to AAA Server/Proxy.
AAA Timeouts	Indicates the total number of AAA (AA Answer) messages timed-out due to no response from AAA Server/Proxy.
AAA - Dropped	Indicates the total number of AAA (AA Answer) messages dropped due any reason from AAA Server/Proxy.
ASR	Total number of Abort-Session-Requests.
ASA	Total number of Abort-Session-Answers.
RAR	Total number of Re-Auth-Requests.
RAA	Total number of Re-Auth-Answers.
STR	Total number of Session-Termination-Requests.
STA	Total number of Session-Termination-Answers.
STR - Retries	Total number of Session-Termination-Request retries.
AAA-Failure-Indication	Total number of times the AAA-Failure-Indication AVP is sent over Diameter Authentication interfaces (S6b/SWm/STa).
DE Message Error Stats	
Diameter Protocol Errs	Total number of Diameter protocol errors.
Bad Answers	Total number of bad answers.
Unknown Session Reqs	Total number of unknown session requests.
Unknown Command Code	Total number of unknown command codes.
Request Timeouts	Total number of request timeouts.
Parse Errors	Total number of parse errors.
Request Retries	Total number of request retries.
Session Stats	Diameter Session Statistics.
Total Sessions	Total number of sessions.
Freed Sessions	Total number of freed sessions.

Field	Description
Session Timeouts	Total number of session timeouts.
Active Auth Sessions	Total number of active authentication sessions.
Active Acct Sessions	Total number of active accounting sessions.
FH Behavior (emps)	
Continue	Indicated the number of times the failure handling action "Continue" was triggered.
With Retry	Indicates the number of times failure handling action “continue with Retry” is taken using the eMPS template.
Without Retry	Indicates the number of times failure handling action “continue without Retry” is taken using the eMPS template.
Retry and Terminate	Indicates the number of times failure handling “Retry and Terminate” was triggered.
Retry and Terminate	Indicates the number of times failure handling “retry and terminate” is taken using eMPS template.
Retry Term without STR	Indicates the number of times failure handling “retry and terminate without STR” is taken using eMPS template.
Termination	Indicates the number of times failure handling “Termination” was triggered.
Terminate	Indicates the number of times failure handling “terminate” is taken using eMPS template.
Terminate without STR	Indicates the number of times failure handling “terminate without STR” is taken using eMPS template.
STR Termination Cause Stats	Session-Termination-Request termination cause statistics.
Diameter Logout	Total number of Session-Termination-Request terminations due to Diameter logouts.
Service Not Provided	Total number of Session-Termination-Request terminations due to service not provided.
Bad Answer	Total number of Session-Termination-Request terminations due to bad answers.
Administrative	Total number of Session-Termination-Request terminations due to administrative reasons.
Link Broken	Total number of Session-Termination-Request terminations due to links broken.
Auth Expired	Total number of Session-Termination-Request terminations due to auth expiry.
User Moved	Total number of Session-Termination-Request terminations due to user moves.

Field	Description
Session Timeout	Total number of Session-Termination-Request terminations due to session timeouts.
User Request	Total number of Session-Termination-Request terminations due to user requests.
Lost Carrier	Total number of Session-Termination-Request terminations due to lost carriers.
Lost Service	Total number of Session-Termination-Request terminations due to lost service.
Idle Timeout	Total number of Session-Termination-Request terminations due to idle timeouts.
NAS Session Timeout	Total number of Session-Termination-Request terminations due to NAS session timeouts.
Admin Reset	Total number of Session-Termination-Request terminations due to admin resetting.
Admin Reboot	Total number of Session-Termination-Request terminations due to admin reboots.
Port Error	Total number of Session-Termination-Request terminations due to port errors.
NAS Error	Total number of Session-Termination-Request terminations due to NAS errors.
NAS Request	Total number of Session-Termination-Request terminations due to NAS requests.
NAS Reboot	Total number of Session-Termination-Request terminations due to NAS reboots.
Port Unneeded	Total number of Session-Termination-Request terminations due to unneeded ports.
Port Preempted	Total number of Session-Termination-Request terminations due to preempted ports.
Port Suspended	Total number of Session-Termination-Request terminations due to suspended ports.
Service Unavailable	Total number of Session-Termination-Request terminations due to unavailable service.
Callback	Total number of Session-Termination-Request terminations due to callback.
User Error	Total number of Session-Termination-Request terminations due to user errors.
Host Request	Total number of Session-Termination-Request terminations due to host requests.
Result Code Stats	

Field	Description
Result Code 1xxx	Total number of S6b messages processed and responded with the result code 1xxx.
Result Code 2xxx	Total number of S6b messages processed and responded with the result code 2xxx.
Result Code 3xxx	Total number of S6b messages processed and responded with the result code 3xxx.
Result Code 4xxx	Total number of S6b messages processed and responded with the result code 4xxx.
Result Code 5xxx	Total number of S6b messages processed and responded with the result code 5xxx.
Other Result Code	Total number of S6b messages processed and responded with the result code other than 1xxx –5xxx.
Protocol Errors (3xxx]	
Result Code (3002)	Shows the DIAMETER_UNABLE_TO_DELIVER result code value (3002), if Diameter cannot deliver the message to the destination, either because no host within the realm supporting the required application was available to process the request or because the Destination-Host AVP was specified without the associated Destination-Realm AVP.
Result Code (3004)	Displays the DIAMETER_TOO_BUSY error result code value (3004) only when a specific server is requested and it cannot provide the requested service.
Result Code (3005)	Shows the DIAMETER_LOOP_DETECTED result code value (3005), when an agent detected a loop while trying to get the message to the intended recipient. The message may be sent to an alternate peer, if one is available, but the peer reporting the error has identified a configuration problem.
Result Code (3008)	Shows DIAMETER_INVALID_HDR_BITS result code value (3008), if a request was received whose bits in the Diameter header were set either to an invalid combination or to a value that is inconsistent with the Command Code definition.
Result Code (3009)	Shows DIAMETER_INVALID_AVP_BITS result code value (3009), if a request was received that included an AVP whose flag bits are set to an unrecognized value or that is inconsistent with the AVP definition.
Result Code Others	Total number of other messages processed and responded.
Transient Failures (4xxx)	
Result Code 4001	Shows the DIAMETER_AUTHENTICATION_REJECTED result code value (4001),when the authentication process for the user fails, due to an invalid password used by the user. Further attempts must only be allowed after prompting the user for a new password.

Field	Description
Result Code 4002	Shows the DIAMETER_OUT_OF_SPACE Result code value (4002), when a Diameter node receives the accounting request but was unable to commit it to stable storage due to a temporary lack of space.
Result Code Others	Total number of other messages processed and responded.
Permanent Failures (5xxx]	
Result Code 5002	Displays the DIAMETER_UNKNOWN_SESSION_ID result code value (5002), if the request contains an unknown Session-Id.
Result Code 5003	Displays the DIAMETER_AUTHORIZATION_REJECTED (5003) result code value, if a request was received for which the user could not be authorized. This error occurs if the requested service is not permitted to the user.
Result Code 5005	Displays the DIAMETER_MISSING_AVP (5005) result code value, if a request did not contain an AVP that is required by the Command Code definition. **Important** If this value is sent in the Result-Code AVP, a Failed-AVP should be included in the message. The Failed-AVP must contain an example of the missing AVP complete with the Vendor-Id if applicable. The value field of the missing AVP should be of correct minimum length and contain zeroes.
Result Code 5006	Displays the DIAMETER_RESOURCES_EXCEEDED (5006) result code value, when a request was received that cannot be authorized because the user has already expended allowed resources. For example, error occurs when a user is restricted to one dial-up PPP port, attempts to establish a second PPP connection.
Result Code 5012	Displays DIAMETER_UNABLE_TO_COMPLY (5012) result code value, if an error is returned when a request is rejected for unspecified reasons.
Result Code 5030	Displays the total number of DIAMETER_USER_UNKNOWN (5030) result code value.
Experimental Result Code Stats	
Exp Result Code 5199	Total number of times the Experimental-Result-Code "DIAMETER_NEWER_SESSION_DETECTED (5199)" is received in the authentication response message. This result code is introduced to detect stale message requests and support session uniqueness.
Exp Result Code 5001	Total number of times the Experimental-Result-Code DIAMETER_ERROR_USER_UNKNOWN (5001) is received in the authentication response message.
Exp Result Code 5004	Total number of times the Experimental-Result-Code DIAMETER_ERROR_ROAMING_NOT_ALLOWED (5004) is received in the authentication response message.

Field	Description
Exp Result Code 5041	Total number of times the Experimental-Result-Code DIAMETER_ERROR_USER_NO_WLAN_SUBSCRIPTION (5041) is received in the authentication response message.
S6b Stats	
Total Assume-positive	Total number of active subscribers which are in S6b by-passed state (assume positive). That is, the total count of active number of PDN sessions for which S6b by-passed. This statistics is available per aaamgr-instance level.
FH Behavior	
Continue	
With Retry	Total number of times the failure handling action "continue" is applied through the failure-handling-template.
Without Retry	Total number of times the failure handling action "continue-without-retry" is applied through the failure-handling-template. This failure action implies that the call will be continued without retrying to the secondary PCRF server.
Retry and Terminate	
Retry and Terminate	Total number of times the failure handling action "retry and terminate" is applied through the failure-handling-template.
Retry Term without STR	Total number of times the failure handling action "retry and terminate" is applied without sending the Session Terminate Request (STR) on call termination.
Termination	
Terminate	Total number of times the failure handling action "terminate" is applied through the failure-handling-template.
Terminate without STR	Total number of times the failure handling action "terminate" is applied through the failure-handling-template without the Session Terminate Request (STR).
Diameter Overload Control Stats	
AAA	Total number of times the Diameter Experimental Result-Code "DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY" (5198) is received in AAA message.
DEA	Total number of times the Diameter Experimental Result-Code "DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY" (5198) is received in DEA message.
Accounting Servers Summary	
Message Stats	Accounting message statistics.

Field	Description
Total AC Requests	Total number of AC-Requests.
Total AC Answers	Total number of AC-Answers.
ACR-Start	Total number of AC-Request starts.
ACA-Start	Total number of AC-Answer starts.
ACR-Start Retries	Total number of AC-Request start retries.
ACA-Start Timeouts	Total number of AC-Answer timeouts. **Important** This statistics is not supported in 17. 0 and later releases.
ACA-Start Req-Timeouts	Total number of times the AC-Answer Start Request timeout happens happens due to no response from CCF/peer.
ACA-Start Res-Timeouts	Total number of times the AC-Answer Start Response timeout happens due to no response from CCF/peer.
ACA-Interim Req-Timeouts	Total number of times the AC-Answer Interim Request timeout happens due to no response from CCF/peer.
ACA-Interim Res-Timeouts	Total number of times the AC-Answer Interim Response timeout happens due to no response from CCF/peer.
ACA-Stop Req-Timeouts	Total number of times the AC-Answer Stop Request timeout happens due to no response from CCF/peer.
ACA-Stop Res-Timeouts	Total number of times the AC-Answer Stop Response timeout happens due to no response from CCF/peer.
ACR-Interim	Total number of AC-Request interim.
ACA-Interim	Total number of AC-Answer interim.
ACR-Interim Retries	Total number of AC-Request interim retries.
ACA-Interim Timeouts	Total number of AC-Answer interim timeouts. **Important** This statistics is not supported in 17. 0 and later releases.
ACR-Event	Total number of AC-Request events.
ACA-Event	Total number of AC-Answer events.
ACR-Stop	Total number of AC-Request stops.
ACA-Stop	Total number of AC-Answer stops.
ACR-Stop Retries	Total number of AC-Request stop retries.

Field	Description
ACA-Stop Timeouts	Total number of AC-Answer stop timeouts. **Important** This statistics is not supported in 17. 0 and later releases.
ACA-Dropped	Total number of AC-Answers dropped.
ACR-Stop Event Stats	Accounting message Event statistics.
Service-Sp-Unit-Limit	Total number of ACR-STOP messages that are sent with the change-condition "SERVICE-SPECIFIC-UNIT-LIMIT".
AC Message Error Stats	Accounting message error statistics.
Diameter Protocol Errs	Total number of Diameter protocol errors.
Bad Answers	Total number of bad answers.
Unknown Session Reqs	Total number of unknown session requests.
Unknown Command Code	Total number of unknown command codes.
Request Timeouts	Total number of request timeouts.
Response Timeouts	Total number of response timeouts.
Parse Errors	Total number of parse errors.
Request Retries	Total number of request retries.
ACR Message Interim Event Stats	
Volume-limit	The total number of ACR-Interims that were triggered because of the event trigger "Volume-Limit"
Time-Limit	The total number of ACR-Interims that were triggered because of the event trigger "Time-Limit"
RAT-Change	The total number of ACR-Interims that were triggered because of the event trigger "RAT-Change"
TimeZone-Change	The total number of ACR-Interims that were triggered because of the event trigger "Timezone-Change"
PLMN-Change	The total number of ACR-Interims that were triggered because of the event trigger "PLMN-Change"
Max-Charging-Condition	The total number of ACR-Interims that were triggered because of the event trigger "Max-Charging-Condition"
Service-Data-Time-Limit	The total number of ACR-Interims that were triggered because of the event trigger "Service-Data-Time-Limit"

Field	Description
Service-Data-Vol-Limit	The total number of ACR-Interims that were triggered because of the event trigger "Service-Data-Volume-Limit"
AII-Timer	The total number of ACR-Interims that were triggered because of the event trigger "AII-Timer"
Result Code Stats	
Result Code 1xxx	Total number of Diameter accounting messages processed and responded with the result code 1xxx.
Result Code 2xxx	Total number of accounting messages processed and responded with the result code 2xxx.
Result Code 3xxx	Total number of accounting messages processed and responded with the result code 3xxx.
Result Code 4xxx	Total number of accounting messages processed and responded with the result code 4xxx.
Result Code 5xxx	Total number of accounting messages processed and responded with the result code 5xxx.
Other Result Code	Total number of accounting messages processed and responded with the result code other than 1xxx –5xxx.
Backpressure Stats	Diameter Backpressure statistics
Protocol Errors (3xxx]	
Result Code (3002)	Shows the DIAMETER_UNABLE_TO_DELIVER result code value (3002), if Diameter cannot deliver the message to the destination, either because no host within the realm supporting the required application was available to process the request or because the Destination-Host AVP was specified without the associated Destination-Realm AVP.
Result Code (3004)	Displays the DIAMETER_TOO_BUSY error result code value (3004) only when a specific server is requested and it cannot provide the requested service.
Result Code (3005)	Shows the DIAMETER_LOOP_DETECTED result code value (3005), when an agent detected a loop while trying to get the message to the intended recipient. The message may be sent to an alternate peer, if one is available, but the peer reporting the error has identified a configuration problem.
Result Code (3008)	Shows DIAMETER_INVALID_HDR_BITS result code value (3008), if a request was received whose bits in the Diameter header were set either to an invalid combination or to a value that is inconsistent with the Command Code definition.
Result Code (3009)	Shows DIAMETER_INVALID_AVP_BITS result code value (3009), if a request was received that included an AVP whose flag bits are set to an unrecognized value or that is inconsistent with the AVP definition.

Field	Description
Result Code Others	Total number of other messages processed and responded.
Transient Failures (4xxx)	
Result Code 4001	Shows the DIAMETER_AUTHENTICATION_REJECTED result code value (4001),when the authentication process for the user fails, due to an invalid password used by the user. Further attempts must only be allowed after prompting the user for a new password.
Result Code 4002	Shows the DIAMETER_OUT_OF_SPACE Result code value (4002), when a Diameter node receives the accounting request but was unable to commit it to stable storage due to a temporary lack of space.
Result Code Others	Total number of other messages processed and responded.
Permanent Failures (5xxx]	
Result Code 5002	Displays the DIAMETER_UNKNOWN_SESSION_ID result code value (5002), if the request contains an unknown Session-Id.
Result Code 5003	Displays the DIAMETER_AUTHORIZATION_REJECTED (5003) result code value, if a request was received for which the user could not be authorized. This error occurs if the requested service is not permitted to the user.
Result Code 5005	Displays the DIAMETER_MISSING_AVP (5005) result code value, if a request did not contain an AVP that is required by the Command Code definition. **Important** If this value is sent in the Result-Code AVP, a Failed-AVP should be included in the message. The Failed-AVP must contain an example of the missing AVP complete with the Vendor-Id if applicable. The value field of the missing AVP should be of correct minimum length and contain zeroes.
Result Code 5006	Displays the DIAMETER_RESOURCES_EXCEEDED (5006) result code value, when a request was received that cannot be authorized because the user has already expended allowed resources. For example, error occurs when a user is restricted to one dial-up PPP port, attempts to establish a second PPP connection.
Result Code 5012	Displays DIAMETER_UNABLE_TO_COMPLY (5012) result code value, if an error is returned when a request is rejected for unspecified reasons.
Result Code 5030	Displays the total number of DIAMETER_USER_UNKNOWN (5030) result code value.
Experimental Result Code Stats	
Exp Result Code 5001	Total number of times the Experimental-Result-Code DIAMETER_ERROR_USER_UNKNOWN (5001) is received in the authentication response message.

Field	Description
Exp Result Code 5004	Total number of times the Experimental-Result-Code DIAMETER_ERROR_ROAMING_NOT_ALLOWED (5004) is received in the authentication response message.
Exp Result Code 5041	Total number of times the Experimental-Result-Code DIAMETER_ERROR_USER_NO_WLAN_SUBSCRIPTION (5041) is received in the authentication response message.
Peer BP Queue Length	Displays the peer backpressure queue length.
Peer BP Queue Insertions	Displays the peer backpressure insertions to the queue.
Peer BP Queue deletions	Displays the peer backpressure deletions from the queue.
Global BP Queue Length	Displays the global backpressure queue length.
Global BP Queue Insertions	Displays the global backpressure insertions to the queue.
Global BP Queue Deletions	Displays the global backpressure deletions from the queue.
Duplicate Accounting Records Stats	
ACR-Start Dropped	Displays the total number of duplicate Rf START records which were dropped because of the failure in sending the Accounting records instead of adding them to HDD or archival list.
ACR-Interim Dropped	Displays the total number of duplicate Rf INTERIM records which were dropped because of the failure in sending the Accounting records instead of adding them to HDD or archival list.
ACR-Stop Dropped	Displays the total number of duplicate Rf STOP records which were dropped because of the failure in sending the Accounting records instead of adding them to HDD or archival list.

show diameter aaa-statistics misc-data

Table 252: show diameter aaa-statistics misc-data Command Output Descriptions

Field	Description
Facility	The AAA manager facility name.
Instance	The AAA manager instance number which has the highest backpressure statistics.
Max Peer BP Queue Length	The maximum peer backpressure queue length.
Max BP Time	The timestamp at which the maximum peer backpressure happened.

show diameter authentication servers

Table 253: show diameter authentication servers Command Output Descriptions

Field	Description
Context Name	Name of the context in which the Diameter servers are configured.
AAA Group	Name of the AAA group.
Endpoint	Name of the Diameter endpoint.
Peer	Name of the Diameter server host.
No of Instance in UP state	The number of instances between Diameter server and AAA Manager in up state.
No of Instance in DOWN state	The number of instances between Diameter server and AAA Manager in down state.
Priority	The relative priority of this server considered when the system is selecting which Diameter server to use. Lower number has higher priority.
Message Sent/Queued	The number of messages sent/queued from Diameter server to AAA Manager.

show diameter diactrl proxy-vm-map

Table 254: show diameter diactrl proxy-vm-map Command Output Descriptions

Field	Description
If the MAX mode is configured and if the Diameter proxy to VM mapping is available, the following new fields are displayed:	
diamproxy instance	Indicates the Diameter proxy instance.
Started on VM	Indicates the VM on which the Diameter proxy instance exists.
VM served	Indicates the number of VMs served for a particular Diameter proxy instance.
If the MAX mode is configured and if Diameter proxy to VM mapping is not available, the following message is displayed: `Error: no valid diameter proxy to VM mapping present in diactrl`	
If MAX mode is not configured, the following message is displayed: `Info: proxy-vm-map CLI is valid only for max mode configuration of diamproxy`	

show diameter dynamic-dictionary all

Table 255: show diameter dynamic-dictionary all Command Output Descriptions

Field	Description
Dynamic Dictionary Name	Indicates the name of the configured Diameter dynamic dictionary.
vids	Indicates the vendor ID.
Base static dictionary	Displays the static dictionary number and name from which the dynamic dictionary is derived. **Important** This field will be displayed only if the "!base-dict <dictionary-number>" is configured in the dynamic dictioanary's ABNF text file. If "!base-dict <dictionary-number>" is configured in the ABNF text file, the output will be of the form "<dictionary-number> / <dictionary-name>". By default, "Base static dictionary: 0 / dictzero" will be displayed.
Command Code (CC) followed by AVP list	Displays the list of AVPs and command codes defined in the dynamic dictionary.
Number of Command Codes defined	Indicates the number of command codes defined.
Number of AVPs defined	Indicates the number of AVPs defined.
Total Number of dynamic-dictionaries configured	Indicates the total number of dynamic dictionaries configured.

show diameter endpoints all

Table 256: show diameter endpoints all Command Output Descriptions

Field	Description
Context	Name of the configured context.
Endpoint	Name of the endpoint.
Realm	Domain (Realm) name for subscriber.
Task	Task running on ACSMgr or AAAMgr.
CPU	Indicates the Card and CPU number.
Application	Indicates the application running on ACSMgr or AAAMgr.
Total endpoints matching specified criteria	Indicates the total number of matching endpoints.

show diameter message-queue counters outbound endpoint

Table 257: show diameter message-queue counters outbound endpoint Command Output Descriptions

Field	Description
Context	Name of the configured context.
Endpoint	Name of the endpoint.
Peer Host	Name of the peer host.
Peer Realm	Name of the peer realm.
Accounting-Answer	The number of outbound Accounting-Answer messages for the specified endpoint.
Accounting-Request	The number of outbound Accounting-Request messages for the specified endpoint.
Abort-Session-Answer	The number of outbound Abort-Session-Answer messages for the specified endpoint.
Abort-Session-Request	The number of outbound Abort-Session-Request messages for the specified endpoint.
Authorization-Authentication-Ans	The number of outbound Authorization-Authentication-Ans messages for the specified endpoint.
Authorization-Authentication-Req	The number of outbound Authorization-Authentication-Req messages for the specified endpoint.
Capabilities-Exchange-Answer	The number of outbound Capabilities-Exchange-Answer messages for the specified endpoint.
Capabilities-Exchange-Request	The number of outbound Capabilities-Exchange-Request messages for the specified endpoint.
Credit-Control-Answer	The number of outbound Credit-Control-Answer messages for the specified endpoint.
Credit-Control-Request	The number of outbound Credit-Control-Request messages for the specified endpoint.
Device-Watchdog-Answer	The number of outbound Device-Watchdog-Answer messages for the specified endpoint.
Device-Watchdog-Request	The number of outbound Device-Watchdog-Request messages for the specified endpoint.
Diameter-EAP-Answer	The number of outbound Diameter-EAP-Answer messages for the specified endpoint.
Diameter-EAP-Request	The number of outbound Diameter-EAP-Request messages for the specified endpoint.

Field	Description
Disconnect-Peer-Answer	The number of outbound Disconnect-Peer-Answer messages for the specified endpoint.
Disconnect-Peer-Request	The number of outbound Disconnect-Peer-Request messages for the specified endpoint.
Location-Info-Answer	The number of outbound Location-Info-Answer messages for the specified endpoint.
Location-Info-Request	The number of outbound Location-Info-Request messages for the specified endpoint.
Multimedia-Auth-Answer	The number of outbound Multimedia-Auth-Answer messages for the specified endpoint.
Multimedia-Auth-Request	The number of outbound Multimedia-Auth-Request messages for the specified endpoint.
Profile-Update-Answer	The number of outbound Profile-Update-Answer messages for the specified endpoint.
Profile-Update-Request	The number of outbound Profile-Update-Request messages for the specified endpoint.
Push-Profile-Answer	The number of outbound Push-Profile-Answer messages for the specified endpoint.
Push-Profile-Request	The number of outbound Push-Profile-Request messages for the specified endpoint.
Re-Auth-Answer	The number of outbound Re-Auth-Answer messages for the specified endpoint.
Re-Auth-Request	The number of outbound Re-Auth-Request messages for the specified endpoint.
Registration-Termination-Answer	The number of outbound Registration-Termination-Answer messages for the specified endpoint.
Registration-Termination-Request	The number of outbound Registration-Termination-Request messages for the specified endpoint.
Server-Assignment-Answer	The number of outbound Server-Assignment-Answer messages for the specified endpoint.
Server-Assignment-Request	The number of outbound Server-Assignment-Request messages for the specified endpoint.
Session-Termination-Answer	The number of outbound Session-Termination-Answer messages for the specified endpoint.
Session-Termination-Request	The number of outbound Session-Termination-Request messages for the specified endpoint.
User-Authorization-Answer	The number of outbound User-Authorization-Answer messages for the specified endpoint.

Field	Description
User-Authorization-Request	The number of outbound User-Authorization-Request messages for the specified endpoint.
User-Data-Answer	The number of outbound User-Data-Answer messages for the specified endpoint.
User-Data-Request	The number of outbound User-Data-Request messages for the specified endpoint.
Total peers matching specified criteria	Indicates the total number of matching peers.

show diameter osid-info sessmgr

Table 258: show diameter osid-info sessmgr Command Output Descriptions

Field	Description
SessMgr Inst	Session Manager instance number.
Peer Hostname	Name of the peer host.
Peer Realm	Peer domain (realm) name for Subscriber.
OSID	Peer origin state identifier.
Timestamp	Timestamp at which the maximum peer backpressure occured.
Calls Cleared	Number of calls cleared.

show diameter osid-info sessmgr all

Table 259: show diameter osid-info sessmgr all Command Output Descriptions

Field	Description
SessMgr Inst	Session Manager instance number.
Peer Hostname	Name of the peer host.
Peer Realm	Peer domain (realm) name for Subscriber.
OSID	Peer origin state identifier.
Timestamp	Timestamp at which the maximum peer backpressure occured.
Calls Cleared	Number of calls cleared.

show diameter peers full all

Table 260: show diameter peers full all Command Output Descriptions

Field	Description
Context	Name of the context.
Endpoint	Name of the endpoint.
Inbound listening sockets	Displays listening Diameter interface:ports information when origin-host is configured as of "accept-inbound" connection type. If no inbound sockets are present these fields are not displayed.
Local Host	Name of the local host.
Local Address	IP address and port number of the local host.
Endpoint	Name of the endpoint.
Task	The task instance running on ACSMgr or AAAMgr.
Peer Hostname	Name of the peer host.
Local Hostname	Name of the local host.
Peer Realm	Peer domain (realm) name for Subscriber.
Local Realm	Local domain (realm) name for Subscriber.
Peer Address	Address of peer domain (realm).
Local Address	Address of local domain (realm).
State	Indicates the connection status.
CPU	The Card and CPU number.
Messages Out/Queued	The number of messages sent out/queued. **Important** Release 12.0 onwards, this statistic will not indicate the count of outstanding messages for Diameter proxy peers.
Task	The task running on ACSMgr or AAAMgr.
Supported Vendor IDs	The supported vendor IDs.
Admin Status	Indicates the admin status. Whether the user can administratively disable a peer while still preserving its configuration.
DPR Disconnect	Indicates the Disconnect-Peer-Request disconnect cause.
Peer Backoff Timer State	Indicates whether or not the peer-backoff-timer is running.

Field	Description
Peer Origin-State-Id	Peer origin state identifier of the peer (if enabled).
Total peers matching specified criteria	The total number of peers matching the criteria.

show diameter statistics

Table 261: show diameter statistics Command Output Descriptions

Field	Description
Connection statistics	
Connection attempts	The total number of connections attempted.
Connection failures	The total number of connections failed.
Connection reads	The total number of connections read.
Connection starts	The total number of connections started.
Connection disconnects	The total number of connections disconnected
Connection closes	The total number of connections closes.
Connection DHOST requests	The total number of connections with DHOST requested.
Connection DHOST removes	The total number of connections with DHOST removed.
Connection Timeouts	The total number of connections timed out.
Tc Expire Connection Attempts	The total number of connections attempted due to **Tc** timer expired. Note: The **Tc** timer controls the frequency that transport connection attempts are done to a peer with whom no active transport connection exists.
Tw Expire Connection Closes	The total number of connections closed due to **Tw** timer expired.
Tx Expire	On the expiry of application level timer (Tx/Pending timeout), the application like Gy and Gx will decide what failure handling has to be taken for the message sent to the server. This stats will be incremented if this application level Tx timer expires.
Application initiated Retries	If the application determines a failure on one connection on which the request message was sent to, it will retry the message to an alternate server if available. This stats will be used if the application decides to retry the message to alternate server.
Connection failure statistics	
Connection bind errors	The total number of connections failed during binding errors.

Field	Description
Connection connect errors	The total number of connections failed during connect errors.
Connection address errors	The total number of connections failed due to address errors.
Connection misc errors	The total number of connections failed due to other errors not mentioned in output.
Connection DHOST errors	The total number of connections failed due to DHOST errors.
Capabilities Exchange Request and Answers statistics	
Connection CER sent	The total number of Capabilities Exchange Request (CER) messages sent for connection.
Connection CER send errors	The total number of connections failed due to errors during CER messages sent.
CERs received	The total number of CER messages received.
Connection CER create failures	The total number of connections failed during CER message creation.
CEAs received	The total number of Capabilities Exchange Answer (CEA) messages received.
CEA AVPs unknown	The total number of unknown Attribute Value Pairs (AVPs) related to CEA message.
CEA Application ID mismatch	The total number of CEA Application ID mismatch.
Read CEA Messages	The total number of READ messages for CEA.
Read CEA Messages Unexpected	The total number of unexpected READ messages for CEA.
Read CEA Missing	The total number of missing READ messages for CEA.
Read CEA Negotiation Failure	The total number of failures in READ messages negotiation for CEA.
Read CER Messages	The total number of READ messages for CER.
Read CER Messages Unexpected	The total number of unexpected READ messages for CER.
Read CER Missing	The total number of missing READ messages for CER.
Tw Expire Waiting for CEA	The total number of CEAs waiting for answer due to **Tw** timer expired. **NOTE:** The **Tw** timer controls the changing of a peer to the SUSPECT state when no answer is received to a watchdog request.
Device Watchdog Requests and Answers statistics	
DWA attempts	The total number of attempts for Device Watchdog Answer (DWA).
DWA handle allocation failures	The total number of failures to handle allocation of DWA.
DWAs sent	The total number of DWA messages sent.

Field	Description
DWR send errors	The total number of errors while sending DWR messages.
Read DWA Messages	The total number of READ messages for DWA.
Read DWA Messages Unexpected	The total number of unexpected READ messages for DWA.
Read DWR Messages	The total number of missing READ messages for DWR.
Tw Expire Send DWR	The total number of DWRs sent due to **Tw** timer expired.
Send DWR Attempts	The total number of attempts to send 'DWR Sent' messages.
Send DWR Send Errors	The total number of errors while sending 'DWR Sent' messages.
Send DWR Calls	The total number of calls for 'DWR Sent' messages.
Send DWR MH Errors	The total number of message handling errors for 'DWR Sent' messages.
Disconnect Peer Request and Answers statistics	
DPRs Sent	If the diameter base protocol decides to close a connection, it will send a Disconnect-Peer-Request (DPR) to the server to notify the reason for disconnection. This statistics will be incremented when diameter base protocol sends a DPR to the system.
DPAs Received	This statistics will be incremented for the reception of Answer message the server responded for the Disconnect-Peer-Request that was sent earlier.
DPR attempts	This statistics will be incremented when the diabase base protocol decides to send a Disconnect-Peer-Answer to the server as a response to the Disconnect-Peer-Request that was sent earlier. This will be the same as "DPAs Sent" statistics if there is no failure in sending the DPA out.
DPAs Sent	This statistics will be incremented if a Disconnect-Peer-Answer is sent to the server as a response to the Disconnect-Peer-Request that was sent earlier. This will happen in case of server initiated connection closure. This will be the same as "DPR attempts" statistics if there is no failure in sending the DPA out.
DPR send errors	When a DPR is sent out for connection closure and if the sending of DPR is failed due to some connection issue, this statistics will be incremented.
DPA Message handle allocation	When a DPA is sent out for connection closure and if the sending of DPA is failed due to failure in creating the DPA message, this statistics will be incremented.
DPR error immclose	When a DPA is sent out for connection closure and if the sending of DPA is failed due to failure in creating the DPA message, the connection will be closed immediately. This statistics is incremented for those immediate closures without sending a DPA.
Read DPR Messages	This statistics will be incremented when the DPR request received from the server is successfully parsed.

Field	Description
DPA No Host Error	This statistics will be incremented if a DPR message is received without including Origin-Host AVP.
Session Discovery Request and Answer Statistics	
Read SDRs	The total number of SDR read success
Read SDR Errors	The total number of SDR read failures
Write SDAs	The total number of SDR write success
Write SDA Errors	The total number of SDR write errors
Session Not Found	The total number of requests received to recover the session but the session is not found.
Create Messages statistics	
Calls	The total number of calls for 'Create' message.
Success	The total number of messages successful for 'Create' message.
Routed	The total number of messages routed for 'Create' message.
Directed	The total number of messages directed for 'Create' message.
Buffer Errors	The total number of errors for 'Create' message buffer.
Peer Never Up Errors	The total number of errors due to peer failure for 'Create' message.
Window Errors	The total number of errors due to 'Create' message window.
Unsupported Application Errors	The total number of errors due to unsupported applications for 'Create' message.
Message Parse statistics	
Message Pool Expand Attempts	The total number of attempts for message pool expansion.
Buffer Expand Attempts	The total number of attempts for buffer expansion.
Calls	The total number of calls for message parsing.
Too Many AVP Errors	The total number of message parsed having excessive AVP errors.
Header Errors	The total number of message parsed having header errors.
AVP Unknown Errors	The total number of message parsed having unknown AVP errors (errors not listed here).
Runt Errors	The total number of message parsed having runtime errors.
AVP Header Errors	The total number of message parsed having AVP header errors.
Message Protocol Error	The total number of message parsed having protocol errors.

Field	Description
Mand AVP Unknown Errors	The total number of message parsed having unknown errors for mandatory AVP.
Message aborts	The total number of message aborted during parsing.
Send Message statistics	
Calls	The total number of calls for 'Send' message.
Truncated Errors	The total number of truncated errors for 'Send' message.
Read Statistics	
Read Bytes	The total number of bytes read.
Read Messages Total	The total number of 'Read' messages.
Requests Read	The total number of requests for 'Read' messages.
Requests Timed Out	The total number of requests timed out for 'Read' messages.
Answers Read	The total number of answers read for 'Read' messages.
Answers Timed Out	The total number of answers timed out for 'Read' messages.
Read Application Messages	The total number of 'Read application' messages.
Unexpected Answers Read	The total number of unexpected answers for 'Read' messages.
Read Parse statistics	
Begin	The total number of parsing begins for 'Read' message.
E2E Errors	The total number of End-to-End (E2E) errors during parsing of 'Read' message.
Success	The total number of successful parsing of 'Read' message.
Application ID Errors	The total number of errors with Application Id during parsing of 'Read' message.
Command/Flag Errors	The total number of command or flag errors during parsing of 'Read' message.
Diameter Protocol Errors	The total number of Diameter protocol errors during parsing of 'Read' message.
Errors	The total number of errors during parsing of 'Read' message.
Length Padding Errors	The total number of 'Length Padding' errors during parsing of 'Read' message.
H2H Errors	The total number of Host-to-Host (H2H) errors during parsing of 'Read' message.
Length Too Long	The total number of message parsed having excessive length of 'Read' message.
Command Unknown	The total number of message parsed having unknown command in 'Read' message.

Field	Description
Length Sanity Errors	The total number of message parsed having invalid length of 'Read' message.
Length-v-SCTP EOR Errors	The total number of "Length-v-SCTP EOR" errors during parsing of "Read" message.
SCTP Missing EOR Errors	The total number of "SCTP Missing EOR" errors during parsing of "Read" message.
Write statistics	
total	The total number of calls for 'Write' message.
while OPEN	The total number of calls for 'Write' message while connection is OPEN.
while IDLE	The total number of calls for 'Write' message while connection is IDLE.
in other states	The total number of calls for 'Write' message while connection state is other than OPEN or IDLE state.
backpressure events	The total number of Write messages over the maximum number of outstanding messages to queue.
Written bytes	The total number of bytes written.
iterations	The total number of write iterations.
Written messages	The total number of messages written.
EOFs	The total number of 'Write' messages with End-of-File (EOFs).
errors	The total number of 'Write' message with errors.
Peer Calls statistics	
Open Calls	The total number of calls to open a peer.
Close Calls	The total number of calls to close a peer.
Open New Peer	The total number of calls to open a new peer.
Open Unknown Peer Errors	The total number of calls to open an unknown peer.
Open Misses	The total number of missed attempts to open a peer.
Route statistics	
Adds	The total number of routes added.
Expires	The total number of routes expired.
Hits	The total number of hits to a route.
Misses	The total number of routes missed.
Indirects	The total number of indirect route.

Field	Description
Installs	The total number of redirected routes installed.
Dynamic Route statistics	
Adds	The total number of dynamic routes added.
Add Failures	The total number of failures in adding dynamic routes.
Removes	The total number of dynamic routes removed.
Hits	The total number of hits to a dynamic route.
Expires	The total number of dynamic routes expired.
Latency statistics	
Last Round Trip Time (ms)	The last round trip time, in milliseconds.
Average Round Trip Time (ms)	The average round trip time in milliseconds.
Renegotiate Peer Messages	The number of times the diabase interacts with Diameter proxy to renegotiate peer connections when the Diameter dictionary changes.
Redirect Host Usage:	
Redirected Host	The number of times the host is redirected.
Redirect Not Cached	The number of times the redirected host is not cached.
Redirect All Session	The number of times all messages within the session are sent to Redirect-Host.
Redirect All Realm	The number of times all messages destined to Realm are sent to Redirect-Host.
Redirect Realm and Application	The number of times the messages for application requested to Realm are sent to Redirect-Host.
Redirect All Application	The number of times all messages for application are sent to Redirect-Host.
Redirect All Host	The number of times the messages sent to Redirect-Host AVP value instead of Redirect-Host value sent by the host.
Redirect All User	The number of times the message for user sent to Redirect-Host value.
Peer Backoff Timer	
Start-count	The total number of times the peer-backoff-timer is started.
Stop-count	The total number of times the peer-backoff-timer is expired.
Diameter DNS Statistics	
DNS Init	The total number of times an application (diabase/proxy) initialized an instance of a DNS library.

Field	Description
DNS De-Init	The total number of times an application (diabase/proxy) closed an instance of a DNS library.
VPN Init Request	The total number of init request messages sent to VPN managers from a library.
VPN Init Response	The total number of init response messages received from the VPN managers to a library.
VPN Init Success	The total number of init success messages received from the VPN managers to a library.
VPN Init Timeout	The total number of failed init responses received from the VPN managers to a library due to a timeout.
DNS A Requests	The total number of A-type (IPv4) requests sent to the VPN from the library.
DNS A Responses	The total number of A-type (IPv4) responses received by the library from the VPN.
DNS A Hits	The total number of A-type (IPv4) responses received by the library from the VPN with valid addresses.
DNS A Timeouts	The total number of A-type (IPv4) response failures due to timeout.
DNS AAAA Requests	The total number of AAAA-type (IPv6) requests sent to the VPN from the library.
DNS AAAA Responses	The total number of AAAA-type (IPv6) responses received by the library from the VPN.
DNS AAAA Hits	The total number of AAAA-type (IPv6) responses received by the library from the VPN with valid addresses.
DNS AAAA Timeouts	The total number of AAAA-type (IPv6) response failures due to timeout.
DNS NAPTR Requests	The total number of Naming Authority Pointer requests sent to the VPN from the library.
DNS NAPTR Responses	The total number of Naming Authority Pointer responses received by the library from the VPN.
DNS NAPTR Hits	The total number of Naming Authority Pointer responses received by the library from the VPN with valid URIs.
DNS NAPTR Timeouts	The total number of Naming Authority Pointer response failures due to timeout.
DNS SRV Requests	The total number of Service Locator requests sent to the VPN from the library.
DNS SRV Responses	The total number of Service Locator responses received by the library from the VPN.
DNS SRV Hits	The total number of Service Locator responses received by the library from the VPN with valid locations.

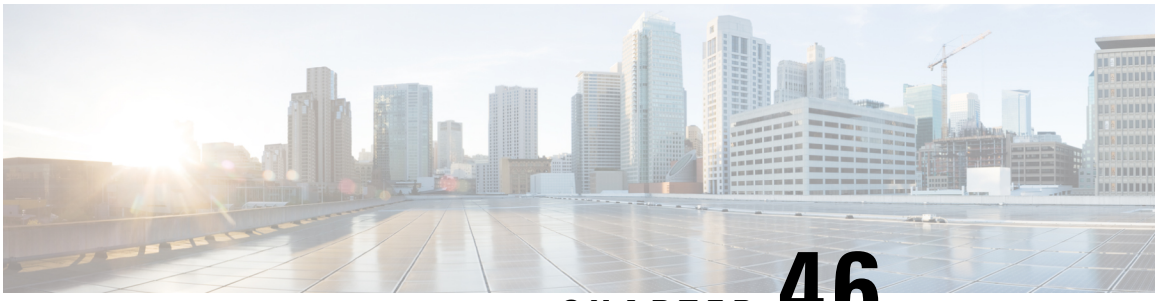
Field	Description
DNS SRV Timeouts	The total number of Service Locator response failures due to timeout.
A Type App Request	The total number of A-type requests made by the application to the library. Single application request can result in multiple library to VPN manager requests and vice versa.
AAAA Type App Request	The total number of AAAA-type requests made by the application to the library. Single application request can result in multiple library to VPN manager requests and vice versa.
NAPTR Type App Request	The total number of Naming Authority Pointer requests made by the application to the library. Single application request can result in multiple "library to VPN manager requests and vice versa.

show diameter tps-statistics verbose

Table 262: show diameter tps-statistics verbose Command Output Descriptions

Field	Description
Application/ID	The name and the identifier of all configured Diameter applications for which the TPS KPI statistics are collected. The Diameter applications, for example, could be Gx, Gy, Rf, etc.
Average TPS	This is the sum average of all TPS values computed.
Maximum TPS	Indicates the maximum TPS value for the specified configuration.
Last 1 Sec Average TPS	Average value of TPS computed for the last 1 second.
Last 10 Secs Average TPS	Average value of TPS computed for the last 10 seconds.
Last 30 Secs Average TPS	Average value of TPS computed for the last 30 seconds.
Last 60 Secs Average TPS	Average value of TPS computed for the last 60 seconds.
Last 5 Mins Average TPS	Average value of TPS computed for the last 5 minutes.
Last 10 Mins Average TPS	Average value of TPS computed for the last 10 minutes.
Last 15 Mins Average TPS	Average value of TPS computed for the last 15 minutes.
Total number of TPS Statistics found	Shows the total number of TPS statistics collected.

Important The output of **show diameter tps-statistics diamproxy** *diamproxy_num*, **show diameter tps-statistics application** *application_name* **summary**, **show diameter tps-statistics application** *application_name* **endpoint** *endpoint_name* **summary**, **show diameter tps-statistics application** *application_name* **endpoint** *endpoint_name* **verbose** commands are almost similar to the **show diameter tps-statistics verbose** command output. The output fields might vary depending on the configuration.



CHAPTER 46

show diameter-hdd-module

This chapter includes the **show diameter-hdd-module** command output tables.

- show diameter-hdd-module file-space-usage, on page 813
- show diameter-hdd-module statistics, on page 813

show diameter-hdd-module file-space-usage

Table 263: show diameter-hdd-module file-space-usage Command Output Descriptions

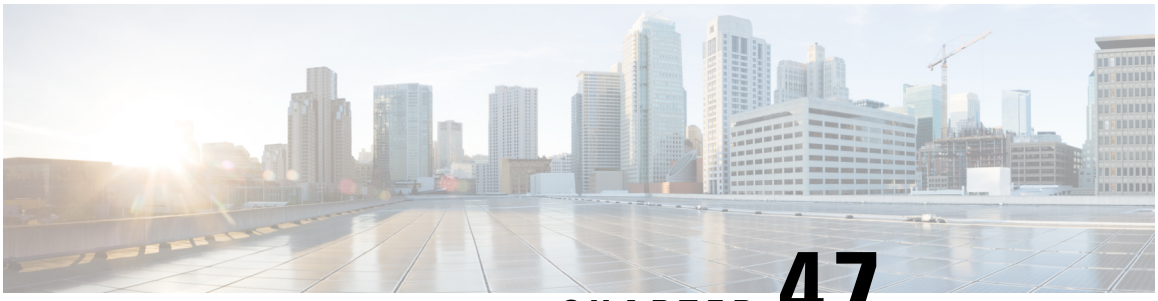
Field	Description
CDRMOD Instance Id	The CDRMOD instance identifier.
Diameter-hdd-module File Storage LIMIT	Displays the configured storage limit for Diameter files.
Diameter-hdd-module File Storage USAGE	Displays the hard disk space utilized for the Diameter files.
Percentage of Diameter-hdd-module file store usage	Displays the percentage of hard-disk space utilized for the Diameter files.

show diameter-hdd-module statistics

Table 264: show diameter-hdd-module statistics Command Output Descriptions

Field	Description
Diameter-hdd-Module file Statistics	
CDRMOD Instance Id	The CDRMOD instance identifier.
Overall Statistics	
Diameter-hdd-module files rotated	Total number of Diameter files rotated.
Diameter-hdd-module files rotated due to volume limit	Total number of Diameter files rotated due to volume limit.

Field	Description
Diameter-hdd-module files rotated due to time limit	Total number of Diameter files rotated due to time limit.
Diameter-hdd-module files rotated due to tariff-time	Total number of Diameter files rotated due to tariff time.
Diameter-hdd-module files rotated due to records limit	Total number of Diameter files rotated because of record limits.
Diameter-hdd-module file rotation failures	Total number of times rotation failed for Diameter file.
Diameter-hdd-module files deleted	Total number of Diameter files deleted.
Diameter-hdd-module records deleted	Total number of Diameter records deleted.
Diameter-hdd-module records received	Total number of Diameter records received by the service.
Current open Diameter-hdd-module files	Total number of Diameter files that are currently open.
Time of last Diameter-hdd-module file deletion	Date and time of last Diameter file deleted.
Diameter-hdd-module PUSH Statistics	
Overall Statistics **Primary Server Statistics** **Secondary Server Statistics**	
Successful File Transfers	Total number of successful file transfers.
Failed File Transfers	Total number of failed file transfers.
Num of times PUSH initiated	Total number of times a Diameter-hdd push attempt was initiated.
Num of times PUSH Failed	Total number of times a Diameter-hdd push attempt failed.
Num of times PUSH cancelled due to HD failure	Total number of times a Diameter-hdd push was cancelled due to hard disk failures.
Num of periodic PUSH	Total number of periodic push.
Num of manual PUSH	Total number of manual push.
Current status of PUSH	Indicates the current status of push – Running/Not Running.
Last completed PUSH time	The date and time the last push completed.



CHAPTER 47

show dns-client

This chapter includes the **show dns-client** command output tables.

- show dns-client, on page 815
- show dns-client statistics dns-query NF P-CSCF apn name *apn-name*, on page 817
- show dns-client statistics dns-query NF P-CSCF apn all , on page 817

show dns-client

Table 265: show dns-client statistics client <client_name> Command Output Descriptions

Field	Description
DNS Usage Statistics	
Query Type	The type of DNS queries performed. Possible type of DNS queries are: A: The total A (IPv4 address record) type of queries. SRV: The total SRV (service locator) type of queries. AAAA: The total AAAA (IPv6 address record) type of queries. NAPTR: The total NAPTR (Naming Authority Pointer) type of queries.
Attempts	The total number of DNS query of specific type attempted.
Successes	The total number of attempted and successful DNS query of specific type.
Failures	The total number of attempted but failed DNS query of specific type.
Total queries	The total number of queries including A, SRV, and NAPTR type of queries.
DNS Cache Statistics	
Central Cache	The domain name lookups cached in central (remote) location.
Local Cache	The domain name lookups cached in local location.

Field	Description
Total Lookups	The total domain name lookups cached in central (remote) and local location.
Cache Hits (Positive Response)	The total number of hits with positive response.
Cache Hits (Negative Response)	The total number of hits with negative response.
Not Found in Cache	The total number of hits which have no record in central or local cache memory.
Hit Ratio (Percentage)	The percentage of domain records hit and found in central or local cache memory.
DNS Resolver Statistics	
Primary (or Secondary) Name Server	The IP address of the primary or secondary DNS (as specified by the display field title).
Query Type	The type of DNS queries performed. Possible type of DNS queries are: A: The total A (IPv4 address record) type of queries. SRV: The total SRV (service locator) type of queries. AAAA: The total AAAA (IPv6 address record) type of queries. NAPTR: The total NAPTR (Naming Authority Pointer) type of queries.
Attempts	The total number of DNS query of specific type attempted.
Successes	The total number of attempted and successful DNS query of specific type.
Failures	The total number of attempted but failed DNS query of specific type.
Total Resolver Queries	The total number of resolver queries made to the specified DNS of all query types.
Successful Queries	The total number of queries resolved successfully.
Query Timeouts	The total number of queries went timeout.
Domain Not Found	The total number of queries where domain name not found.
Connection Refused	The total number of queries for a domain for which connection refused.
Other Failures	The total number of queries failed due to reasons other that listed here.

show dns-client statistics dns-query NF P-CSCF apn name *apn-name*

Table 266: show dns-client statistics dns-query NF P-CSCF apn name apn-name Command Output Descriptions

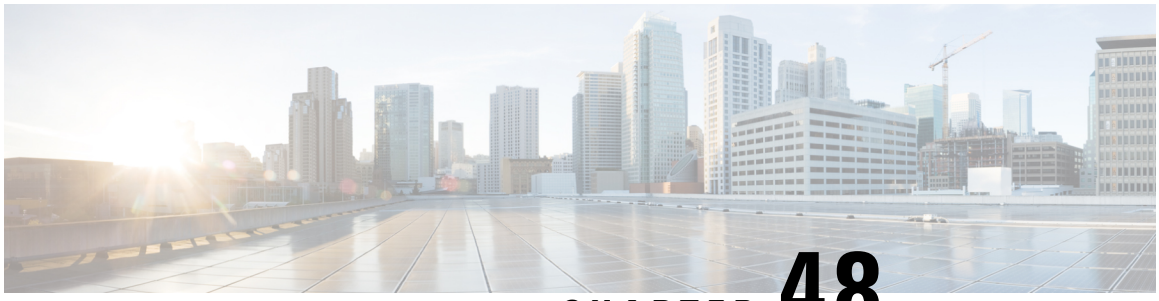
Field	Description
Total Queries Sent	The total number of queries.
Success Queries	The total number of attempted and successful DNS queries of a specific type.
Success Positive Cache Queries	The total number of successful queries from the DNS cache.
Domain Not Found	The total number of queries where the domain name is not found.
Query Timeouts	The total number of queries that timed out.
Socket Related Error	The total number of queries when the DNS client encounters a socket.
Unable to Connect	The total number of unsuccessful queries when unable to connect to the DNS server.
Cache Corrupted	The total number of unsuccessful queries due to cache corruption.
Other Failures	The total number of queries failed due to other failure reasons.

show dns-client statistics dns-query NF P-CSCF apn all

Table 267: show dns-client statistics dns-query NF P-CSCF apn all Command Output Descriptions

Field	Description
Total Queries Sent	The total number of queries.
Success Queries	The total number of attempted and successful DNS queries of a specific type.
Success Positive Cache Queries	The total number of successful queries from the DNS cache.
Domain Not Found	The total number of queries where the domain name is not found.
Query Timeouts	The total number of queries that timed out.
Socket Related Error	The total number of queries when the DNS client encounters a socket.
Unable to Connect	The total number of unsuccessful queries when unable to connect to the DNS server.
Cache Corrupted	The total number of unsuccessful queries due to cache corruption.

Field	Description
Other Failures	The total number of queries failed due to other failure reasons.



CHAPTER 48

show dynamic-policy

This chapter includes the **show dynamic-policy** command output tables.

- show dynamic-policy statistics, on page 819

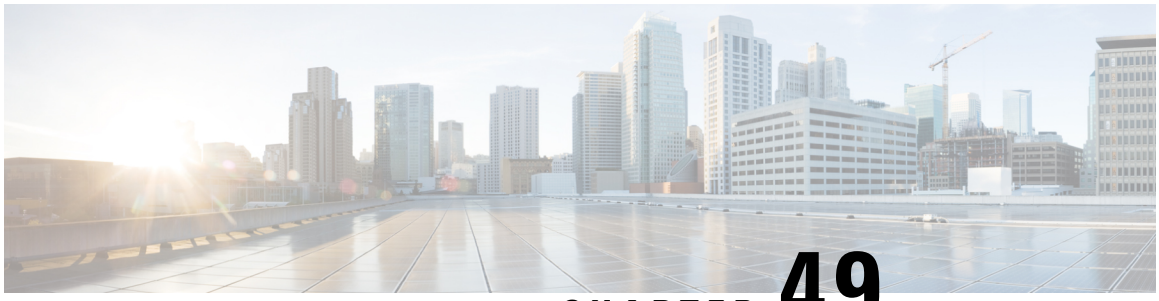
show dynamic-policy statistics

Table 268: show dynamic-policy statistics Command Output Descriptions

Field	Description
Dynamic Policy Stats	
PCC rule stats	
Install requests	Total number of Policy Control and Charging (PCC) rule install requests.
Remove requests	Total number of PCC rule removal requests.
Installed uplink	Total number of PCC rules installed for uplink direction.
Installed downlink	Total number of PCC rules installed for downlink direction.
Activate requests	Total number of PCC rule activate requests.
Deactivate requests	Total number of PCC rule deactivate requests.
Activate group	Total number of policy groups activated.
Deactivate group	Total number of policy groups deactivated.
PCC rule failure stats	
Install failure	Total number of PCC rule install failures.
Remove failure	Total number of PCC rule removal failures.
Activation failure	Total number of PCC rule activation failures.
Deactivation failure	Total number of PCC rule deactivation failures.

Field	Description
Group activation failure	Total number of policy group activation failures.
Group deactivation failure	Total number of policy group deactivation failures.
Event stats	
Session up	Total number of subscriber sessions up.
Session down	Total number of subscriber sessions down.
Handoff	Total number of handoffs occurred.
RAT change	Total number of Radio Access Type (RAT) changes occurred.
User location change	Total number of user location changes occurred.
Default Bearer QoS change	Total number of default bearer QoS changes occurred.
Flow create	Total number of flows created.
Flow delete	Total number of flows deleted.
Bearer loss	Total number of bearer loss.
Bearer recovery	Total number of bearer recoveries after loss of bearer.
Update tft	Total number of Traffic Flow Template (TFT) updates.
Update qos	Total number of QoS updates.
UE Time Zone change	Total number of UE time zone changes occurred.
Event failure stats	
Session up	Total number of session up failures.
Session down	Total number of session down failures.
Handoff	Total number of handoff failures.
RAT change	Total number of RAT change failures.
User location change	Total number of user location change failures.
Default Bearer QoS change	Total number of default bearer QoS change failures.
Flow create	Total number of flow creation failures.
Flow delete	Total number of flow deletion failures.
Bearer loss	Total number of bearer loss failures.
Bearer recovery	Total number of bearer recovery failures.
Update tft	Total number of TFT update failures.

Field	Description
Update qos	Total number of QoS update failures.
UE Time Zone change	Total number of UE time zone change failures.
Auth stats	
Auth request	Total number of authorization requests sent.
Auth failure	Total number of authorization request failures.
Reauth request	Total number of re-authorization requests sent.
Reauth request failure	Total number of re-authorization request failures.
Terminate request	Total number of terminate requests sent.
Terminate request failure	Total number of terminate request failures.



CHAPTER 49

show egtp

This chapter includes the **show egtp** command output tables.

- show egtpc peers interface, on page 823
- show egtpc peers path-failure-history, on page 824
- show egtpc statistics path-failure-reasons, on page 825
- show egtp-service all, on page 827
- show egtpc sessions, on page 830
- show egtpc statistics, on page 832
- show egtpc statistics verbose, on page 865
- show egtp-service all, on page 881

show egtpc peers interface

Table 269: show egtpc peers interface Command Output Descriptions

Field	Description
Status	The status of the GTPC session. - **A**: Online/Active - **I**: Offline/Inactive
GTPC Echo	Displays whether GTPC echo is enable or not. - **D**: Disabled - **E**: Enabled
Restart Counter	Displays whether restart counter messages have been sent or not. - **S**: Sent - **N**: Not Sent
Peer Restart Counter	Displays the status of the peer restart counter. - **K**: Known - **U**: Unknown

Field	Description
Type of Node	Indicates the type of node with which the interface communicates. - **S**: SGW - **P**: PGW - **M**: MME - **G**: SGSN
Node Feature	Indicates the Node Feature capability of the peer. - **P**: P-GW Restart Notification - **M**: Modify Access Bearer Request - **N**: Network triggered Service Request
Service ID	The Service ID for the eGTP service
Peer Address	Indicates the IP address of the peer service (MME/P-GW/S-GW).
Restart Counter	Indicates the restart counter value.
No. of restarts	Indicates the number of restarts of the peer node (MME/S-GW/P-GW).
Current sessions	Indicates the number of sessions currently active on eGTP service.
Max sessions	Indicates the total number of sessions allowed on this eGTP service.

show egtpc peers path-failure-history

This command provides path failure history information for the last five path failures per peer. This information assists operators in isolating the root cause of eGTP-C path failures in the network

Field	Description
Peer Address	The IP address of the peer involved in the GTP-C path failure.
Time of Path Failure	The date and time of the GTP-C path failure.
Reason	The reason for the GTP-C path failure.
Event/Msg Type	The event or message type related to the GTP-C path failure.
Old RC	The old restart counter value.
New RC	The new restart counter value.
Session Count	The total number of sessions at the time of the GTP-C path failure.
IMSI	The subscriber IMSI at the time of the GTP-C path failure.
Local TEID	The local tunnel endpoint identifier.

Field	Description
Remote TEID	The remote tunnel endpoint identifier.

show egtpc statistics path-failure-reasons

The output of this command provides detailed statistics for the types of eGTP-C path failures that have been detected. These statistics assist operators in isolating the root cause of eGTP-C path failures in the network.

Table 270: show egtpc statistics path-failure-reasons Command Output Descriptions

Field	Description
Reasons for path failure at EGTPC	
Echo Request restart counter change	The total number of GTP-C path failures detected due to an Echo Request restart counter change.
Echo Response restart counter change	The total number of GTP-C path failures detected due to an Echo Response restart counter change.
No Echo Response received	The total number of GTP-C path failures detected due to an no Echo Response received.
Control message restart counter change at demux	
Create Session Request	The total number of GTP-C path failures detected due to a Create Session Request control message restart counter change at the demuxmgr.
Forward Relocation Request	The total number of GTP-C path failures detected due to a Forward Relocation Request control message restart counter change at the demuxmgr.
MBMS Session Start Request	The total number of GTP-C path failures detected due to an MBMS Session Start Request control message restart counter change at the demuxmgr.
Control message restart counter change at sessmgr	
Modify Bearer Request	The total number of GTP-C path failures detected due to a Modify Bearer Request control message restart counter change at the sessmgr.
Create Session Response	The total number of GTP-C path failures detected due to a Create Session Response control message restart counter change at the sessmgr.
Modify Bearer Response	The total number of GTP-C path failures detected due to a Create Session Response control message restart counter change at the sessmgr.
Delete Session Response	The total number of GTP-C path failures detected due to a Delete Session Response control message restart counter change at the sessmgr.

Field	Description
Delete Bearer Response	The total number of GTP-C path failures detected due to a Delete Bearer Response control message restart counter change at the sessmgr.
Update Bearer Response	The total number of GTP-C path failures detected due to a Update Bearer Response control message restart counter change at the sessmgr.
Create Bearer Response	The total number of GTP-C path failures detected due to a Create Bearer Response control message restart counter change at the sessmgr.
Release Access Bearer Response	The total number of GTP-C path failures detected due to a Release Access Bearer Response control message restart counter change at the sessmgr.
Downlink Data Notification Acknowledge	The total number of GTP-C path failures detected due to a Release Access Bearer Response control message restart counter change at the sessmgr.
Delete Bearer Command Failure Indication	The total number of GTP-C path failures detected due to a Delete Bearer Command Failure Indication control message restart counter change at the sessmgr.
Bearer Resource Command Failure Indication	The total number of GTP-C path failures detected due to a Bearer Resource Command Failure Indication control message restart counter change at the sessmgr.
Modify Bearer Command Failure Indication	The total number of GTP-C path failures detected due to a Modify Bearer Command Failure Indication control message restart counter change at the sessmgr.
Create Ind Data Forwarding Response	The total number of GTP-C path failures detected due to a Create Ind Data Forwarding Response control message restart counter change at the sessmgr.
Delete Ind Data Forwarding Response	The total number of GTP-C path failures detected due to a Delete Ind Data Forwarding Response control message restart counter change at the sessmgr.
Forward Relocation Complete Acknowledge	The total number of GTP-C path failures detected due to a Forward Relocation Complete Acknowledge control message restart counter change at the sessmgr.
MBMS Session Start Response	The total number of GTP-C path failures detected due to a MBMS Session Start Response control message restart counter change at the sessmgr.
MBMS Session Stop Response	The total number of GTP-C path failures detected due to a MBMS Session Stop Response control message restart counter change at the sessmgr.
MBMS Session Update Response	The total number of GTP-C path failures detected due to a MBMS Session Update Response control message restart counter change at the sessmgr.

Field	Description
Total path failures detected	The total number of GTP-C path failures detected for any reason.
Path failure detection ignored at EGTPC	
Echo Request/Response restart counter change	The total number of GTP-C path failures ignored at EGTPC due to an Echo Request/Echo Response restart counter change.
No Echo Response received	The total number of GTP-C path failures ignored at EGTPC due to an Echo Response not received.
Control message restart counter change	The total number of GTP-C path failures ignored at EGTPC due to a control message restart counter change.
Control Rsp message restart counter change	The total number of GTP-C path failures ignored at EGTPC due to a control Response message restart counter change.
Control Rsp message received from wrong peer	The total number of GTP-C path failures ignored at EGTPC due to a control Response message received from the wrong peer.

show egtp-service all

Table 271: show egtp service all Command Output Descriptions

Field	Description
Service name	The name of the service configured in the named context.
Service-ID	A system generated ID number applied to the service.
Context	The name of the context where the service is configured.
Interface Type	The type of LTE interface this service is supporting. The following fields are in the output of the show egtp-service all command to accept or reject Create Session Request (CSR) on GTP based S2a and S2b interfaces. • s5/s8 • s2a • s2b **Important** This is a license-controlled feature. A valid feature license must be installed prior to configuring this feature. Contact your Cisco account representative for more information. These fields are only visible if the license is enabled.
Status	The status of the service, i.e., "STARTED".
Restart Counter	Specifies the restart counter.

Field	Description
Max Remote Restart Counter Change	An integer from 1 to 255 that specifies the value configured with the **gtpc max-restart-counter-change** command in *eGTP-C Configuration Mode*. This value represents the counter change after which the node will detect a peer restart. Note that a peer restart will be detected only if the absolute difference between the New and Old restart counters is less than the value configured. For example, if the **max-remote-restart-counter-change** is 10 and current peer restart counter is 251, then eGTP will detect a peer restart only if the new restart counter is 252 through 255 or 0 through 5. Similarly, if the stored restart counter is 1, eGTP will detect a peer restart only if the new restart counter is 2 through 11. The default value is 255.
Message Validation Mode	The type of IE validation to be performed on messages received by this service.
GTPC Retransmission Timeout	The number of seconds between the re-sending of GTP-C echo messages.
GTPC Maximum Request Retransmissions	The number of control packet request message retransmissions that can be sent before an error condition is established.
GTPC IP QOS DSCP value	The IP QoS DSCP per-hop behavior to be marked on the outer header of signalling packets originating from the LTE component.
GTPC Echo	Identifies if GTP-C echo messages will be sent.
GTPC Echo Interval	The duration between the sending of GTP-C echo messages.
GTP-C Bind IPv4 Address	The IPv4 address of the interface to which this service is bound.
GTP-C Bind IPv6 Address	The IPv6 address of the interface to which this service is bound.
GTPC Peer Salvation	Indicates if peer salvation is enabled or disabled.
GTPC path failure detection policy	
Echo Timeout	Indicates if the Echo Timeout failure detection policy is enabled/disabled.
Echo Req/Rsp Restart counter change	Indicates if the Echo Req/Rsp Restart counter failure detection policy is enabled/disabled. If enabled, path failure detection occurs when the restart counter in Echo Request/Echo Response messages changes.
Control Mesg Restart counter change	Indicates if the Control Mesg Restart counter failure detection policy is enabled/disabled. If enabled, path failure detection occurs when the restart counter in Control Request/Control Response messages changes.

Field	Description
Collision handling DBcmd when MBreq pending	The collision handling setting for a Delete Bearer command (DBcmd) message when the Modify Bearer Request (MBreq) message for the default bearer is pending at the P-GW. Possible settings are: • Queue DBcmd: Queue the DBcmd message when the MBreq message is pending. • Drop DBcmd: Drop the DBcmd message when the MBreq message is pending. • Abort MBreq and handle Dbcmd: Abort the MBreq message and handle the DBcmd message.
GTPC Private Extension Overcharging Protection	Indicates if **gtpc private-extension overcharge-protection** is enabled in the egtp-service. If it is enabled, then EGTPC will encode/decode Overcharge-protection related data in/from private extension instead of Indication IE. If this option is disabled, then by default the EGTPC layer will encode/decode Overcharge-protection related data in the Indication IE.
GTPC Node Feature GTPC Lte-M RAT	Displays the node features enabled in this egtpc service. Indicates that if the **allow-Item-rat** type is Enabled or Disabled in the egtp-service.

show egtpc sessions

Table 272: show egtpc sessions Command Output Descriptions

Field	Description
vvvv	From left to right, the first value indicates the **Interface Type**. - **M**: MME Egress - **P**: PGW Ingress - **S**: SGW Ingress v**s**: SGW Egress - **G**: SGSN Egress The second value indicates the **PDN Type**. - **N**: Non-Data Forwarding - **F**: Data Forwarding The third value indicates the **UEID Type**. - **M**: MEI (Mobile Equipment ID) - **I**: IMSI (International Mobile Subscriber Identity) The fourth value is a string of characters that indicate the **Bearer States**. - **A**: Active - **C**: Create Session Pending - **D**: Delete Session Pending - **d**: Delete Bearer Pending - **M**: Modify Bearer Pending - **R**: Release Access Bearer Pending - **L**: Downlink Data Notification Pending - **u**: Update User Plane Pending - **c**: Create Bearer Pending - **U**: Update Bearer Pending - **E**: Delete Bearer Command Pending - **B**: Bearer Resource Command Pending

Field	Description
vvvv *(cont.)*	- **m**: Modify Bearer Command Pending - **I**: Create Indirect Data Forwarding Pending - **i**: Delete Indirect Forwarding Pending - **t**: Context Acknowledge Pending - **T**: Context Request Pending - **F**: Identification Request Pending - **W**: Forward Relocation Pending - **X**: Forward Access Context Notification Pending - **w**: Forward Relocation Complete Pending - **r**: Release Cancel pending - **S**: Suspend Pending - **Y**: Resume Pending - **P**: PS to CS Response Pending - **p**: PS to CS Complete Pending - **Q**: PS to CS Cancel Pending - **.**: Inactive
SVC ID	Displays the Service ID.
IMSI/MEI	Displays the IMSI or MEI number.
Def EBI	Displays the default EPS Bearer Identity
EBIs	EBI Bearer States (see fourth value indicators described above).
Control TEIDs	Lists the Tunnel Endpoint Identifiers (TEIDs)
Local	Local TEID.
Remote	Remote TEID.
CallID	Displays the Call Identifier.
Peer Address	Displays the IP address of the eGTP-C peer.
Total sessions matching specified criteria	Displays the total number of eGTP-C sessions matching the specified criteria.

show egtpc statistics

Table 273: show egtpc statistics Command Output Descriptions

Field	Description
Tunnel Management Messages	
Create Session Request	
Total TX	The total number of tunnel - create session request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - create session request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted create session request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted create session request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted create session request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted create session request messages received by this system, the specified service, or the specified interface.
Create Session Response	
Total TX	The total number of tunnel - create session response messages sent by this system, a specified service, or a specified interface.
Total RX	The total number of tunnel - create session response messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of tunnel - initially transmitted create session response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted create session response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of tunnel - initially transmitted create session request messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted create session response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted create session response messages sent by this system, the specified service, or the specified interface.

Field	Description
Modify Bearer Request	
Total TX	The total number of tunnel - modify bearer request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - modify bearer request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted modify bearer request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted modify bearer request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted modify bearer request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted modify bearer request messages received by this system, the specified service, or the specified interface.
Discarded	The total number of tunnel - retransmitted modify bearer request messages discarded by the system, the specified service, or the specified interface.
No Rsp RX	The total number of tunnel - retransmitted modify bearer request messages sent but where no response was received by the system, the specified service, or the specified interface.
Modify Bearer Response	
Total TX	The total number of tunnel - modify bearer response messages sent by this system, a specified service, or a specified interface.
Total RX	The total number of tunnel - modify bearer response messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of tunnel - initially transmitted modify bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted modify bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of tunnel - initially transmitted modify bearer request messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted modify bearer response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted modify bearer response messages sent by this system, the specified service, or the specified interface.

Field	Description
Discarded	The total number of tunnel - retransmitted modify bearer response messages discarded by the system, the specified service, or the specified interface.
Delete Session Request	
Total TX	The total number of tunnel - delete session request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - delete session request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted delete session request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted delete session request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted delete session request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted delete session request messages received by this system, the specified service, or the specified interface.
Delete Session Response	
Total TX Accepted Denied	The total number of tunnel - delete session response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - delete session response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Total RX Accepted Denied	The total number of tunnel - delete session request messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - delete session response (accept or denied) messages received by the system, the specified service, or the specified interface.
Downlink Data Notification Request	
Total TX	The total number of tunnel - downlink data notification request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - downlink data notification request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted downlink data notification request messages sent by the system, the specified service, or the specified interface.

Field	Description
Initial RX	The total number of tunnel - initially transmitted downlink data notification request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted downlink data notification request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted downlink data notification request messages received by this system, the specified service, or the specified interface.
Downlink Data Notification Response	
Total TX	The total number of tunnel - downlink data notification response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - downlink data notification response messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of tunnel - initially transmitted downlink data notification response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted downlink data notification response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of tunnel - initially transmitted downlink data notification response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted downlink data notification response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted downlink data notification response messages sent by the system, the specified service, or the specified interface.
Downlink Data Failure Indication	
Initial TX	The total number of tunnel - initially transmitted downlink data failure indication messages sent by this system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted downlink data failure indication messages received by this system, the specified service, or the specified interface.
Release Access Bearers Request	
Total TX	The total number of tunnel - release access bearers request messages sent by this system, the specified service, or the specified interface.

Field	Description
Total RX	The total number of tunnel - release access bearers request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted release access bearers request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted release access bearers request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted release access bearers request messages sent by this system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted release access bearers request messages received by this system, the specified service, or the specified interface.
Release Access Bearer Response	
Total TX	The total number of tunnel - release access bearer response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - release access bearer response messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of tunnel - initially transmitted release access bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted release access bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of tunnel - initially transmitted release access bearer response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted release access bearer response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted release access bearer response messages sent by the system, the specified service, or the specified interface.
Create Bearer Request	
Total TX	The total number of tunnel - create bearer request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - create bearer request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted create bearer request messages sent by the system, the specified service, or the specified interface.

Field	Description
Initial RX	The total number of tunnel - initially transmitted create bearer request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted create bearer request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted create bearer request messages received by this system, the specified service, or the specified interface.
Create Bearer Response	
Total TX	The total number of tunnel - create bearer response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - create bearer response messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of tunnel - initially transmitted create bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted create bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of tunnel - initially transmitted create bearer response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted create bearer response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted create bearer response messages sent by the system, the specified service, or the specified interface.
Update Bearer Request	
Total TX	The total number of tunnel - update bearer request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - update bearer request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted update bearer request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted update bearer request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted update bearer request messages sent by the system, the specified service, or the specified interface.

Field	Description
Retrans RX	The total number of tunnel - retransmitted update bearer request messages received by this system, the specified service, or the specified interface.
Update Bearer Response	
Total TX	The total number of tunnel - update bearer response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - update bearer response messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of tunnel - initially transmitted update bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted update bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of tunnel - initially transmitted update bearer response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - initially transmitted update bearer response (accept or denied) messages received by the system, the specified service, or the specified interface.
Delete Bearer Request	
Total TX	The total number of tunnel - delete bearer request messages sent by the system, the specified service, or the specified interface.
Total RX	The total number of tunnel - delete bearer request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted delete bearer request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted delete bearer request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted delete bearer request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted delete bearer request messages received by this system, the specified service, or the specified interface.
Delete Bearer Response	
Total TX Accepted Denied	The total number of tunnel - delete bearer response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - delete bearer response (accept or denied) messages sent by the system, the specified service, or the specified interface.

Field	Description
Total RX Accepted Denied	The total number of tunnel - initially transmitted update bearer response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of tunnel - delete bearer response (accept or denied) messages received by the system, the specified service, or the specified interface.
Modify Bearer Command	
Total TX	The total number of tunnel - modify bearer command messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - modify bearer command messages received by this system, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted modify bearer command messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted modify bearer command messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted modify bearer command messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted modify bearer command messages received by this system, the specified service, or the specified interface.
Modify Bearer Failure Indication	
Total TX	The total number of tunnel - modify bearer failure indication messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - modify bearer failure indication messages received by this system, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted modify bearer failure indication messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted modify bearer failure indication messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted modify bearer failure indication messages sent by the system, the specified service, or the specified interface.
Bearer Resource Command	
Total TX	The total number of tunnel - bearer resource command messages sent by this system, the specified service, or the specified interface.

Field	Description
Total RX	The total number of tunnel - bearer resource command messages received by this system, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted bearer resource command messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted bearer resource command messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted bearer resource command messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted bearer resource command messages received by this system, the specified service, or the specified interface.
Discarded	The total number of tunnel - retransmitted bearer resource command messages discarded by the system, the specified service, or the specified interface.
No Rsp RX	The total number of tunnel - retransmitted bearer resource command messages sent but where no response was received by the system, the specified service, or the specified interface.
Bearer Resource Failure Indication	
Total TX	The total number of tunnel - bearer resource failure indication messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - bearer resource failure indication messages received by this system, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted bearer resource failure indication messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted bearer resource failure indication messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted bearer resource failure indication messages sent by the system, the specified service, or the specified interface.
Discarded	The total number of tunnel - retransmitted bearer resource failure indication messages discarded by the system, the specified service, or the specified interface.
Delete Bearer Command	
Total TX	The total number of tunnel - delete bearer command messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - delete bearer command messages received by this system, the specified service, or the specified interface.

Field	Description
Initial TX	The total number of tunnel - initially transmitted delete bearer command messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted delete bearer command messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted delete bearer command messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of tunnel - retransmitted delete bearer command messages received by this system, the specified service, or the specified interface.
Discarded	The total number of tunnel - retransmitted delete bearer command messages discarded by the system, the specified service, or the specified interface.
Delete Bearer Failure Indication	
Total TX	The total number of tunnel - delete bearer failure indication messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - delete bearer failure indication messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted delete bearer failure indication messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted delete bearer failure indication messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted delete bearer failure indication messages sent by the system, the specified service, or the specified interface.
Create Ind Data Forwarding Tunnel Request	
Total TX	The total number of tunnel - create indirect data forwarding tunnel requests sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - create indirect data forwarding tunnel requests received by this system, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted create indirect data forwarding tunnel requests sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted create indirect data forwarding tunnel requests received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted create indirect data forwarding tunnel requests sent by the system, the specified service, or the specified interface.

Field	Description
Retrans RX	The total number of tunnel - retransmitted create indirect data forwarding tunnel requests received by this system, the specified service, or the specified interface.
Create Ind Data Forwarding Tunnel Response	
Total TX	The total number of tunnel - create indirect data forwarding tunnel response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - create indirect data forwarding tunnel response messages received by this system, or the specified interface.
Initial TX Accepted Denied	The total number of tunnel - initially transmitted create indirect data forwarding tunnel response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of create indirect data forwarding tunnel response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of tunnel - initially transmitted create indirect data forwarding tunnel response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of create indirect data forwarding tunnel response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted create indirect data forwarding tunnel response messages sent by the system, the specified service, or the specified interface.
Delete Ind Data Forwarding Tunnel Request	
Total TX	The total number of tunnel - delete indirect data forwarding tunnel requests sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - delete indirect data forwarding tunnel requests received by this system, or the specified interface.
Initial TX	The total number of tunnel - initially transmitted delete indirect data forwarding tunnel requests sent by the system, the specified service, or the specified interface.
Initial RX	The total number of tunnel - initially transmitted delete indirect data forwarding tunnel requests received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted delete indirect data forwarding tunnel requests sent by the system, the specified service, or the specified interface.

Field	Description
Retrans RX	The total number of tunnel - retransmitted delete indirect data forwarding tunnel requests received by this system, the specified service, or the specified interface.
Delete Ind Data Forwarding Tunnel Response	
Total TX	The total number of tunnel - delete indirect data forwarding tunnel response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of tunnel - delete indirect data forwarding tunnel response messages received by this system, or the specified interface.
Initial TX Accepted Denied	The total number of tunnel - initially transmitted delete indirect data forwarding tunnel response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of delete indirect data forwarding tunnel response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of tunnel - initially transmitted delete indirect data forwarding tunnel response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of delete indirect data forwarding tunnel response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of tunnel - retransmitted delete indirect data forwarding tunnel response messages sent by the system, the specified service, or the specified interface.
Stop Paging Indication	
Total TX	The total number of stop paging indication messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of stop paging indication messages received by this system, or the specified interface.
Initial TX Accepted Denied	The total number of initially transmitted stop paging indication messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of stop paging indication (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted stop paging indication messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of delete indirect data forwarding tunnel response (accept or denied) messages received by the system, the specified service, or the specified interface.

Field	Description
Retrans TX	The total number of retransmitted stop paging indication messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of retransmitted stop paging indication messages sent by the system, the specified service, or the specified interface.
Change Notification Request	
Total TX	The total number of change notification request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of change notification request messages received by this system, or the specified interface.
Initial TX	The total number of initially transmitted change notification request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of initially transmitted change notification request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted change notification request messages sent by the system, the specified service, or the specified interface.
Change Notification Response	
Total TX	The total number of change notification response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of change notification response messages received by this system, or the specified interface.
Initial TX Accepted Denied	The total number of initially transmitted change notification response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of change notification response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted change notification response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of change notification response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted change notification response messages sent by the system, the specified service, or the specified interface.
PGW Restart Notification Request	
Total TX	The total number of P-GW restart notification request messages sent by this system, the specified service, or the specified interface.

Field	Description
Total RX	The total number of P-GW restart notification request messages received by this system, or the specified interface.
Initial TX	The total number of initially transmitted P-GW restart notification request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of initially transmitted P-GW restart notification request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted P-GW restart notification request messages sent by the system, the specified service, or the specified interface.
Discarded	The total number of retransmitted P-GW restart notification request messages discarded by the system, the specified service, or the specified interface.
No Rsp RX	The total number of P-GW restart notification request messages sent but where no response was received by the system, the specified service, or the specified interface.
PGW Restart Notification Ack	
Total TX	The total number of P-GW restart notification acknowledge messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of P-GW restart notification acknowledge messages received by this system, or the specified interface.
Initial TX Accepted Denied	The total number of initially transmitted P-GW restart notification acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of P-GW restart notification acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted P-GW restart notification acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of P-GW restart notification acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted P-GW restart notification acknowledge messages sent by the system, the specified service, or the specified interface.
Discarded	The total number of retransmitted P-GW restart notification request messages discarded by the system, the specified service, or the specified interface.
Path Management Messages	
Echo Request	

Field	Description
Total TX	The total number of path - echo request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of path - echo request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of path - initially transmitted echo request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of path - initially transmitted echo request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of path - retransmitted echo request messages sent by the system, the specified service, or the specified interface.
Echo Response	
Total TX	The total number of path - echo response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of path - echo response messages received by this system, the specified service, or the specified interface.
Version Not Supported	
Total TX	The total number of path - version not supported messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of path - version not supported messages received by this system, the specified service, or the specified interface.
Mobility Management Messages	
Context Request	
Total TX	The total number of mobility - context request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - context request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of mobility - initially transmitted context request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of mobility - initially transmitted context request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted mobility context request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of mobility - retransmitted context response messages received by the system, the specified service, or the specified interface.

Field	Description
Context Response	
Total TX	The total number of mobility - context response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - context response messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of mobility - initially transmitted context response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted context response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of mobility - initially transmitted context response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted context response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans RX	The total number of mobility - retransmitted identification request messages received by the system, the specified service, or the specified interface.
Context Acknowledge	
Total TX	The total number of mobility - context acknowledge messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - context acknowledge messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of mobility - initially transmitted context acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted context acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of mobility - initially transmitted context acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted context acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted context acknowledge messages sent by the system, the specified service, or the specified interface.
Identification Request	

Field	Description
Total TX	The total number of mobility - identification request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - identification request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of mobility - initially transmitted identification request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of mobility - initially transmitted identification request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted identification request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of mobility - retransmitted identification request messages received by the system, the specified service, or the specified interface.
Identification Response	
Total TX Accepted Denied	The total number of mobility - identification response messages sent by this system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - identification response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Total RX Accepted Denied	The total number of mobility - identification response messages received by this system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - identification response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted identification response messages sent by the system, the specified service, or the specified interface.
Forward Relocation Request	
Total TX	The total number of mobility - forward relocation request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - forward relocation request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of mobility - initially transmitted forward relocation request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of mobility - initially transmitted forward relocation request messages received by the system, the specified service, or the specified interface.

Field	Description
Retrans TX	The total number of mobility - retransmitted forward relocation request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of mobility - retransmitted forward relocation request messages received by the system, the specified service, or the specified interface.
Forward Relocation Response	
Total TX	The total number of mobility - forward relocation response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - forward relocation response messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of mobility - initially transmitted forward relocation response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward relocation response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of mobility - initially transmitted forward relocation response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward relocation response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted forward relocation response messages sent by the system, the specified service, or the specified interface.
Forward Access Context Notification	
Total TX	The total number of mobility - forward access context notification messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - forward access context notification messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of mobility - initially transmitted forward access context notification messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of mobility - initially transmitted forward access context notification messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted forward access context notification messages sent by the system, the specified service, or the specified interface.

Field	Description
Retrans RX	The total number of mobility - retransmitted forward access context notification messages received by the system, the specified service, or the specified interface.
Forward Access Context Acknowledge	
Total TX	The total number of mobility - forward access context acknowledge messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - forward access context acknowledge messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of mobility - initially transmitted forward access context acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward access context acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of mobility - initially transmitted forward access context acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward access context acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted forward access context acknowledge messages sent by the system, the specified service, or the specified interface.
Forward Relocation Complete Notification	
Total TX	The total number of mobility - forward relocation complete notification messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - forward relocation complete notification messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of mobility - initially transmitted forward relocation complete notification messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of mobility - initially transmitted forward relocation complete notification messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted forward relocation complete notification messages sent by the system, the specified service, or the specified interface.

Field	Description
Retrans RX	The total number of mobility - retransmitted forward relocation complete notification messages received by the system, the specified service, or the specified interface.
Forward Relocation Complete Acknowledge	
Total TX	The total number of mobility - forward relocation complete acknowledge messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - forward relocation complete acknowledge messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of mobility - initially transmitted forward relocation complete acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward relocation complete acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of mobility - initially transmitted forward relocation complete acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted forward relocation complete acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted forward relocation complete acknowledge messages sent by the system, the specified service, or the specified interface.
Relocation Cancel Request	
Total TX	The total number of mobility - relocation cancel request messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - relocation cancel request messages received by this system, the specified service, or the specified interface.
Initial TX	The total number of mobility - initially transmitted relocation cancel request messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of mobility - initially transmitted relocation cancel request messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted relocation cancel request messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of mobility - retransmitted relocation cancel request messages received by the system, the specified service, or the specified interface.

Field	Description
Relocation Cancel Response	
Total TX	The total number of mobility - relocation cancel response messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of mobility - relocation cancel response messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of mobility - initially transmitted relocation cancel response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted relocation cancel response (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of mobility - initially transmitted relocation cancel response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of mobility - initially transmitted relocation cancel response (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of mobility - retransmitted relocation cancel response messages sent by the system, the specified service, or the specified interface.
RAN Information Relay	
Initial TX	The total number of initially transmitted RAN Information Management (RIM) messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of initially transmitted RAN Information Management (RIM) messages received by the system, the specified service, or the specified interface.
Configuration Transfer Tunnel	
Initial TX	The total number of initially transmitted configuration transfer tunnel messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of initially transmitted configuration transfer tunnel messages received by the system, the specified service, or the specified interface.
Detach Notification	
Total TX	The total number of detach notification messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of detach notification messages received by this system, the specified service, or the specified interface.

Field	Description
Initial TX Accepted Denied	The total number of initially transmitted detach notification messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach notification (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted detach notification messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach notification (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted detach notification messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of retransmitted detach notification messages received by the system, the specified service, or the specified interface.
Detach Acknowledge	
Total TX	The total number of detach acknowledge messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of detach acknowledge messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of initially transmitted detach acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted detach acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface.
Alert MME Notification	
Total TX	The total number of alert MME notification messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of alert MME notification messages received by this system, the specified service, or the specified interface.

Field	Description
Initial TX Accepted Denied	The total number of initially transmitted alert MME notification messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of alert MME notification (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted alert MME notification messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of alert MME notification (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted alert MME notification messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of retransmitted alert MME notification messages received by the system, the specified service, or the specified interface.
Alert MME Acknowledge	
Total TX	The total number of alert MME acknowledge messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of alert MME acknowledge messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of initially transmitted alert MME acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of detach notification (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted alert MME acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of alert MME acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of initially retransmitted alert MME acknowledge messages sent by the system, the specified service, or the specified interface.
UE Activation Notification	
Total TX	The total number of UE activation messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of UE activation messages received by this system, the specified service, or the specified interface.

Field	Description
Initial TX Accepted Denied	The total number of initially transmitted UE activation messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of UE activation (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted UE activation messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of UE activation (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted UE activation messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of retransmitted UE activation messages received by the system, the specified service, or the specified interface.
UE Activity Acknowledge	
Total TX	The total number of UE activity acknowledge messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of UE activity acknowledge messages received by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of initially transmitted UE activity acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of UE activity acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted UE activity acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of UE activity acknowledge (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of initially retransmitted UE activity acknowledge messages sent by the system, the specified service, or the specified interface.
CS Paging Indication	
Total TX	The total number of CS (Circuit Switched) paging indication messages sent by this system, the specified service, or the specified interface.
Total RX	The total number of CS paging indication messages received by this system, the specified service, or the specified interface.

Field	Description
Initial TX Accepted Denied	The total number of initially transmitted CS paging indication messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of CS paging indication (accept or denied) messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of initially transmitted CS paging indication messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of CS paging indication (accept or denied) messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted CS paging indication messages sent by the system, the specified service, or the specified interface.
Retrans RX	The total number of retransmitted CS paging indication messages received by the system, the specified service, or the specified interface.
SRVCC Messages (Single Radio Voice Call Continuity)	
PS to CS Request	
Total TX	The total number of PS (Packet Switched) to CS (Circuit Switched) request messages sent by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of initially transmitted PS to CS request messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of PS to CS request (accept or denied) messages sent by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted PS to CS request messages sent by the system, the specified service, or the specified interface.
Discarded	Not used.
No Rsp Rcvd	The total number of times the MME did not receive an expected response from an MSC for a PS to CS request. Note: For a given subscriber, retransmitted requests to the same MSC do not increment this counter. For retransmitted requests to different MSCs, if no response is received from either MSC, this counter will increment twice.
PS to CS Response	
Total RX	The total number of PS (Packet Switched) to CS (Circuit Switched) response messages received by this system, the specified service, or the specified interface.

Field	Description
Initial RX Denied	The total number of initial PS to CS response messages received by the system, the specified service, or the specified interface.
Accepted	The total number of PS to CS response messages received and accepted by the system, the specified service, or the specified interface.
Denied	The total number of PS to CS response messages received and denied by the system, the specified service, or the specified interface. Note: Denied will be incremented when the PS to CS response is received with cause code of EGTP_CAUSE_REQ_ACCEPTED.
Discarded	The total number of PS to CS response messages received and discarded by the system, the specified service, or the specified interface. The system/interface will discard the message when a decoding error occurs (for example due to wrong header length, wrong IE format, etc.).
PS to CS Complete Notification	
Total RX	The total number of PS (Packet Switched) to CS (Circuit Switched) complete notification messages received by this system, the specified service, or the specified interface.
Initial RX	The total number of initially transmitted PS to CS complete notification messages received by the system, the specified service, or the specified interface.
Retrans RX	The total number of retransmitted PS to CS complete notification messages received by the system, the specified service, or the specified interface.
Discarded	The total number of PS to CS complete notification messages received and discarded by the system, the specified service, or the specified interface. The system/interface will discard the message when a decoding error occurs (for example due to wrong header length, wrong IE format, etc.).
PS to CS Complete Acknowledge	
Total TX	The total number of PS (Packet Switched) to CS (Circuit Switched) complete acknowledge messages sent by this system, the specified service, or the specified interface.
Initial TX	The total number of initially transmitted PS to CS complete acknowledge messages sent by the system, the specified service, or the specified interface.
Accepted	The total number of PS to CS complete acknowledge messages sent by the system, the specified service, or the specified interface, with a cause code of ACCEPTED.
Denied	The total number of PS to CS complete acknowledge messages sent by the system, the specified service, or the specified interface, with a cause code of DENIED.

Field	Description
Retrans TX	The total number of retransmitted PS to CS complete acknowledge messages sent by the system, the specified service, or the specified interface.
Discarded	Not used.
PS to CS Cancel Notification	
Total TX	The total number of PS (Packet Switched) to CS (Circuit Switched) cancel notification messages sent by this system, the specified service, or the specified interface.
Initial TX	The total number of initially transmitted PS to CS cancel notification messages sent by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted PS to CS cancel notification messages sent by the system, the specified service, or the specified interface.
PS to CS Cancel Acknowledge	
Total TX	The total number of PS (Packet Switched) to CS (Circuit Switched) cancel acknowledge messages sent by this system, the specified service, or the specified interface.
Initial TX Accepted Denied	The total number of initially transmitted PS to CS cancel acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of PS to CS cancel acknowledge (accept or denied) messages sent by the system, the specified service, or the specified interface.
Trace Management Messages	
Trace Session Activation	
Initial TX	The total number of trace - initially transmitted session activation messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of trace - initially transmitted session activation messages received by the system, the specified service, or the specified interface.
Trace Session Deactivation	
Initial TX	The total number of trace - initially transmitted session deactivation messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of trace - initially transmitted session deactivation messages received by the system, the specified service, or the specified interface.
CS Fallback Messages (CSFB)	
Suspend Notification	

Field	Description
Initial TX	The total number of CSFB (Circuit Switched Fallback) - initially transmitted suspend notification messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of CSFB - initially transmitted suspend notification messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of CSFB (Circuit Switched Fallback) - retransmitted suspend notification messages that had to be retransmitted by the system, the specified service, or the specified interface.
Discarded	The total number of CSFB (Circuit Switched Fallback) - suspend notification messages that were discarded.
Retrans RX	The total number of CSFB (Circuit Switched Fallback) - suspend notification messages received by this system, the specified service, or the specified interface.
Suspend Acknowledge	
Initial TX Accepted Denied	The total number of CSFB - initially transmitted suspend acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display total number of CSFB (Circuit Switched Fallback) - suspend acknowledge messages received by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of CSFB - initially transmitted suspend acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display total number of CSFB (Circuit Switched Fallback) - suspend acknowledge messages received by the system, the specified service, or the specified interface.
Discarded	The total number of CSFB (Circuit Switched Fallback) - suspend acknowledge messages that were discarded.
Resume Notification	
Initial TX	The total number of CSFB - initially transmitted resume notification messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of CSFB - initially transmitted resume notification messages received by the system, the specified service, or the specified interface.
Retrans TX	The total number of retransmitted CSFB - resume notification messages that had to be retransmitted by the system, the specified service, or the specified interface.
Discarded	The total number of CSFB (Circuit Switched Fallback) - resume notification messages that were discarded.

Field	Description
No Rsp RX	The total number of CSFB (Circuit Switched Fallback) - resume notification messages for which no response was received.
Retrans RX	The total number of retransmitted CSFB (Circuit Switched Fallback) - resume notification messages received by this system, the specified service, or the specified interface.
Resume Acknowledge	
Initial TX Accepted Denied	The total number of CSFB - initially transmitted resume acknowledge messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of CSFB (Circuit Switched Fallback) - resume acknowledge messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of CSFB - initially transmitted resume acknowledge messages received by the system, the specified service, or the specified interface. Accepted and Denied display the total number of CSFB (Circuit Switched Fallback) - resume acknowledge messages sent by the system, the specified service, or the specified interface.
Discarded	The total number of CSFB (Circuit Switched Fallback) - resume acknowledge messages that were discarded.
Total Signalling Packets	
TX	The total number of signalling packets sent by the system, the specified service, or the specified interface.
RX	The total number of signalling packets received by the system, the specified service, or the specified interface.
Total Signalling Bytes	
TX	The total number of signalling bytes sent by the system, the specified service, or the specified interface.
RX	The total number of signalling bytes received by the system, the specified service, or the specified interface.
Control Request Messages	
Initial TX	The total number of control request messages sent by the system, the specified service, or the specified interface.
Retrans TX	The total number of control request retransmitted messages sent by the system, the specified service, or the specified interface.
Initial RX	The total number of control request messages received by the system, the specified service, or the specified interface.
Discarded	The total number of control request messages that were discarded.

Field	Description
No Response RX	The total number of control request messages that are not received.
Control Response Messages	
Initial TX Accepted Denied	The total number of control response messages sent by the system, the specified service, or the specified interface. Accepted and Denied display the total number of control response messages sent by the system, the specified service, or the specified interface.
Retrans TX	The total number of control response retransmitted messages sent by the system, the specified service, or the specified interface.
Initial RX Accepted Denied	The total number of control response messages received by the system, the specified service, or the specified interface. Accepted and Denied display the of control response messages received by the system, the specified service, or the specified interface.
Discarded	The total number of control response messages that were discarded.
Retrans RX	The total number of control response messages received by this system, the specified service, or the specified interface.
Load Control Information TX	
No of times Load Control info TX	The total number of times that Load Control information has been transmitted to a peer or peers for any reason.
Accepted	The total number of times that load control information has been sent to the peer node. This statistic is also subdivided into: • Homer: The total number of times that load control information has been sent to the home PLMN. • Non Homer: The total number of times that load control information has been sent to the visited PLMN.
Ignored	The total number of times that this node ignored load control information and the load control information was not sent to the peer node. This statistic is also subdivided into: • Homer: The total number of times that load control info was Ignored and not sent to the home PLMN. • Non Homer: The total number of times that load control info was ignored and not sent to visited PLMN. • No config: The total number of times that the node ignored load control information because there is no load control association configured. • Wrong Sequence Number: The total number of times the node ignored load control information due to an incorrect sequence number.

Field	Description
Current Load Factor	The currently configured load control factor, as a percentage of 100.
Sequence Number	Indicates the current unique sequence number that will be sent to the peer along with the load control information element.
Overload Control Information TX	
No of times Overload Control info TX	The total number of times Overload Control information has been transmitted to a peer or peers.
Accepted	The total number of times that overload control information has been sent to the peer node. This statistic is also subdivided into: • Homer: The total number of times that overload control information has been sent to the home PLMN. • Non Homer: The total number of times that overload control information has been sent to the visited PLMN.
Ignored	The total number of times that this node ignored overload control information and overload control information was not sent to the peer node. This statistic is also subdivided into: • Total number of times that overload control info was Ignored and not sent to home PLMN. • Non Homer: Total number of times that overload control info was Ignored and not sent to visited PLMN. • No config: Total number of times that the node ignored overload control information because there is no load control configuration association on this node. • Wrong Sequence Number: Total number of times this node ignored overload control information due to an incorrect sequence number.
Current Overload Factor	The currently configured overload factor, as a percentage of 100.
Current Overload Reduction Metric	The overload reduction metric configured on the node. This metric is sent to the peer node for load balancing purposes.
Sequence Number	Indicates the current unique sequence number that will be sent to the peer along with the overload control information element.
Validity Period(Secs)	The currently configured validity period. This value indicates how long the overload control information is considered valid.
No of times Overload Threshold Reached	The total number of times the overload threshold has been reached on this node. This is based on how many times the node has reached the overload condition that is configured with **self-protection-limit** command.

Field	Description
Number of Messages Throttled	The total number of transmitted messages throttled due to the node signaling that it has reached its overload control limit and has been instructed by the peer node to reduce its signaling. This statistic is further subdivided into: • Message group 1: Total number of messages throttled in **group1** as configured via the **message-prioritization** command. • Message group 2: Total number of messages throttled in **group2** as configured via the **message-prioritization** command. • Self Protection: The total number of messages throttled due to the node being in self-protection mode and cannot handle any new messages.
Number of Messages Accepted in Self Protection	The total number of messages accepted in self-protection mode for any reason. This statistic is further subdivided into: • APN level: The total number of messages accepted in self-protection mode for the configured APN level(s). • EARP level: The total number of messages accepted in self-protection mode for the configured EARP level(s).
Load Control Information RX	
No of times Load Control info RX	The total number of times that Load Control information has been received from a peer for any reason.
Accepted	The total number of times that load control information has been received from the peer node. This statistic is also subdivided into: • Homer: The total number of times that load control information has been received from the home PLMN. • Non Homer: The total number of times that load control information has been received from the visited PLMN.
Ignored	The total number of times that this node ignored load control information and the load control information was not received from the peer node. This statistic is also subdivided into: • Homer: The total number of times that load control info was Ignored and not received from the home PLMN. • Non Homer: The total number of times that load control info was ignored and not received from the visited PLMN. • No config: The total number of times that the node ignored load control information received because there is no load control association configured. • Wrong Sequence Number: The total number of times the node ignored load control information received due to an incorrect sequence number.
Current Load Factor	The currently configured load control factor, as a percentage of 100.
Sequence Number	Indicates the current unique sequence number that will be received from the peer along with the load control information element.
Overload Control Information RX	

Field	Description
No of times Overload Control info TX	The total number of times Overload Control information has been received from a peer for any reason.
Accepted	The total number of times that overload control information has been received from a peer node. This statistic is also subdivided into: • Homer: The total number of times that overload control information has been received from the home PLMN. • Non Homer: The total number of times that overload control information has been received from the visited PLMN.
Ignored	The total number of times that this node ignored overload control information and overload control information was not received from the peer node. This statistic is also subdivided into: • Total number of times that overload control info was ignored and not received from the home PLMN. • Non Homer: Total number of times that overload control info was ignored and not received by the visited PLMN. • No config: Total number of times that the node ignored received overload control information because there was no load control configuration association on the node. • Wrong Sequence Number: Total number of times this node ignored overload control information due to an incorrect sequence number.
Current Overload Factor	The currently configured overload factor, as a percentage of 100.
Current Overload Reduction Metric	The overload reduction metric configured on the node. This metric is sent to the peer node for load balancing purposes.
Sequence Number	Indicates the current unique sequence number that will be sent to the peer along with the overload control information element.
Validity Period(Secs)	The currently configured validity period. This value indicates how long the overload control information is considered valid.
No of times Overload Threshold Reached	The total number of times the overload threshold has been reached on this node. This is based on how many times the node has reached the overload condition that is configured with **self-protection-limit** command.
Number of Messages Throttled	The total number of received messages throttled due to the node signaling that it has reached its overload control limit and has been instructed by the peer node to reduce its signaling. This statistic is further subdivided into: • Message group 1: Total number of messages throttled in **group1** as configured via the **message-prioritization** command. • Message group 2: Total number of messages throttled in **group2** as configured via the **message-prioritization** command. • Self Protection: The total number of messages throttled due to the node being in self-protection mode and cannot handle any new messages.

Field	Description
Number of Messages Accepted in Self Protection	The total number of messages accepted in self-protection mode for any reason. This statistic is further subdivided into: • APN level: The total number of messages accepted in self-protection mode for the configured APN level(s). • EARP level: The total number of messages accepted in self-protection mode for the configured EARP level(s).

show egtpc statistics verbose

3GPP Release 9, 29.274

The **show egtpc statistics verbose** command includes all of the data provided in the **show egtpc statistics** command and appends detailed rejection statistics for the following call request/response/notification denials [3GPP Release 9, 29.274]:

- Reject Statistics
- Modify Bearer Request Denied
- Delete Bearer Request Denied
- Delete Session Request Denied
- Downlink Data Notification Denied
- Release Access Bearers Denied
- Create Bearer Denied
- Update Bearer Denied
- Delete Bearer Command Denied
- Modify Bearer Command Denied
- Bearer Resource Command Denied
- Create Indirect Data Forwarding Tunnel Request Denied
- Delete Indirect Data Forwarding Tunnel Request Denied
- Change Notification Request Denied
- Context Request Denied
- Context Response Denied
- Identification Request Denied
- Forward Relocation Request Denied
- Forward Access Context Notification Denied
- Forward Relocation Complete Notification Denied
- Relocation Cancel Request Denied
- Suspend Notification Denied
- Resume Notification Denied

The table below lists and describes the transmit and receive parameters output for all of the call denials listed above.

Table 274: show egtpc statistics verbose Command Output Descriptions -- 3GPP Release 9, 29.274

Field	Description
Context not existent TX	The total number of Context Does Not Exist messages sent by this system, the specified service, or the specified interface.
Context not existent RX	The total number of Context Does Not Exist messages received by this system, the specified service, or the specified interface.
Invalid message format TX	The total number of Invalid Message Format messages sent by the system, the specified service, or the specified interface.
Invalid message format RX	The total number of Invalid Message Format messages received by the system, the specified service, or the specified interface.
Version not supported TX	The total number of Version Not Supported messages sent by the system, the specified service, or the specified interface.
Version not supported RX	The total number of Version Not Supported messages received by this system, the specified service, or the specified interface.
Invalid length TX	The total number of Invalid Length messages sent by the system, the specified service, or the specified interface.
Invalid length RX	The total number of Invalid Length messages received by this system, the specified service, or the specified interface.
Mandatory IE incorrect TX	The total number of Mandatory IE (Information Element) Incorrect messages sent by the system, the specified service, or the specified interface.
Mandatory IE incorrect RX	The total number of Mandatory IE Incorrect messages received by this system, the specified service, or the specified interface.
Mandatory IE missing TX	The total number of Mandatory IE Missing messages sent by the system, the specified service, or the specified interface.
Mandatory IE missing RX	The total number of Mandatory IE Missing messages received by this system, the specified service, or the specified interface.
System failure TX	The total number of System Failure messages sent by the system, the specified service, or the specified interface.
System failure RX	The total number of System Failure messages received by this system, the specified service, or the specified interface.
No resources available TX	The total number of No Resources Available messages sent by the system, the specified service, or the specified interface.
No resources available RX	The total number of No Resources Available messages received by the system, the specified service, or the specified interface.
Semantic error in TFT TX	The total number of Semantic Error in TFT (Traffic Flow Template) messages sent by the system, the specified service, or the specified interface.

Field	Description
Semantic error in TFT RX	The total number of Semantic Error in TFT messages received by this system, the specified service, or the specified interface.
Syntactic error in TFT TX	The total number of Syntactic Error in TFT messages sent by the system, the specified service, or the specified interface.
Syntactic error in TFT RX	The total number of Syntactic Error in TFT messages received by this system, the specified service, or the specified interface.
Semantic error in Pkt Fltr TX	The total number of Semantic Error in Packet Filtering messages sent by the system, the specified service, or the specified interface.
Semantic error in Pkt Fltr RX	The total number of Semantic Error in Packet Filtering messages received by this system, the specified service, or the specified interface.
Syntactic error in Pkt Fltr TX	The total number of Syntactic Error in Packet Filtering messages sent by the system, the specified service, or the specified interface.
Syntactic error in Pkt Fltr RX	The total number of Syntactic Error in Packet Filtering messages received by this system, the specified service, or the specified interface.
Missing or unknown APN TX	The total number of Missing or Unknown APN (Access Point number) messages sent by the system, the specified service, or the specified interface.
Missing or unknown APN RX	The total number of Missing or Unknown APN messages received by this system, the specified service, or the specified interface.
GRE key not found TX	The total number of GRE (Generic Routing Encapsulation) Key Not Found messages sent by the system, the specified service, or the specified interface.
GRE key not found RX	The total number of GRE Key Not Found messages received by this system, the specified service, or the specified interface.
Reallocation failure TX	The total number of Reallocation Failure messages sent by the system, the specified service, or the specified interface.
Reallocation failure RX	The total number of Reallocation Failure messages received by this system, the specified service, or the specified interface.
Denied in RAT TX	The total number of Denied in RAT (Radio Access Technology) messages sent by the system, the specified service, or the specified interface.
Denied in RAT RX	The total number of Denied in RAT messages received by this system, the specified service, or the specified interface.
Pref. PDN type unsupported TX	The total number of Preferred PDN Type Unsupported messages sent by the system, the specified service, or the specified interface.
Pref. PDN type unsupported RX	The total number of Preferred PDN Type Unsupported messages received by this system, the specified service, or the specified interface.
All dynamic addr occupied TX	The total number of All Dynamic Addresses Occupied messages sent by the system, the specified service, or the specified interface.

Field	Description
All dynamic addr occupied RX	The total number of All Dynamic Addresses Occupied messages received by this system, the specified service, or the specified interface.
UE ctx w/o TFT activated TX	The total number of UE Context without TFT (Traffic Flow Template) Already Activated messages sent by the system, the specified service, or the specified interface.
UE ctx w/o TFT activated RX	The total number of UE Context without TFT Already Activated messages received by this system, the specified service, or the specified interface.
Prot type not supported TX	The total number of Protocol Type Not Supported messages sent by the system, the specified service, or the specified interface.
Prot type not supported RX	The total number of Protocol Type Not Supported messages received by this system, the specified service, or the specified interface.
UE not responding TX	The total number of UE (User Equipment) Not Responding messages sent by the system, the specified service, or the specified interface.
UE not responding RX	The total number of UE Not Responding messages received by this system, the specified service, or the specified interface.
UE refuses TX	The total number of UE Refuses messages sent by the system, the specified service, or the specified interface.
UE refuses RX	The total number of UE Refuses messages received by this system, the specified service, or the specified interface.
Service denied TX	The total number of Service Denied messages sent by the system, the specified service, or the specified interface.
Service denied RX	The total number of Service Denied messages received by this system, the specified service, or the specified interface.
Unable to page UE TX	The total number of Unable to Page UE (User Equipment) messages sent by the system, the specified service, or the specified interface.
Unable to page UE RX	The total number of Unable to Page UE messages received by this system, the specified service, or the specified interface.
No Memory TX	The total number of No Memory messages sent by the system, the specified service, or the specified interface.
No Memory RX	The total number of No Memory messages received by this system, the specified service, or the specified interface.
User Auth Failed TX	The total number of User Authentication Failed messages sent by the system, the specified service, or the specified interface.
User Auth Failed RX	The total number of User Authentication Failed messages received by this system, the specified service, or the specified interface.

Field	Description
Apn Access Denied TX	The total number of APN (Access Point Number) Access Denied messages sent by the system, the specified service, or the specified interface.
Apn Access Denied RX	The total number of APN Access Denied messages received by this system, the specified service, or the specified interface.
Request Rejected TX	The total number of Request Rejected messages sent by the system, the specified service, or the specified interface.
Request Rejected RX	The total number of Request Rejected messages received by this system, the specified service, or the specified interface.
Semantic error in TAD TX	The total number of Semantic Error in TAD (Traffic Aggregate Description) messages sent by the system, the specified service, or the specified interface.
Semantic error in TAD RX	The total number of Semantic Error in TAD messages received by this system, the specified service, or the specified interface.
Syntactic error in TAD TX	The total number of Syntactic Error in TAD messages sent by the system, the specified service, or the specified interface.
Syntactic error in TAD RX	The total number of Syntactic Error in TAD messages received by this system, the specified service, or the specified interface.
Collision with Nw init Req TX	The total number of Collision with Network Initiated Request messages sent by the system, the specified service, or the specified interface.
Collision with Nw init Req RX	The total number of Collision with Network Initiated Request messages received by this system, the specified service, or the specified interface.
UE page unable due to Susp TX	The total number of Unable to Page UE (User Equipment) Due to Suspension messages sent by the system, the specified service, or the specified interface.
UE page unable due to Susp RX	The total number of Unable to Page UE Due to Suspension messages received by this system, the specified service, or the specified interface.
Conditional IE missing TX	The total number of Conditional IE (Information Element) Missing messages sent by the system, the specified service, or the specified interface.
Conditional IE missing RX	The total number of Conditional IE Missing messages received by this system, the specified service, or the specified interface.
Apn Restr Type Incompatible TX	The total number of APN (Access Point Number) Restriction Type Incompatible with Currently Active PDN Connection messages sent by the system, the specified service, or the specified interface.
Apn Restr Type Incompatible RX	The total number of APN Restriction Type Incompatible with Currently Active PDN Connection messages received by this system, the specified service, or the specified interface.
Invalid len Piggybacked msg TX	The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages sent by the system, the specified service, or the specified interface.

Field	Description
Invalid len Piggybacked msg RX	The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages received by this system, the specified service, or the specified interface.
Invalid remote Peer reply TX	The total number of Invalid Reply from Remote Peer messages sent by the system, the specified service, or the specified interface.
Invalid remote Peer reply RX	The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface.
PTMSI signature mismatch TX	The total number of PTMSI (Packet Temporary Mobile Subscriber Identity) Signature Mismatch messages sent by the system, the specified service, or the specified interface.
PTMSI signature mismatch RX	The total number of PTMSI Signature Mismatch messages received by this system, the specified service, or the specified interface.
IMSI not Known TX	The total number of IMSI (International Mobile Subscriber Identity) Not Known messages sent by the system, the specified service, or the specified interface.
IMSI not Known RX	The total number of IMSI Not Known messages received by this system, the specified service, or the specified interface.
Peer not responding TX	The total number of Remote Peer Not Responding messages sent by the system, the specified service, or the specified interface.
Peer not responding RX	The total number of Remote Peer Not Responding messages received by this system, the specified service, or the specified interface.
Data Fwding not supported TX	The total number of Data Forwarding Not Supported messages sent by the system, the specified service, or the specified interface.
Data Fwding not supported RX	The total number of Data Forwarding Not Supported messages received by this system, the specified service, or the specified interface.
Fallback to GTPV1 TX	The total number of Fallback to GTPv1 messages sent by the system, the specified service, or the specified interface.
Fallback to GTPV1 RX	The total number of Fallback to GTPv1 messages received by this system, the specified service, or the specified interface.
Invalid Peer TX	The total number of Invalid Reply from Remote Peer messages sent by the system, the specified service, or the specified interface.
Invalid Peer RX	The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface.
Temp Rej due to HO in prog TX	The total number of Temporarily Rejected Due to Handover Procedure in Progress messages sent by the system, the specified service, or the specified interface.

Field	Description
Temp Rej due to HO in prog RX	The total number of Temporarily Rejected Due to Handover Procedure in Progress messages received by this system, the specified service, or the specified interface.
GTPC Entity Congestion TX	The number of times this peer has transmitted an overload condition indication to a peer.
GTPC Entity Congestion RX	The number of times this node has received an overload condition indication from a peer.
Unknown TX	The total number of Unknown (unspecified rejection cause) messages sent by the system, the specified service, or the specified interface.
Unknown RX	The total number of Unknown (unspecified rejection cause) messages received by this system, the specified service, or the specified interface.

SRVCC Messages

The **show egtpc statistics verbose**command includes all of the data provided in the **show egtpc statistics** command, and appends the detailed rejection statistics as described in the table above as well the following statist is tics for SRVCC (Single Radio Voice Call Continuity) requests and notifications:

- PS to CS Request Denied [RX only]
- PS to CS Complete Notification Denied [TX only]
- PS to CS Cancel Notification Denied [RX only]

Table 275: show egtpc statistics verbose Command Output Descriptions -- SRVCC Messages

Field	Description
PS to CS Request Denied [RX only]	
Context not existent RX	The total number of Context Does Not Exist messages received by this system, the specified service, or the specified interface.
Invalid message format RX	The total number of Invalid Message Format messages received by this system, the specified service, or the specified interface.
Version not supported RX	The total number of Version Not Supported messages received by this system, the specified service, or the specified interface.
Invalid length RX	The total number of Invalid Length messages received by this system, the specified service, or the specified interface.
Service not supported	The total number of Service not Supported messages received by this system, the specified service, or the specified interface.
Mandatory IE incorrect RX	The total number of Mandatory IE Incorrect messages received by this system, the specified service, or the specified interface.

Field	Description
Mandatory IE missing RX	The total number of Mandatory IE Missing messages received by this system, the specified service, or the specified interface.
System failure RX	The total number of System Failure messages received by this system, the specified service, or the specified interface.
No resources available RX	The total number of No Resources Available messages received by the system, the specified service, or the specified interface.
Semantic error in TFT RX	The total number of Semantic Error in TFT (Traffic Flow Template) messages received by this system, the specified service, or the specified interface.
Syntactic error in TFT RX	The total number of Syntactic Error in TFT messages received by this system, the specified service, or the specified interface.
Semantic error in Pkt Fltr RX	The total number of Semantic Error in Packet Filtering messages received by this system, the specified service, or the specified interface.
Syntactic error in Pkt Fltr RX	The total number of Syntactic Error in Packet Filtering messages received by this system, the specified service, or the specified interface.
Missing or unknown APN RX	The total number of Missing or Unknown APN (Access Point number) messages received by this system, the specified service, or the specified interface.
GRE key not found RX	The total number of GRE (Generic Routing Encapsulation) Key Not Found messages received by this system, the specified service, or the specified interface.
Reallocation failure RX	The total number of Reallocation Failure messages received by this system, the specified service, or the specified interface.
Denied in RAT RX	The total number of Denied in RAT (Radio Access Technology) messages received by this system, the specified service, or the specified interface.
Pref. PDN type unsupported RX	The total number of Preferred PDN Type Unsupported messages received by this system, the specified service, or the specified interface.
All dynamic addr occupied RX	The total number of All Dynamic Addresses Occupied messages received by this system, the specified service, or the specified interface.
UE ctx w/o TFT activated RX	The total number of UE (User Equipment) Context without TFT Already Activated messages received by this system, the specified service, or the specified interface.
Prot type not supported RX	The total number of Protocol Type Not Supported messages received by this system, the specified service, or the specified interface.
UE not responding RX	The total number of UE (User Equipment) Not Responding messages received by this system, the specified service, or the specified interface.
UE refuses RX	The total number of UE Refuses messages received by this system, the specified service, or the specified interface.

Field	Description
Service denied RX	The total number of Service Denied messages received by this system, the specified service, or the specified interface.
Unable to page UE RX	The total number of Unable to Page UE messages received by this system, the specified service, or the specified interface.
No Memory RX	The total number of No Memory messages received by this system, the specified service, or the specified interface.
User Auth Failed RX	The total number of User Authentication Failed messages received by this system, the specified service, or the specified interface.
Apn Access Denied RX	The total number of APN (Access Point Number) Access Denied messages received by this system, the specified service, or the specified interface.
Request Rejected RX	The total number of Request Rejected messages received by this system, the specified service, or the specified interface.
Semantic error in TAD RX	The total number of Semantic Error in TAD (Traffic Aggregate Description) messages received by this system, the specified service, or the specified interface.
Syntactic error in TAD RX	The total number of Syntactic Error in TAD messages received by this system, the specified service, or the specified interface.
Collision with Nw init Req RX	The total number of Collision with Network Initiated Request messages received by this system, the specified service, or the specified interface.
UE page unable due to Susp RX	The total number of Unable to Page UE Due to Suspension messages received by this system, the specified service, or the specified interface.
Conditional IE missing RX	The total number of Conditional IE Missing messages received by this system, the specified service, or the specified interface.
Apn Restr Type Incompatible RX	The total number of APN (Access Point Name) Restriction Type Incompatible with Currently Active PDN Connection messages sent by the system, the specified service, or the specified interface.
Invalid len Piggybacked msg RX	The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages received by this system, the specified service, or the specified interface.
Invalid remote Peer reply RX	The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface.
PTMSI signature mismatch RX	The total number of PTMSI (Packet Temporary Mobile Subscriber Identity) Signature Mismatch messages received by this system, the specified service, or the specified interface.
IMSI not Known RX	The total number of IMSI (International Mobile Subscriber Identity) Not Known messages received by this system, the specified service, or the specified interface.

Field	Description
Peer not responding RX	The total number of Remote Peer Not Responding messages received by this system, the specified service, or the specified interface.
Data Fwding not supported RX	The total number of Data Forwarding Not Supported messages received by this system, the specified service, or the specified interface.
Fallback to GTPV1 RX	The total number of Fallback to GTPv1 messages received by this system, the specified service, or the specified interface.
Invalid Peer RX	The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface.
Temp Rej due to HO in prog RX	The total number of Temporarily Rejected Due to Handover Procedure in Progress messages received by this system, the specified service, or the specified interface.
GTPC Entity Congestion RX	The number of times this node has received an overload condition indication from a peer.
Unknown RX	The total number of Unknown (unspecified rejection cause) messages received by this system, the specified service, or the specified interface.
PS to CS Complete Notification Denied [TX only]	
Context not existent TX	The total number of Context Does Not Exist messages sent by this system, the specified service, or the specified interface.
Invalid message format TX	The total number of Invalid Message Format messages sent by the system, the specified service, or the specified interface.
Version not supported TX	The total number of Version Not Supported messages sent by the system, the specified service, or the specified interface.
Invalid length TX	The total number of Invalid Length messages sent by the system, the specified service, or the specified interface.
Mandatory IE incorrect TX	The total number of Mandatory IE (Information Element) Incorrect messages sent by the system, the specified service, or the specified interface.
Mandatory IE missing TX	The total number of Mandatory IE Missing messages sent by the system, the specified service, or the specified interface.
System failure TX	The total number of System Failure messages sent by the system, the specified service, or the specified interface.
No resources available TX	The total number of No Resources Available messages sent by the system, the specified service, or the specified interface.
Semantic error in TFT TX	The total number of Semantic Error in TFT (Traffic Flow Template) messages sent by the system, the specified service, or the specified interface.
Syntactic error in TFT TX	The total number of Syntactic Error in TFT messages sent by the system, the specified service, or the specified interface.

Field	Description
Semantic error in Pkt Fltr TX	The total number of Semantic Error in Packet Filtering messages sent by the system, the specified service, or the specified interface.
Syntactic error in Pkt Fltr TX	The total number of Syntactic Error in Packet Filtering messages sent by the system, the specified service, or the specified interface.
Missing or unknown APN TX	The total number of Missing or Unknown APN (Access Point number) messages sent by the system, the specified service, or the specified interface.
GRE key not found TX	The total number of GRE (Generic Routing Encapsulation) Key Not Found messages sent by the system, the specified service, or the specified interface.
Reallocation failure TX	The total number of Reallocation Failure messages sent by the system, the specified service, or the specified interface.
Denied in RAT TX	The total number of Denied in RAT (Radio Access Technology) messages sent by the system, the specified service, or the specified interface.
Pref. PDN type unsupported TX	The total number of Preferred PDN Type Unsupported messages sent by the system, the specified service, or the specified interface.
All dynamic addr occupied TX	The total number of All Dynamic Addresses Occupied messages sent by the system, the specified service, or the specified interface.
UE ctx w/o TFT activated TX	The total number of UE Context without TFT (Traffic Flow Template) Already Activated messages sent by the system, the specified service, or the specified interface.
Prot type not supported TX	The total number of Protocol Type Not Supported messages sent by the system, the specified service, or the specified interface.
UE not responding TX	The total number of UE (User Equipment) Not Responding messages sent by the system, the specified service, or the specified interface.
UE refuses TX	The total number of UE Refuses messages sent by the system, the specified service, or the specified interface.
Service denied TX	The total number of Service Denied messages sent by the system, the specified service, or the specified interface.
Unable to page UE TX	The total number of Unable to Page UE (User Equipment) messages sent by the system, the specified service, or the specified interface.
No Memory TX	The total number of No Memory messages sent by the system, the specified service, or the specified interface.
User Auth Failed TX	The total number of User Authentication Failed messages sent by the system, the specified service, or the specified interface.
Apn Access Denied TX	The total number of APN (Access Point Number) Access Denied messages sent by the system, the specified service, or the specified interface.

Field	Description
Request Rejected TX	The total number of Request Rejected messages sent by the system, the specified service, or the specified interface.
Semantic error in TAD TX	The total number of Semantic Error in TAD (Traffic Aggregate Description) messages sent by the system, the specified service, or the specified interface.
Syntactic error in TAD TX	The total number of Syntactic Error in TAD messages sent by the system, the specified service, or the specified interface.
Collision with Nw init Req TX	The total number of Collision with Network Initiated Request messages sent by the system, the specified service, or the specified interface.
UE page unable due to Susp TX	The total number of Unable to Page UE (User Equipment) Due to Suspension messages sent by the system, the specified service, or the specified interface.
Conditional IE missing TX	The total number of Conditional IE (Information Element) Missing messages sent by the system, the specified service, or the specified interface.
Apn Restr Type Incompatible TX	The total number of APN (Access Point Number) Restriction Type Incompatible with Currently Active PDN Connection messages sent by the system, the specified service, or the specified interface.
Invalid len Piggybacked msg TX	The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages sent by the system, the specified service, or the specified interface.
Invalid remote Peer reply TX	The total number of Invalid Reply from Remote Peer messages sent by the system, the specified service, or the specified interface.
PTMSI signature mismatch TX	The total number of PTMSI (Packet Temporary Mobile Subscriber Identity) Signature Mismatch messages sent by the system, the specified service, or the specified interface.
IMSI not Known TX	The total number of IMSI (International Mobile Subscriber Identity) Not Known messages sent by the system, the specified service, or the specified interface.
Peer not responding TX	The total number of Remote Peer Not Responding messages sent by the system, the specified service, or the specified interface.
Data Fwding not supported TX	The total number of Data Forwarding Not Supported messages sent by the system, the specified service, or the specified interface.
Fallback to GTPV1 TX	The total number of Fallback to GTPv1 messages sent by the system, the specified service, or the specified interface.
Invalid Peer TX	The total number of Invalid Reply from Remote Peer messages sent by the system, the specified service, or the specified interface.
Temp Rej due to HO in prog TX	The total number of Temporarily Rejected Due to Handover Procedure in Progress messages sent by the system, the specified service, or the specified interface.

Field	Description
GTPC Entity Congestion TX	The number of times this node has transmitted and overload condition indication to a peer.
Unknown TX	The total number of Unknown (unspecified rejection cause) messages sent by the system, the specified service, or the specified interface.
PS to CS Cancel Notification Denied [RX only]	
Context not existent RX	The total number of Context Does Not Exist messages received by this system, the specified service, or the specified interface.
Invalid message format RX	The total number of Invalid Message Format messages received by the system, the specified service, or the specified interface.
Version not supported RX	The total number of Version Not Supported messages received by this system, the specified service, or the specified interface.
Invalid length RX	The total number of Invalid Length messages received by this system, the specified service, or the specified interface.
Mandatory IE incorrect RX	The total number of Mandatory IE (Information Element) Incorrect messages received by this system, the specified service, or the specified interface.
Mandatory IE missing RX	The total number of Mandatory IE Missing messages received by this system, the specified service, or the specified interface.
System failure RX	The total number of System Failure messages received by this system, the specified service, or the specified interface.
No resources available RX	The total number of No Resources Available messages received by the system, the specified service, or the specified interface.
Semantic error in TFT RX	The total number of Semantic Error in TFT (Traffic Flow Template) messages received by this system, the specified service, or the specified interface.
Syntactic error in TFT RX	The total number of Syntactic Error in TFT messages received by this system, the specified service, or the specified interface.
Semantic error in Pkt Fltr RX	The total number of Semantic Error in Packet Filtering messages received by this system, the specified service, or the specified interface.
Syntactic error in Pkt Fltr RX	The total number of Syntactic Error in Packet Filtering messages received by this system, the specified service, or the specified interface.
Missing or unknown APN RX	The total number of Missing or Unknown APN (Access Point Number) messages received by this system, the specified service, or the specified interface.
GRE key not found RX	The total number of GRE Key Not Found messages received by this system, the specified service, or the specified interface.
Reallocation failure RX	The total number of Reallocation Failure messages received by this system, the specified service, or the specified interface.

Field	Description
Denied in RAT RX	The total number of Denied in RAT (Radio Access Technology) messages received by this system, the specified service, or the specified interface.
Pref. PDN type unsupported RX	The total number of Preferred PDN Type Unsupported messages received by this system, the specified service, or the specified interface.
All dynamic addr occupied RX	The total number of All Dynamic Addresses Occupied messages received by this system, the specified service, or the specified interface.
UE ctx w/o TFT activated RX	The total number of UE (User Equipment) Context without TFT Already Activated messages received by this system, the specified service, or the specified interface.
Prot type not supported RX	The total number of Protocol Type Not Supported messages received by this system, the specified service, or the specified interface.
UE not responding RX	The total number of UE Not Responding messages received by this system, the specified service, or the specified interface.
UE refuses RX	The total number of UE Refuses messages received by this system, the specified service, or the specified interface.
Service denied RX	The total number of Service Denied messages received by this system, the specified service, or the specified interface.
Unable to page UE RX	The total number of Unable to Page UE (User Equipment) messages received by this system, the specified service, or the specified interface.
No Memory RX	The total number of No Memory messages received by this system, the specified service, or the specified interface.
User Auth Failed RX	The total number of User Authentication Failed messages received by this system, the specified service, or the specified interface.
Apn Access Denied RX	The total number of APN (Access Point Name) Access Denied messages received by this system, the specified service, or the specified interface.
Request Rejected RX	The total number of Request Rejected messages received by this system, the specified service, or the specified interface.
Semantic error in TAD RX	The total number of Semantic Error in TAD (Traffic Aggregate Description) messages received by this system, the specified service, or the specified interface.
Syntactic error in TAD RX	The total number of Syntactic Error in TAD messages received by this system, the specified service, or the specified interface.
Collision with Nw init Req RX	The total number of Collision with Network Initiated Request messages received by this system, the specified service, or the specified interface.
UE page unable due to Susp RX	The total number of Unable to Page UE Due to Suspension messages received by this system, the specified service, or the specified interface.

Field	Description
Conditional IE missing RX	The total number of Conditional IE Missing messages received by this system, the specified service, or the specified interface.
Apn Restr Type Incompatible RX	The total number of APN Restriction Type Incompatible with Currently Active PDN Connection messages sent by the system, the specified service, or the specified interface.
Invalid len Piggybacked msg RX	The total number of Invalid Overall Length of the Triggered Response Message and a Piggybacked Initial Message messages received by this system, the specified service, or the specified interface.
Invalid remote Peer reply RX	The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface.
PTMSI signature mismatch RX	The total number of PTMSI (Packet Temporary Mobile Subscriber Identity) Signature Mismatch messages received by this system, the specified service, or the specified interface.
IMSI not Known RX	The total number of IMSI (International Mobile Subscriber Identity) Not Known messages received by this system, the specified service, or the specified interface.
Peer not responding RX	The total number of Remote Peer Not Responding messages received by this system, the specified service, or the specified interface.
Data Fwding not supported RX	The total number of Data Forwarding Not Supported messages received by this system, the specified service, or the specified interface.
Fallback to GTPV1 RX	The total number of Fallback to GTPv1 messages received by this system, the specified service, or the specified interface.
Invalid Peer RX	The total number of Invalid Reply from Remote Peer messages received by this system, the specified service, or the specified interface.
Temp Rej due to HO in prog RX	The total number of Temporarily Rejected Due to Handover Procedure in Progress messages received by this system, the specified service, or the specified interface.
GTPC Entity Congestion RX	The number of times this node has received an overload condition indication from a peer.
Unknown RX	The total number of Unknown (unspecified rejection cause) messages received by this system, the specified service, or the specified interface.

IMSI/IMEI Statistics

The **show egtpc statistics verbose**command includes all of the data provided in the **show egtpc statistics** command, and appends the detailed rejection statistics and statist is tics for SRVCC requests and notifications, as described in the tables above. In addition, it tracks PDN session handling for invalid IMEI and IMSI-less devices.

Table 276: show egtpc statistics verbose Command Output Descriptions -- IMSI/IMEI Statistics

Field	Description
IMSI/IMEI Statistics:	
IMSI Invalid Length	The total number of IMSI with invalid length.
IMSI All Zero	The total number of invalid value IMSI with all 0 content.
IMSI Not BCD	The total number of invalid IMSI with value violating 3GPP defined format.
IMEI Invalid Length	The total number of valid IMSI but Invalid IMEI with Protocol violations.
IMEI All Zero	The total number of valid IMSI but Invalid value IMEI with all 0 content.
IMEI Not BCD	The total number of valid IMSI but Invalid IMEI with value violating 3GPP defined format.
IMEI All Zero (unauthenticated imsi)	The total number of Emergency PDN connections with missing IMSI and invalid value IMEI with all 0 content.
IMEI Not BCD (unauthenticated imsi)	The total number of Emergency PDN connections with missing IMSI and Invalid IMEI with value violating 3GPP defined format.
IMEI All Zero (unauthenticated imsi and context replacement)	The total number of Emergency PDN connections with missing IMSI and IMEI session replacements because of invalid value IMEI with all 0 content.
IMEI Not BCD (unauthenticated imsi and context replacement)	The total number of Emergency PDN connections with missing IMSI and IMEI session replacements because of invalid IMEI with value violating 3GPP defined format.

Collision Counter Support in the GTP Layer

GTPv2 message collisions occur in the network when a node is expecting a particular procedure message from a peer node but instead receives a different procedure message from the peer. The SAEGW software has been enhanced so that these collisions are now tracked by statistics and handled based on a pre-defined action for each message collision type.

If the SAEGW is configured as a pure P-GW or a pure S-GW, operators will still see the respective collision statistics if they occur.

The output of this command has been enhanced to provide information on GTPv2 message collisions, including:

- **Interface**: The interface on which the collision occurred: SGW (S4/S11), SGW (S5), or PGW (S5).
- **Old Proc (Msg Type)**: Indicates the ongoing procedure at eGTP-C when a new message arrived at the interface which caused the collision. The Msg Type in brackets specifies which message triggered this ongoing procedure.
- **New Proc (Msg Type)**: The new procedure and message type.
- **Action**: The pre-defined action taken to handle the collision. The action can be one of:
  - **No Collision Detected**
  - **Suspend Old**: Suspend processing of the original (old) message, process the new message, then resume old message handling.

- **Abort Old**: Abort the original message handling and processes the new message.
- **Reject New**: The new message is rejected, and the original (old) message is processed.
- **Silent Drop New**: Drop the new incoming message, and the old message is processed.
- **Parallel Hndl**: Both the original (old) and new messages are handled in parallel.
- **Buffer New**: The new message is buffered and processed once the original (old) message processing is done.

- **Counter**: The number of times each collision type has occurred.



Important The *Message Collision Statistics* section of the command output only appears if any of the collision statistics have a counter total that is greater than zero.

Sample output:

```
Message Collision Statistics
    Interface      Old Proc (Msg Type)          New Proc (Msg Type)          Action
Counter
      SGW(S5)    NW Init Bearer Create (95)  NW Init PDN Delete (99)  Abort Old    1
```

In this instance, the output states that at the S-GW egress interface (S5) a Bearer creation procedure is going on due to a CREATE BEARER REQUEST(95) message from the P-GW. Before its response comes to the S-GW from the MME, a new procedure PDN Delete is triggered due to a DELETE BEARER REQUEST(99) message from the P-GW.

The action that is carried out due to this collision at eGTP-C is to abort (Abort Old) the Bearer Creation procedure and carry on normally with the PDN Delete procedure. The Counter total of 1 indicates that this collision happened only once.

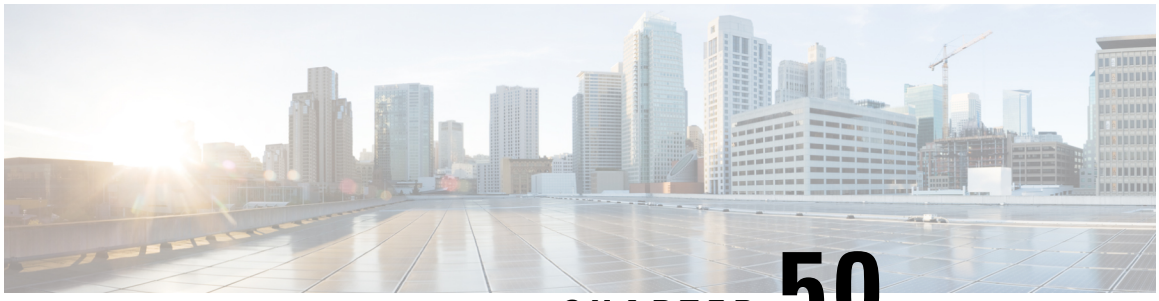
show egtp-service all

Table 277: show egtp service all Command Output Descriptions

Field	Description
Service name	The name of the service configured in the named context.
Service-ID	A system generated ID number applied to the service.
Context	The name of the context where the service is configured.

Field	Description
Interface Type	The type of LTE interface this service is supporting. The following fields are in the output of the show egtp-service all command to accept or reject Create Session Request (CSR) on GTP based S2a and S2b interfaces. • s5/s8 • s2a • s2b **Important** This is a license-controlled feature. A valid feature license must be installed prior to configuring this feature. Contact your Cisco account representative for more information. These fields are only visible if the license is enabled.
Status	The status of the service, i.e., "STARTED".
Restart Counter	Specifies the restart counter.
Max Remote Restart Counter Change	An integer from 1 to 255 that specifies the value configured with the **gtpc max-restart-counter-change** command in *eGTP-C Configuration Mode*. This value represents the counter change after which the node will detect a peer restart. Note that a peer restart will be detected only if the absolute difference between the New and Old restart counters is less than the value configured. For example, if the **max-remote-restart-counter-change** is 10 and current peer restart counter is 251, then eGTP will detect a peer restart only if the new restart counter is 252 through 255 or 0 through 5. Similarly, if the stored restart counter is 1, eGTP will detect a peer restart only if the new restart counter is 2 through 11. The default value is 255.
Message Validation Mode	The type of IE validation to be performed on messages received by this service.
GTPC Retransmission Timeout	The number of seconds between the re-sending of GTP-C echo messages.
GTPC Maximum Request Retransmissions	The number of control packet request message retransmissions that can be sent before an error condition is established.
GTPC IP QOS DSCP value	The IP QoS DSCP per-hop behavior to be marked on the outer header of signalling packets originating from the LTE component.
GTPC Echo	Identifies if GTP-C echo messages will be sent.
GTPC Echo Interval	The duration between the sending of GTP-C echo messages.
GTP-C Bind IPv4 Address	The IPv4 address of the interface to which this service is bound.
GTP-C Bind IPv6 Address	The IPv6 address of the interface to which this service is bound.
GTPC Peer Salvation	Indicates if peer salvation is enabled or disabled.

Field	Description
GTPC path failure detection policy	
Echo Timeout	Indicates if the Echo Timeout failure detection policy is enabled/disabled.
Echo Req/Rsp Restart counter change	Indicates if the Echo Req/Rsp Restart counter failure detection policy is enabled/disabled. If enabled, path failure detection occurs when the restart counter in Echo Request/Echo Response messages changes.
Control Mesg Restart counter change	Indicates if the Control Mesg Restart counter failure detection policy is enabled/disabled. If enabled, path failure detection occurs when the restart counter in Control Request/Control Response messages changes.
Collision handling DBcmd when MBreq pending	The collision handling setting for a Delete Bearer command (DBcmd) message when the Modify Bearer Request (MBreq) message for the default bearer is pending at the P-GW. Possible settings are: • Queue DBcmd: Queue the DBcmd message when the MBreq message is pending. • Drop DBcmd: Drop the DBcmd message when the MBreq message is pending. • Abort MBreq and handle Dbcmd: Abort the MBreq message and handle the DBcmd message.
GTPC Private Extension Overcharging Protection	Indicates if **gtpc private-extension overcharge-protection** is enabled in the egtp-service. If it is enabled, then EGTPC will encode/decode Overcharge-protection related data in/from private extension instead of Indication IE. If this option is disabled, then by default the EGTPC layer will encode/decode Overcharge-protection related data in the Indication IE.
GTPC Node Feature GTPC Lte-M RAT	Displays the node features enabled in this egtpc service. Indicates that if the **allow-Item-rat** type is Enabled or Disabled in the egtp-service.



CHAPTER 50

show epdg-service statistics

•
• show epdg-service statistics, on page 885
• show epdg-service statistics suppress-ir-handover, on page 886
• show epdg-service statistics interworking-5g, on page 886
• show epdg-service name , on page 889
• show epdg-service name *name*, on page 890

show epdg-service statistics

The output of this command is enhanced to display the following fields.

Table 278: show epdg-service statistics Command Output Descriptions

Field	Description
show epdg-service statistics-All ePDG services	
show epdg-service statistics handoff-disc-reasons	Displays the statistics corresponding to LTE to Wi-Fi HO Disconnect reasons for all services.
clear epdg-service statistics handoff-disc-reasons	Removes the statistics corresponding to LTE to Wi-Fi HO Disconnect reasons for all services.
show epdg-service statistics-for Specific ePDG Services	
show epdg-service statistics name <epdg1> handoff-disc-reasons	Displays the statistics corresponding to LTE to Wi-Fi HO Disconnect reasons for specific services.
clear epdg-service statistics name <epdg1> handoff-disc-reasons	Removes the statistics corresponding to LTE to Wi-Fi HO Disconnect reasons for specific services.
show bulkstats variables epdg-handoff-disc	Displays the bulkstats corresponding to LTE to Wi-Fi HO disconnect reasons.

show epdg-service statistics suppress-ir-handover

This section provides information regarding show commands and their outputs for this feature.

show epdg-service statistics suppress-ir-handover

The output of this command includes the following fields:

Fields/Counters	Description
Attempts: 1	Total number of ePDG sessions for which international roaming handoff attempted on international roaming HO suppression supported ePDG.
Success: 1	Total number of ePDG sessions for which international roaming handoff attempts succeeded on international roaming HO suppression supported ePDG.
Failures: 0	Total number of ePDG sessions for which international roaming handoff attempts failed on international roaming HO suppression supported ePDG.
Active: 1	Total number of current active ePDG sessions for which international roaming handoff attempts succeeded on international roaming HO suppression supported ePDG.

show epdg-service statistics interworking-5g

The **show epdg-service statistics interworking-5g** command displays output of Interworking 5G statistics at system-level. The **show epdg-service name** *epdg-service-name* **statistics interworking-5g** command displays output of Interworking 5G statistics for a particular ePDG-service. The **interworking-5g** option is available only with ePDG 5G license.

Table 279: show epdg-service statistics interworking-5g Command Output Descriptions

Field	Description
5G Sessions – Counter for sessions from N1 mode capable UEs	
Attempts	The number of times that ePDG receives a call with N1_mode_capable (PDUSession) from UE.
Setup	The number of times that ePDG receives a call with N1_mode_capable (PDUSession) from UE and that call succeeds.

Field	Description
Failures	The number of times that ePDG receives a call with N1_mode_capable (PDUSession) from UE and that call fails due to some failure reason.
P-GW/SMF selection type – Based on the 5G capability flags and related CLI, the PDN request is forwarded to P-GW or SMF+PGW-IWK	
SMF preferred	The number of times that SMF is chosen for this call, but IWK flag is not set.
SMF only	The number of times that ePDG selects SMF for this call, IWK flag is set, and PDU Session ID is forwarded to SMF.
DNS provided SMF	The number of times that SMF is selected from DNS responses.
Locally configured SMF	The number of times that SMF is selected from the local ePDG configuration.
AAA provided SMF IP	The number of times that ePDG selects SMF from the AAA server provided IP attribute.
P-GW only	The number of times P-GW is selected.
DNS provided P-GW	The number of times that P-GW is selected from DNS responses.
Locally configured P-GW	The number of times that P-GW is selected from the local ePDG configuration.
AAA provided P-GW IP	The number of times that P-GW is selected from the AAA server provided IP attribute.
P-GW or SMF not available reasons - Provide counters on how many times the SMF or P-GW selection is failed due to P-GW or SMF is not locally configured.	
No P-GW configured locally	The number of times that P-GW selection failed due to missing configuration.
No SMF configured locally	The number of times that SMF+PGW-IWK selection failed due to missing configuration.
SMF Fallback Support Statistics for GTP nodes – Fallback-related counters for SMF provided by AAA, DNS, and local configuration. In general, an attempt for second SMF or P-GW after the first SMF or P-GW is failed is considered as fallback.	
SMF Fallback Attempted	The number of times that fallback is attempted when SMF is preferred. Increments after it fails to connect to the first SMF and attempts the second SMF. This includes SMFs provided by AAA, DNS, and the local configuration.
SMF Fallback Success	The number of times that a session connected to SMF is selected through the fallback algorithm.
SMF Fallback Failure	The number of times that a session, which is unable to connect to SMF is selected through a fallback algorithm.
Alternate SMF not found	The number of failed attempts to SMF and there is no alternate SMF available to attempt and connect to a session.

Field	Description
Local SMF resolution	Fallback related counters for SMF by local configuration. These counters are not incremented if the first SMF is selected from the local configuration despite trying to connect to the DNS/AAA provided SMF.
SMF Fallback Attempted	The number of times that fallback is attempted when SMF is preferred. Increments after it fails to connect to the first SMF and attempts the second SMF. This includes SMFs provided by AAA, DNS, and local configuration.
SMF Fallback Success	The number of times that a session connected to SMF is selected through the fallback algorithm.
SMF Fallback Failure	The number of times that a session, which is unable to connect to SMF is selected through the fallback algorithm.
Alternate SMF not found	The number of times that attempts to SMF fail and there is no alternate SMF available for a session to connect.
P-GW Fallback Support Stats for GTP nodes - Fallback related counters for P-GW provided by AAA, DNS, and local configuration. In general, an attempt considers as fallback, after failed to connect to the first SMF/P-GW.	
P-GW Fallback Attempted	The number of times that fallback is attempted when P-GW is preferred. Increments after it fails to connect to the first P-GW and attempts for the second P-GW. This includes P-GW provided by AAA, DNS, and local configuration.
P-GW Fallback Success	The number of times that a session connected to P-GW is selected through the fallback algorithm.
P-GW Fallback Failure	The number of times that a session, which is unable to connect to P-GW is selected through the fallback algorithm.
Alternate P-GW not found	The number of failed attempts to all P-GW, and there is no alternate P-GW available to attempt for a session to connect.
Local P-GW resolution	Fallback related counters for P-GW provided by local configuration. These counters do not get incremented if the first SMF selected from the local configuration gets connected, even after attempting the DNS/AAA provided SMF.
P-GW Fallback Attempted	The number of times that fallback is attempted when P-GW is preferred. Increments after it fails to connect to the first P-GW and attempts for the second P-GW. This includes P-GW provided by AAA, DNS, and local configuration.
P-GW Fallback Success	The number of times that a session connected to P-GW is selected through the fallback algorithm.
P-GW Fallback Failure	The number of times that a session fails to connect to P-GW and selected through the fallback algorithm.
Alternate P-GW not found	The number of failed attempts to all P-GW, and there is no alternate P-GW available to attempt for a session to connect.
DNS-related Failures	
DNS server not reachable	The number of times when no response from DNS.

Field	Description
No resource records	The number of times that the DNS server responded with no resource records.
No matching P-GW service params	The number of times that the DNS server responded with no P-GW in the resource records, when P-GW is the preferred gateway for the session.
No matching SMF service params	The number of times that the DNS server responded with no SMFs in the resource records, when SMF is the preferred gateway for the session.
DNS P-GW list exhausted	The number of failed attempts to connect to all the P-GW provided by DNS response, when P-GW is the preferred gateway for the session.
DNS SMF list exhausted	The number of failed attempts to connect to all the SMF provided by DNS response, when SMF is the preferred gateway for the session.
5G Sessions – Counter for sessions with access to 5G core not restricted and exceptions as specified in the Limitation section	
Acive	The total number of 5G Active sessions.
PDN-Type IPv4	The total number of 5G Active sessions of PDN type IPv4.
PDN-Type IPv6	The total number of 5G Active sessions of PDN type IPv6.
PDN-Type IPv4 v6	The total number of 5G Active sessions of PDN type Dual.

show epdg-service name

If the following commands are configured, the output of **show epdg-service name** *service name* CLI command displays the following parameters under ePDG-service:

- Service name:
  - **interworking-5g**: Displays enabled 5G interworking for the ePDG service.
  - **pgw-selection select pgw**: Displays the enabled P-GW for 4G-only-UE and 5GS indicator.
  - **pgw-selection select pgw no-5gs-interworking**: Displays the enabled P-GW selection for 5Gs interworking.
  - **pgw-selection select pgw smf-not-configured**: Displays the enabled P-GW selection. ePDG ignores SMF, even if the SMF IP/FQDN is configured in DNS/local ePDG config.

The following is a sample output:

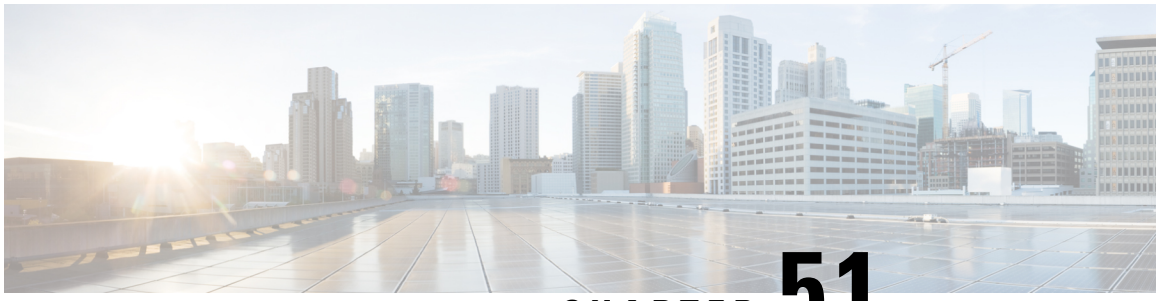
```
Service name: epdg1
Context: pdif
Bind: Done
Max Sessions : 100000
IP address: 111.111.11.2 UDP Port : 500
Crypto-template: boston
Reporting Action:
Event Record: Enabled
Service State: Started Service Id: 6
```

```
EGTP service : egtp-epdg-egress-v4
MAG service : n/a
MAG context : n/a
PLMN Id: MCC:242 , MNC:002
Setup Timeout (sec) : 60
dns-pgw context: pdif
dns-pgw selection : weight,topology
fqdn: n/a
pgw-selection agent-info error-handling: terminate
pgw-selection select PGW: 4G Only UE, No 5GS Interworking, SMF Not Configured
Custom SWm-SWu Error Mapping: Disabled
Custom S2b-SWu Error Mapping: Disabled
3GPP SWu Private Notify Error Types: Disabled
Preferred PGW selection mechanism: AAA/DNS
vendor-specific-attr dns-server-req: APCO
vendor-specific-attr pcscf-server-req: Private Extension
Username MAC Address Stripping : Disabled
QCI QOS Mapping Table : epdg_mapping
Username MAC Address Validate : Enabled Failure-handling : Continue
Newcall Policy : None
Duplicate precedence in TFT - Allowed
IP Fragment-Chain Timeout : 5 sec and Max OOO Fragment : 45
EBI :
Allowed Range 10 to 13
Username MAC Address Delimiter - colon-or-NAI-Label
Subscriber Map : map1
AAA Send Framed-MTU Size : Disabled
Data Buffering : Enabled
PDN-type IPv6 Path-MTU : Enabled
GTPC Overload Control Profile : None
GTPC Load Control Profile: None
LTE Emergency Profile: emergency
Timeout Idle : Disabled
Suppress International Roamer Handover : Disabled
5G Interworking : Enabled
```

show epdg-service name *name*

The output of this command includes the following fields to check whether IR suppress handover is enabled or disabled.

Fields/Counters	Description
Suppress International Roamer Handover	Specifies if the suppress international roamer HO is enabled or disabled.



CHAPTER 51

show event-notif

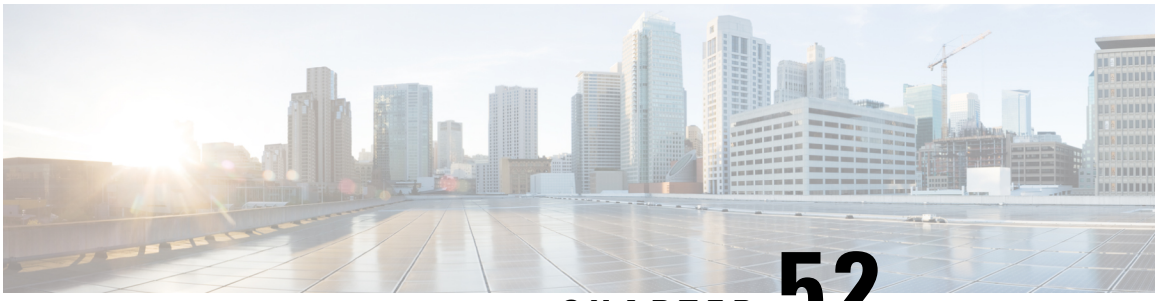
This chapter includes the **show event-notif** command output table.

- show event-notif statistics, on page 891

show event-notif statistics

Table 280: show event-notif statistics Command Output Descriptions

Field	Description
Notification Interface Endpoint	The name of the interface endpoint used for event notification selected for statistics display.
Peer Name	The name of peer which is connected to the interface endpoint and for which statistics are displayed.
Event	This group displays the statistics for the total number of successful or failed Event Notification messages processed by a peer.
Log	This group displays the statistics for the total number of successful or failed logging events notified a peer.
Successful	The total of successful events or logs processed on a particular peer.
Failed	The total of failed events or logs processed on a particular peer.
Failure stats due to no peer available	This group displays the statistics for the total number of failed events or logs processed on the notification interface due to non-availability of a peer.
Failed Event	The total number of failed events reported on the notification interface due to non-availability of a peer.
Failed Logs	The total number of failed logs reported on the notification interface due to non-availability of a peer.



CHAPTER 52

show event-record statistics

This chapter includes the **show event-record statistics** command output tables.

- Show event-record statistics epdg, on page 893
- show event-record statistics pgw, on page 894
- show event-record statistics, on page 895

Show event-record statistics epdg

Table 281: show event-record statistics ePDG Command Output Descriptions

Field	Description
Total Number of Event Records	The total number of event records (GTPv2 + Diameter + IKE + RA).
GTPv2 Event Records	The total number of GTPv2 records
CSR	The number of CSR (Create Session Request) events.
CBR	The number of CBR (Create Bearer Request) events.
DSR	The number of DSR (Delete Session Request) events.
DBR	The number of DBR (Delete Bearer Request) events.
UBR	The number of UBR (Update Bearer Request) events.
IKEv2 Event Records	The total number of IKE events.
IKE_SA_INIT	The number of IKE_SA_INIT events.
IKE_AUTH	The number of IKE_AUTH events.
IKE_INFORMATION	The number of IKE_INFORMATION events.
CREATE_CHILD_SA	The number of CREATE_CHILD_SA events.
IPV6 RA Event Records	The total number of IPV6 RA event records.
RA Prefix	The number of RA prefix events.

Field	Description
Diameter Event Records	The total number of Diameter event records.
SWm Procedures	The number of SWm interface specific events.
AAR	The number AAR (AA-Request) events.
RAR	The number of RAR (Re-Auth-Request) events
ASR	The number of ASR (Abort Session Request) events
STR	The number of STR (Session Termination Request) events.
DER	The number of DER (DE-Request) events.

show event-record statistics pgw

Table 282: show event-record statistics pgw Command Output Descriptions

Field	Description
Total Number of Event Records	The total number of event records (GTPv2 + Diameter).
GTPv2 Event Records	The total number of GTPv2 records
CSR	The number of CSR (Create Session Request) events.
CBR	The number of CBR (Create Bearer Request) events.
DSR	The number of DSR (Delete Session Request) events.
DBR	The number of DBR (Delete Bearer Request) events.
MBR	The number of MBR (Modify Bearer Request) events.
UBR	The number of UBR (Update Bearer Request) events.
PMIPv6 Event Records	The number of RTT (Real Time Tool) CDR records generated for PMIP P-GW events.
PBU-PBA	The number of records generated post PBA event at PMIP P-GW (record contains collated information of PBU and PBA).
BRI-BRA/Timeouts	The number of records generated post BRA event received/BRI timed out (records contains collated information of BRI and BRA).
Diameter Event Records	The total number of Diameter event records (S6b + Gx + Gy).
S6b Procedures	The number of events tracked over the S6b interface (AAR + RAR + ASR + STR).
AAR	The number AAR (AA-Request) events.
RAR	The number of RAR (Re-Auth-Request) events

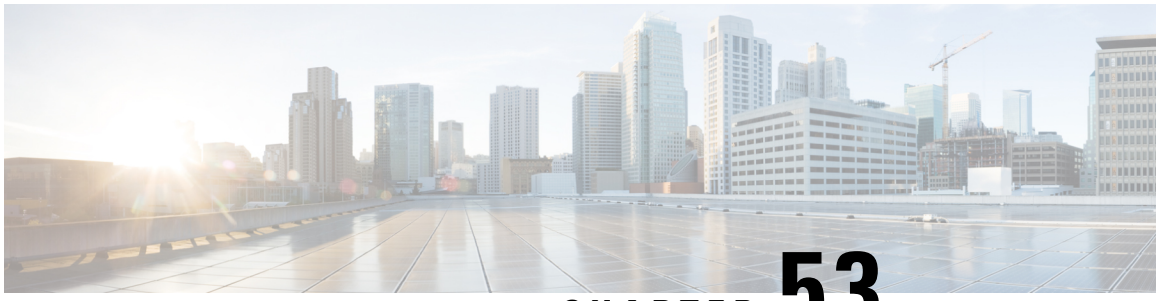
Field	Description
ASR	The number of ASR (Abort Session Request) events
STR	The number of STR (Session Termination Request) events.
Gx Procedures	The number of events tracked over the Gx interface (CCR-I, CCR-U, CCR-T + RAR).
CCR-I	The number of CCR-I (Credit Control Request - Initialization) events.
CCR-U	The number of CCR-I (Credit Control Request - Update) events.
CCR-T	The number of CCR-I (Credit Control Request - Termination) events.
RAR	The number of RAR (Re-Auth-Request) events
Gy Procedures	The number of events tracked over the Gy interface (CCR-I, CCR-U, CCR-T + RAR).
CCR-I	The number of CCR-I (Credit Control Request - Initialization) events.
CCR-U	The number of CCR-I (Credit Control Request - Update) events.
CCR-T	The number of CCR-I (Credit Control Request - Termination) events.
RAR	The number of RAR (Re-Auth-Request) events

show event-record statistics

Table 283: show event-record statistics Command Output Descriptions

Field	Description
Total Number of Event Records	The total number of event records (GTPv2 + Diameter + IKE + RA + Radius + DHCP).
GTPv2 Event Records	The total number of GTPv2 records
CSR	The total number of CSR (Create Session Request) events.
CBR	The total number of CBR (Create Bearer Request) events.
DSR	The total number of DSR (Delete Session Request) events.
DBR	The total number of DBR (Delete Bearer Request) events.
UBR	The total number of UBR (Update Bearer Request) events.
IPV6 RA Event Records	The total number of IPV6 RA event records.
RA Prefix	The total number of RA prefix events.
Diameter Event Records	The total number of Diameter event records (S6b + SWm + STa + Gx + Gy).

Field	Description
ePDG Events	
IKEv2 Event Records	The total number of IKE events.
IKE_SA_INIT	The total number of IKE_SA_INIT events.
IKE_AUTH	The total number of IKE_AUTH events.
IKE_INFORMATION	The total number of IKE_INFORMATION events.
CREATE_CHILD_SA	The total number of CREATE_CHILD_SA events.
SaMOG Events	
Radius Auth Event Records	The total number of Radius authentication event records.
Access Req/Challenge	The total number of Radius Authentication access request challenge event records.
Access Req/Accept	The total number of Radius Authentication access request accept event records.
Disconnect Req	The total number of Radius Authentication disconnect request event records.
Radius Accounting Event Records	The total number of Radius accounting event records.
Accounting Req from WLC	The total number of Radius accounting event records from WLC.
Accounting Req to Radius Server	The total number of Radius accounting event records to the Radius server.
STa Procedures	The total number of STa interface specific events.
AAR	The total number AAR (AA-Request) events.
RAR	The total number of RAR (Re-Auth-Request) events.
ASR	The total number of ASR (Abort Session Request) events.
STR	The total number of STR (Session Termination Request) events.
DER	The total number of DER (DE-Request) events.
DHCP Event Records	The total number of DHCP event records.
Discover/Offer	The total number of DHCPv4 discovery offer event records.
Release/Ack	The total number of DHCPv4 release ack event records.
Request/Ack	The total number of DHCPv4 request ack event records.



CHAPTER 53

show fans

This chapter includes the **show fans** command output tables.

- show fans, on page 897

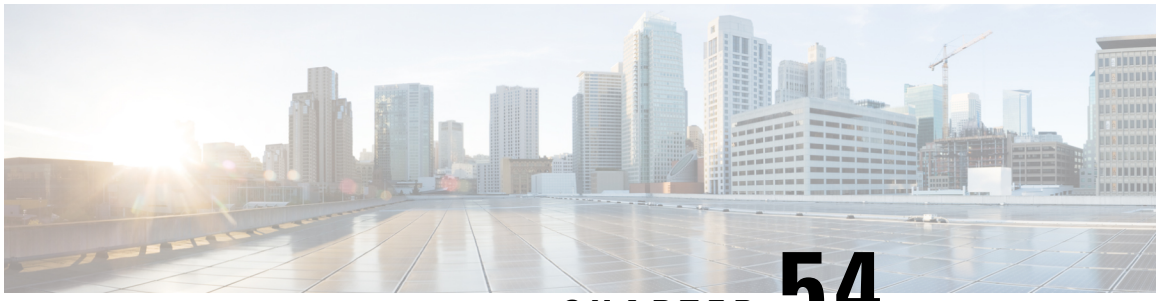
show fans

Important On some platforms, the output will change to show the state of the fan controller and the speed of each fan.

Table 284: show fans Command Output Descriptions

Field	Description
Upper Fan Controller	The Upper Fan Tray pulls air through the chassis and exhausts it from the upper rear of the chassis.
Lower Fan Controller	The Lower Fan Tray pulls ambient air into the chassis and pushes it upward and through the chassis.
State	Displays the operational state of the fan tray and fan tray controller. The possible states are:
	Normal: There are no errors. This is the normal operating condition. **Multiple Fan Failure:** Multiple fans on the fan tray have failed. **Single Fan Failure:** A single fan on the fan tray has failed. **Heartbeat Error:** The redundant fan controller on the fan tray did not respond to the heartbeat signal. **Fan A Communication Error:** An error has occurred on the primary fan controller bus for the fan tray. **Fan B Communication Error:** An error has occurred on the redundant fan controller bus for the fan tray. **Communication Error:** An inter-bus communication error was experienced between the primary and redundant fan controllers on the fan tray. **NOTE:** If any of the error conditions above are reported for your system, it is likely that the fan tray will need to be repaired or replaced. Please contact your local sales representative for additional information.

Field	Description
Speed	Indicates the rate at which the fans on the fan tray are spinning as a percentage of the maximum speed. Lower percentages indicate that the fans are having to do less work to keep the chassis cool and should be the normal operating condition. Higher percentages indicate that the fans are having to work harder to keep the chassis cool. This could be due to a number of reasons including improper ventilation of the chassis, individual fan failures, or even a dirty air filter. Please refer to the *System Administration Guide* for information on troubleshooting the problem. **NOTE:** Systems equipped with the dual-speed fan tray controller display the fan speed as follows: **Normal:** The fans on the fan tray are operating at a normal speed to maintain a safe operating temperature for the chassis and its components. **High:** The fans on the fan tray are operating in high speed to maintain a safe operating temperature for the chassis and its components.
Temp	Displays the temperature of the chassis in degrees Celsius at the fan tray. The ambient air temperature shown for the Lower Fan Controller should not exceed 40 degrees Celsius for an extended period of time. The exhaust air temperature shown for the Upper Fan Controller should not exceed 55 degrees Celsius. For additional information on air temperature, refer to the description of the **show temperature** command in this guide.



CHAPTER 54

show fa-service

This chapter includes the **show fa-service** command output tables.

- show fa-service, on page 899

show fa-service

Table 285: show fa-service name Command Output Descriptions

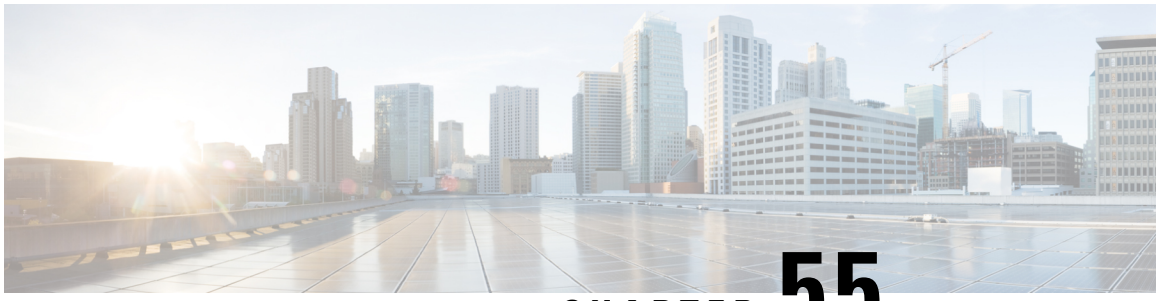
Field	Description
Service name	The name of the FA service for which the information are displayed.
Context	The name of the context in which this service is configured.
Bind	Status of connectivity of this service with context and IP address.
Max Subscribers	The number of subscribers are allowed to configure in this service.
Local IP Address	IP address to which this service is bound and communicate with HA.
Local IP Port	The port number on which this service is to communicate with HA.
Lifetime	The maximum time that the FA session can exist before it becomes expired.
Registration Timeout	The maximum duration of inactivity for a session registration before it becomes expired.
Advt Lifetime	Lifetime for an advertisement message.
Advt Interval	Interval between two advertisement messages.
Num Advt	The total number of advertisement messages broadcasted.
Advt Prefix Length Extn	Indicates the setting of prefix extension length in advertisement message.
Reverse Tunnel	Status of reverse tunnel.
GRE Encapsulation	Status of Generic Routing Encapsulation (GRE).
Optimize Tunnel Reassembly	Status of tunnel reassembly optimization.

Field	Description
Allow Priv Addr w/o Rev Tunnel	Status of setting to allow private addresses without reverse tunnelling.
Dynamic MIP Key Update	Status of setting to update dynamic MIP key.
Ignore Dynamic MIP Key	Status of setting to ignore dynamic MIP keys.
Remove MN-AAA/MN-FAC extns	Status of setting to remove MN-AAA and/or MN-FA extensions from messages.
Standalone FA service	Show the standalone FA service status. If "Enabled" system performs as a standalone FA only.
Proxy MIP	Status of Proxy Mobile IP support.
Proxy MIP Max Retransmissions	Total number of retransmission for Proxy Mobile IP support.
Proxy MIP Retrans Timeout	Timeout duration in seconds between two of retransmissions for Proxy MIP support.
Proxy MIP Renew Percent Time:	Percentage of timeout duration. Once this much percent of timeout duration exhausted the Proxy MIP message will be retransmitted. For example, If retransmission timeout is set for 4 secs. and renew percent time is configured for 75%, the Proxy MIP messages will be retransmitted after 3 seconds.
SPI(s)	The configured Security Parameter Index (SPI) number between FA and HA.
FAHA	
Remote Addr	IP address of HA.
Hash Algorithm:	Hashing algorithm applicable for HA.
SPI Num	SPI number set for HA.
Replay Protection:	Type of reply protection enabled for reply messages.
Timestamp Tolerance	Total variation allowed in timestamp mismatch.
HA Monitoring:	Status of HA monitoring configuration.
GRE Sequence Numbers	Status of GRE sequence number setting in messages.
GRE Sequence Mode	Specifies the GRE sequence mode.
GRE reorder Timeout	Total timeout duration for GRE reorder.
GRE Checksum	Status of GRE Checksum setting in messages.
GRE Checksum Verification	Status of GRE Checksum verification setting.
Registration Revocation	Status of registration revocation setting.
Reg-Revocation I Bit	Status of I-bit setting for registration revocation.
Reg-Revocation Max Retries	Maximum number of retries allowed for registration revocation.

Field	Description
Reg-Revocation Timeout	Total duration allowed between two retries for registration revocation.
Reg-Rev on InternalFailure	Specifies whether registration revocation will be triggered on internal failure or not.
Default Subscriber	Name of the default subscriber.
Max sessions	Maximum number of subscriber sessions allowed.
Max challenge len	Length of challenge key for subscriber authentication.
Challenge Window	total number of windows opened for challenge.
Service Status	Status of this service.
MN-AAA Auth Policy	Specifies the lookup criteria for authentication policy between MN and AAA in RRP. Possible settings are: alwaysignore-after-handoffinit-reginit-reg-except-handoffrenew-and-dereg-noauthrenew-reg-noauth
Optimize-Retries	Status of setting for optimized retries when authentication policy is not received for MN and AAA.
MN-HA Auth Policy	Specifies the lookup criteria for authentication policy between MN and HA in RRP.
AAA Distributed MIP Keys Override	Specifies the setting for the FA service to override dynamic keys from AAA with static keys to support MIP registration with HAs which do not support dynamic keys.
Newcall Policy	Specify that new call policy enabled or disabled to handle new calls.
Idle Timeout Mode	Idle timeout mode allowed for this service.
Ignore Stale Challenge	Status of setting to ignore old/stale challenge messages.
Limit Reg Lifetime	Status of setting to limit registration lifetime.
Dynamic HA Failover	Status of setting to handle dynamic HA failovers.
AAA HA override	Status of setting to override HA settings if received from AAA.
HA Failover	Status of setting to handle HA failovers.
Retrans Timeout	Timeout duration between two retransmission of probe on HA failover.
Retries Before Swtichover	Total number of retries before switching to another HA.
Maximum retries	Total number of retries allowed.
Load Balance	Status of setting to handle HA performance issues or HAa failovers by load balancing.
HA Monitoring	Status of setting to monitor HA.
Inactivity Timeout	Timeout duration after which a probe message will be sent to HA.
Monitor Reply Timeout	Timeout duration to wait for reply from HA after which a probe message will be resent to HA.

show fa-service

Field	Description
Maximum retries	Total number of retries allowed.



CHAPTER 55

show fng-service statistics

This chapter includes the **show fng-service statistics** command output tables.

- show fng-service statistics, on page 903

show fng-service statistics

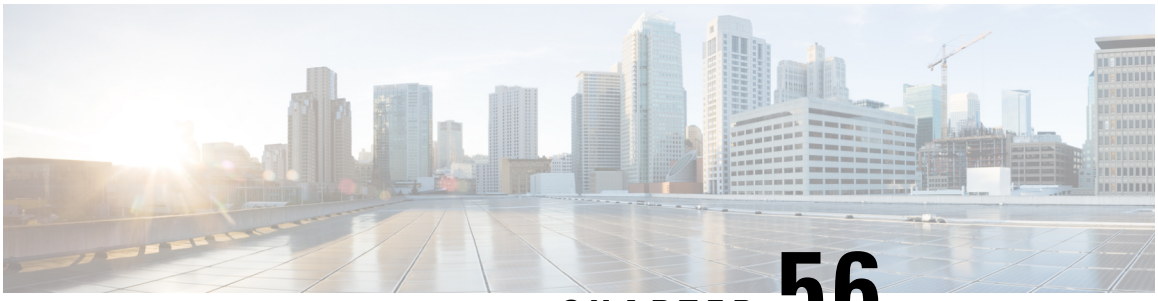
Table 286: show fng-service statistics Command Output Description

Field	Description
Session Statistics	
Current sessions total	Total number of sessions in progress including transient sessions.
Active current	Total number of currently active sessions.
Dormant current	Total number of currently dormant sessions.
Active IPv4 current	Total number of currently active IPv4 sessions.
Active IPv6 current	Total number of currently active IPv6 sessions.
Dormant IPv4 current	Total number of currently dormant IPv4 sessions.
Dormant IPv6 current	Total number of currently dormant IPv6 sessions.
Total setup attempts	Total number of session setup attempts.
Total setup success	Total number of successful session attempts.
Total attempts failed	Total number of failed session attempts.
Disconnect locally	Total number of sessions released locally.
Disconnect remotely	Total number of sessions released remotely.
Disconnect remotely before connect	Total number of sessions released remotely before connecting.
Session Disconnect Reasons	

Field	Description
Remote disconnect ipsec	Number of sessions disconnected because of remote party (mobile) hang-up. Description: Number of sessions disconnected because of IPSEC Type: Proprietary Counter/Int32 Availability: per FNG service
Admin disconnect	Number of sessions disconnected by the administrator.
Idle timeout	Number of sessions disconnected because the idle timer has timed out.
Absolute timeout	Number of sessions disconnected because the Absolute timer has timed out.
Long duration timeout	Number of sessions disconnected because the long duration timer has timed out.
Session setup timeout	Number of sessions disconnected because the Session Manager's session setup timer has timed out.
No resource	Number of sessions disconnected because the system has run out of resources (flows, memory resources, etc.).
Auth failure	Number of sessions disconnected because of an authentication failure.
Flow add failure	Number of sessions disconnected because a flow could not be added on the NPU.
Invalid dest-context	Number of sessions disconnected because the destination context received from the AAA server is invalid.e
Source address violation	Number of sessions disconnected because the source IP address is invalid.
Duplicate Request	Number of sessions disconnected because of duplicate requests.
Addr assign failure	Number of sessions disconnected because no remote IP address has been assigned.
Miscellaneous reasons	Number sessions disconnected because of miscellaneous reasons.
Data Stats	
Total Bytes Sent	Total number of bytes sent.
Total Packets Sent	Total number of packets sent.
Total Bytes Rcvd	Total number of bytes received.
Total Packets Rcvd	Total number of packets received.
EAP Server Statistics	
Total Received	Total number of EAP messages received from the EAP server in pass-through mode.

Field	Description
Success Received	Total Number of EAP success messages received from the EAP server in pass-through mode.
Challenge Received	Total number of EAP challenge messages received from the EAP server in pass-through mode.
Failures Received	Total number of EAP failure messages received from the EAP server in pass-through mode.
Total Sent	Total number of EAP messages transmitted to the EAP server in pass-through mode.
Initial Requests	Total number of initial EAP messages transmitted to the EAP server in pass-through mode.
Requests Forwarded	Total number of EAP requests forwarded to the EAP server in pass-through mode.

show fng-service statistics



CHAPTER 56

show ggsn-service

This chapter includes the **show ggsn-service** command output tables.

- show ggsn-service sgsn-table, on page 907
- show ggsn-service all, on page 908

show ggsn-service sgsn-table

Table 287: show ggsn-service sgsn-table Command Output Descriptions

Field	Description
GTP Version	GPRS Tunnelling Protocol. (0) - GTPRS (1) - UMTS
Active	GTP condition. (I) - Inactive (A) - Active
GTPC Echo	GPRS Tunneling Protocol-Control message (D) - Disabled (E) - Enabled
PLMN Type	Public land mobile network type. (H) - Home (F) - Foreign (U) - Unknown
SGSN Stats	SGSN statistics. (A) - Available (U) - Unavailable
Service ID	GGSN Service ID.
SGSN Address	IP address of each active SGSN.
Restart Counter	The restart counter sent by the SGSN. Increments by 1 with each restart.
Number of Restarts	Number of times the restart of the particular SGSN is detected, i.e., the number of times a NEW restart counter is received from the SGSN in a GTPC request message.
Curr Subs	Number of current subscribers to each SGSN.
Max Subs	Maximum number of permitted subscribers to each SGSN.

show ggsn-service all

Displays the configuration information for all GGSN services configured on the system.

Table 288: show ggsn-service all Command Output Descriptions

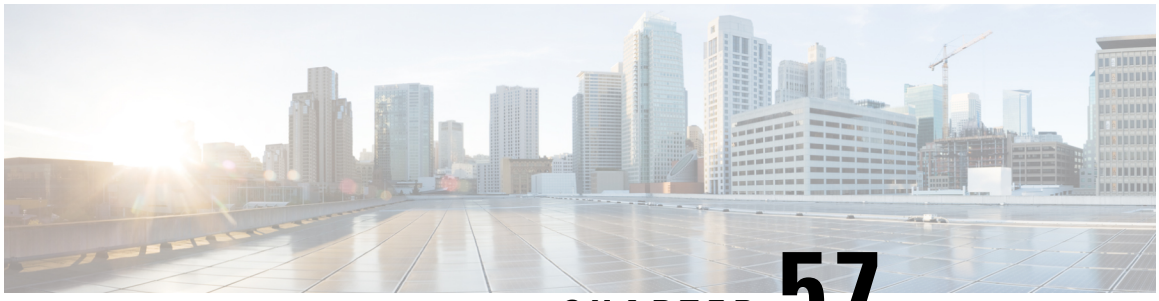
Field	Description
Service name	The name of the GGSN service.
Context	The context name where the GGSN service is configured.
Associated PGW svc	The name of the P-GW service associated to the GGSN service.
Associated GTPU svc	The name of the GTP-U service associated to the GGSN service.
Associated IPNE svc	The name of the IPNE service associated to the GGSN service.
Associated Peer map	The name of the peer map associated to the GGSN service.
Accounting Context Name	The context name where the accounting configuration and/or interface(s) are configured.
3g to 4g HO Immediate flush to Demux	Specifies if the 3G to 4G handover of immediate flush information to Demux is Yes or No.
dns-client Context Name	The context name in which a DNS client configuration is present.
Authorize	Enables/disables subscriber session authorization with HSS over S6b Diameter interface.
S6b IPv6 Reporting	Specifies if the IPv6 address reporting through AAR towards the S6b interface is enabled or disabled.
Fqdn-name	The name of Fully Qualified Domain Name (FQDN) which is used for authorization over S6b interface between GGSN and 3GPP AAA/HSS.
Bind	Binds the GGSN service to a logical IP interface serving as the Gn interface.
Local IP Address	The IP address (IPv4 and/or IPv6)) of the interface configured as the Gn interface.
Self PLMN Id	Specifies the GGSN's public land mobile network (PLMN) identifiers.
Retransmission Timeout	The time to control the retransmission of GTP control packets when no response is received from an SGSN.
Max Retransmissions	Indicates the maximum number of times that GTP control packets are retransmitted.
Restart Counter	Specifies the restart counter
Echo Interval	Specifies the frequency at which the GGSN service sends GTPv1-C Echo packets to the SGSN(s) it is configured to communicate with.

Field	Description
GTPC Echo Mode	Specifies if GTP-C echo mode is set as default.
GTPC Echo Retransmission Timeout	Specifies the frequency at which the GGSN service retransmits GTPv1-C Echo packets to the SGSN(s) it is configured to communicate with.
Guard Interval	Specifies the amount of time that must pass before a GGSN service treats a redundant PDP context request as a new request instead of a re-send of a previous request.
PLMN Policy	Specifies the public land mobile network (PLMN) policy.
Setup Timeout	Specifies the maximum amount of time the GGSN service allows for the setting up of PDP contexts.
S-GW Interface Excluded	Excludes the specified interface.
SGSN MCC MNC preference	Specifies the MCC and MNC preference for SGSN.
Unlisted SGSN PLMN Id.	Specifies the PLMN ID of the unlisted SGSN.
Unlisted SGSN rat-type	Specifies the type of the radio acess technology for unlisted SGSN.
Reject Code Policy	
Authentication Server Timeout	Specifies the reject code used by the GGSN if communication with an authentication server times out.
Accounting Server Timeout	Specifies the reject code used by the GGSN if communication with an accounting server times out.
Ran Procedure Ready	Specifies if the RAN Procedure Ready feature is enabled/disabled for the specified GGSN service.
NSAPI in Create PDP response	Specifies the Network Service Access Point Identifier in the Create PDP response.
Map MBR to AMBR in Update PDP request	Indicates the status of MBR to AMBR mapping in Update PDP Context Request message.
Suppress NRUPC triggered by CPC	Indicates if suppress NRUPC triggered by CPC is enabled or disabled.
Suppress NRUPC triggered by UPC	Indicates if suppress NRUPC triggered by UPC is enabled or disabled.
Support e-ARP	Indicates if the support for enhanced ARP is enabled or disabled.
Support MS QoS Change	Indicates if the support for MS QoS change is enabled or disabled.
Decode MCC MNC parameter of ULI as HexaDecimal Digits	Indicates if the decoding of MCC and MNC parameters of ULI as hexadecimal digits has been enabled or disabled.
Duplicate Subscriber Address Request	Specifies the status of duplicate subscriber address request.
trace-collection-entity	Specifies the trace collection entity which is the destination node in Network management where trace files are transferred to and stored.

Field	Description
Path Failure Detection on gtp msgs	Specifies the path failure detection policy on GTP-U echo messages that have been retransmitted the maximum number of retry times.
GTP Private Extensions	Specifies the customer specific private extension in GTP-C messages.
Max IP sessions	Specifies the maximum numner of IP sessions.
Max PPP sessions	Specifies the maximum number of PPP sessions in GGSN service.
Max sessions	Specifies the total number of maximum sessions including IP and PPP in GGSN service.
Max Primary sessions	Specifies the total number of maximum primary sessions including IP and PPP in GGSN service.
Max Sec-per-primary sessions	Specifies the total number of maximum secondary sessions per primary session in GGSN service.
Service Status	Specifies the status of the GGSN service.
Newcall Policy	Specifies if the new call related behavior of GGSN service is enabled/disabled when duplicate sessions with same IP address request is received.
MBMS Policy	Specifies the configured MBMS policy for Multicast and/or Broadcast mode in this GGSN service.
MBMS Charging ID Optimization	Specifies if the MBMS charging ID optimization is enabled/disabled for the GGSN service.
GTPC Prioritized APN(s	Specifies if the prioritized APNs have been added for prioritized handling of VoLTE/Emergency calls even under congestion for the GGSN service.
GTPC Prioritized ARP(s)	Specifies if the prioritized ARPs have been added for prioritized handling of VoLTE/Emergency calls even under congestion for the GGSN service.
GTPC Prioritized Rel99 ARP(s)	Specifies if the prioritized Release 99 ARPs have been configured for prioritized handling of VoLTE/Emergency calls even under congestion for the GGSN service.
3GPP Qos to DSCP Mapping (for G-PDUs)	This group indicates the 3GPP QoS to DSCP mapping information.
qci 1: ef	Indicates the DSCP configured for QCI1 type of traffic.
qci 2: ef	Indicates the DSCP configured for QCI2 type of traffic.
qci 3: af11	Indicates the DSCP configured for QCI3 type of traffic.
qci 4: af11	Indicates the DSCP configured for QCI4 type of traffic.
qci 5: ef	Indicates the DSCP configured for QCI5 type of traffic.
qci 6: ef	Indicates the DSCP configured for QCI6 type of traffic.
qci 7: af21	Indicates the DSCP configured for QCI7 type of traffic.

Field	Description
qci 8: af21	Indicates the DSCP configured for QCI8 type of traffic.
qci 9: be	Indicates the DSCP configured for QCI9 type of traffic.
3GPP Qos to DSCP Mapping based on Alloc. Prio	This group indicates the 3GPP QoS to DSCP mapping information based on allocation priority.
qci 5 (Alloc.P 1): ef	Indicates the DSCP configured for QCI5 type of traffic with allocation priority 1.
qci 5 (Alloc.P 2): ef	Indicates the DSCP configured for QCI5 type of traffic with allocation priority 2.
qci 5 (Alloc.P 3): ef	Indicates the DSCP configured for QCI5 type of traffic with allocation priority 3.
qci 6 (Alloc.P 1): ef	Indicates the DSCP configured for QCI6 type of traffic with allocation priority 1.
qci 6 (Alloc.P 2): ef	Indicates the DSCP configured for QCI6 type of traffic with allocation priority 2.
qci 6 (Alloc.P 3): ef	Indicates the DSCP configured for QCI6 type of traffic with and allocation priority 3.
qci 7 (Alloc.P 1): af21	Indicates the DSCP configured for QCI7 type of traffic with allocation priority 1.
qci 7 (Alloc.P 2): af21	Indicates the DSCP configured for QCI7 type of traffic with allocation priority 2.
qci 7 (Alloc.P 3): af21	Indicates the DSCP configured for QCI7 type of traffic with allocation priority 3.
qci 8 (Alloc.P 1): af21	Indicates the DSCP configured for QCI8 type of traffic with allocation priority 1.
qci 8 (Alloc.P 2): af21	Indicates the DSCP configured for QCI8 type of traffic with allocation priority 2.
qci 8 (Alloc.P 3): af21	Indicates the DSCP configured for QCI8 type of traffic with allocation priority 3.
GTPC messages	Indicates the Best effort forwarding PHB for GTPC messages.
CC Behavior	Specifies the 3GPP behavior bit associated with the GGSN's charging characteristics.
Charging Characteristics (CC) Profiles	This group provides the charging characteristics profiles configured in this GGSN service.
Bucket	Specifies the charging bucket configured for charging characteristic in this GGSN service

Field	Description
SGSN Configuration List	Specifies the list of SGSNs that this GGSN service is allowed to communicate with.
GTPC Outgoing Throttling	Specifies if outgoing throttling has been enabled, which indicates the number of messages that were removed from the queue (due to any collision, or max retransmission expired).
RLF Template Name	Specifies the template name for RLF for throttling support.
GTPC Incoming Throttling Params	Specifies if the incoming throttling of GTPC has been configured. It includes following parameters:
Message Rate (per sec)	Indicates the number of messages per second. Default: 20000
Delay Tolerance (secs)	Indicates the delay tolerance in seconds. Default: 5
Queue Size	Indicates the queue size. Default: 10000
Suppress Framed route timer	Indicates that suppress framed route timer is either enabled or disabled on the GGSN service.



CHAPTER 57

show gmb

This chapter includes the **show gmb** command output tables.

- show gmb statistics, on page 913

show gmb statistics

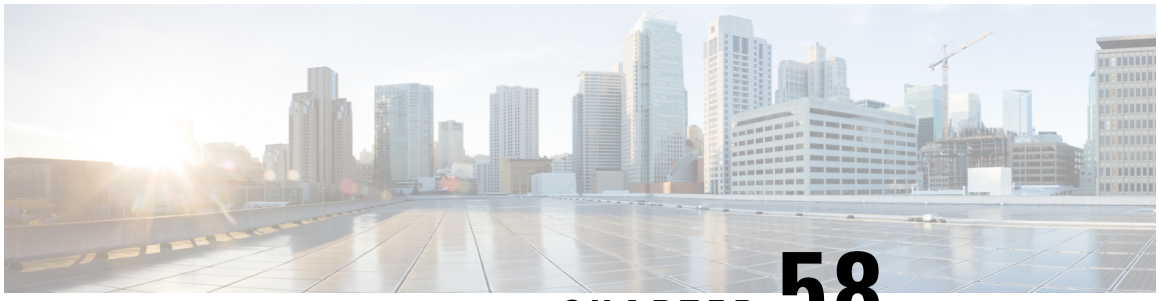
Table 289: show gmb statistics Command Output Descriptions

Field	Description
MBMS Context Stats	
Total Current	Total number of MBMS contexts currently in active status on Gmb interface.
Total Setup	Total number of MBMS contexts are in setup status on Gmb interface.
Total Released	Total number of MBMS contexts release on Gmb interface.
Total Denied	Total number of MBMS contexts requests denied on Gmb interface.
MBMS UE	Total number of UEs in active/setup status or released/denied on this Gmb interface for MBMS service.
MBMS Mcast Bearer	Total number of multicast bearers in active/setup status or released/denied on this Gmb interface for MBMS service.
MBMS Bcast Bearer	Total number of broadcast bearers in active/setup status or released/denied on this Gmb interface for MBMS service.
MBMS UE Context Management Stats	
MBMS UE Auth	Total number of UE Auth Request messages received on this Gmb interface for MBMS service.
Accepted	Total number of UE Auth Request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of UE Auth Request messages received and denied on this Gmb interface for MBMS service.

Field	Description
MBMS UE Update	Total number of UE Update Request messages received on this Gmb interface for MBMS service.
Accepted	Total number of UE Update Request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of UE Update Request messages received and denied on this Gmb interface for MBMS service.
MBMS UE Delete Tx	Total number of UE Delete Request messages transmitted on this Gmb interface for MBMS service.
Accepted	Total number of UE Delete Request messages transmitted and accepted on this Gmb interface for MBMS service.
Denied	Total number of UE Delete Request messages transmitted and denied on this Gmb interface for MBMS service.
MBMS UE Delete Rx	Total number of UE Delete Request messages received on this Gmb interface for MBMS service.
Accepted	Total number of UE Delete Request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of UE Delete Request messages received and denied on this Gmb interface for MBMS service.
Discarded	Total number of UE Delete Request messages received but discarded on this Gmb interface for MBMS service.
MBMS Bearer (Multicast) Context Management Stats	
MBMS Bearer Reg	Total number of Multicast Bearer Context Register request messages received on this Gmb interface for MBMS service.
Accepted	Total number of Multicast Bearer Context Register request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of Multicast Bearer Context Register request messages received and denied on this Gmb interface for MBMS service.
MBMS Bearer Dereg TX	Total number of Multicast Bearer Context Dereg Request messages transmitted on this Gmb interface for MBMS service.
Accepted	Total number of Multicast Bearer Context Dereg Request messages transmitted and accepted on this Gmb interface for MBMS service.
Denied	Total number of Multicast Bearer Context Dereg Request messages transmitted and denied on this Gmb interface for MBMS service.
MBMS Bearer Dereg RX	Total number of Multicast Bearer Context Dereg messages received on this Gmb interface for MBMS service.

Field	Description
Accepted	Total number of Multicast Bearer Context Dereg Request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of Multicast Bearer Context Dereg Request messages received and denied on this Gmb interface for MBMS service.
Discarded	Total number of Multicast Bearer Context Dereg Request messages received but discarded on this Gmb interface for MBMS service.
MBMS Mcast Sess Start	Total number of Multicast Session Start Request messages received on this Gmb interface for MBMS service.
Accepted	Total number of Multicast Session Start Request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of Multicast Session Start Request messages received and denied on this Gmb interface for MBMS service.
Discarded	Total number of Multicast Session Start Request messages received but discarded on this Gmb interface for MBMS service.
MBMS Mcast Sess Stop	Total number of Multicast Session Stop Request messages received on this Gmb interface for MBMS service.
Accepted	Total number of Multicast Session Stop Request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of Multicast Session Stop Request messages received and denied on this Gmb interface for MBMS service.
Discarded	Total number of Multicast Session Stop Request messages received but discarded on this Gmb interface for MBMS service.
MBMS Mcast Sess Update	Total number of Multicast Session Update Request messages received on this Gmb interface for MBMS service.
Accepted	Total number of Multicast Session Update Request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of Multicast Session Update Request messages received and denied on this Gmb interface for MBMS service.
Discarded	Total number of Multicast Session Update Request messages received but discarded on this Gmb interface for MBMS service.
MBMS Bearer (Broadcast) Context Management Stats	
MBMS Bcast Sess Start	Total number of Broadcast Session Start Request messages received on this Gmb interface for MBMS service.
Accepted	Total number of Broadcast Session Start Request messages received and accepted on this Gmb interface for MBMS service.

Field	Description
Denied	Total number of Broadcast Session Start Request messages received and denied on this Gmb interface for MBMS service.
Discarded	Total number of Broadcast Session Start Request messages received but discarded on this Gmb interface for MBMS service.
MBMS Bcast Sess Stop	Total number of Broadcast Session Stop messages received on this Gmb interface for MBMS service.
Accepted	Total number of Broadcast Session Stop Request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of Broadcast Session Stop Request messages received and denied on this Gmb interface for MBMS service.
Discarded	Total number of Broadcast Session Stop Request messages received but discarded on this Gmb interface for MBMS service.
MBMS Bcast Sess Update	Total number of Broadcast Session Update messages received on this Gmb interface for MBMS service.
Accepted	Total number of Broadcast Session Update Request messages received and accepted on this Gmb interface for MBMS service.
Denied	Total number of Broadcast Session Update Request messages received and denied on this Gmb interface for MBMS service.
Discarded	Total number of Broadcast Session Update Request messages received but discarded on this Gmb interface for MBMS service.
MBMS Bearer (Unknown Service Type) Stats	
MBMS Unknown Sess Start denied	Total number of unknown type of Session Start messages received and denied on this Gmb interface for MBMS service.
MBMS Unknown Sess Stop denied	Total number of unknown type of Session Stop messages received and denied on this Gmb interface for MBMS service.
MBMS Unknown Sess Update denied	Total number of unknown type of Session Update messages received and denied on this Gmb interface for MBMS service.



CHAPTER 58

show gmm-sm

This chapter includes the **show gmm-sm** command output tables.

- show gmm-sm statistics, on page 917
- show gmm-sm statistics verbose, on page 946

show gmm-sm statistics

Table 290: show gmm-sm statistics Command Output Descriptions

Field	Description
Session Statistics	
Attached Subscribers	Statistics for attached subscribers.
Total Attached	Total subscribers attached for 2G and 3G.
3G Attached	Total subscribers attached for 3G only.
2G Attached	Total subscribers attached for 3G only.
Home Subscribers	Statistics for attached home subscribers.
Total Home	Total home subscribers attached for 2G and 3G.
3G Home	Total home subscribers attached for 3G only.
2G Home	Total home subscribers attached for 3G only.
Visiting National Subscribers	Statistics for attached visiting national subscribers.
Total-Visiting-National	Total visiting national subscribers attached for 2G and 3G.
3G-Visiting-National	Total visiting national subscribers attached for 3G only.
2G-Visiting-National	Total visiting national subscribers attached for 3G only.
Visiting Foreign Subscribers	Statistics for attached visiting foreign subscribers.
Total-Visiting-Foreign	Total visiting foreign subscribers attached for 2G and 3G.

Field	Description
3G-Visiting-Foreign	Total visiting foreign subscribers attached for 3G only.
2G-Visiting-Foreign	Total visiting foreign subscribers attached for 2G only.
Network Sharing Subscribers	Statistics for network sharing subscribers.
3G-Supporting-UE	Total number of 3G Network Sharing Supporting User Equipment currently in the system. This counter pegs when: A network sharing supporting UE connects with the 3G SGSN.
3G-Non-Supporting-UE	Total number of 3G Network Sharing Non-supporting User Equipment currently in the system. This counter pegs when: A network sharing non-supporting UE connects with the 3G SGSN.
Subscribers in PMM-REGISTERED state	Total subscribers in PMM registered state, including connected and idle.
PMM-CONNECTED	Total number of subscribers in PMM connected state.
PMM-IDLE	Total number of subscribers in PMM idle state.
Activated Subscribers	Statistics for activated subscribers.
Total Activated	Total number of activated 2G and 3G subscriber.
3G Activated	Total number of activated 3G subscribers only.
2G Activated	Total number of activated 2G subscribers only.
Activate PDP Contexts	Statistics for activated PDP contexts.
Total Actv PDP Ctx	Total number of activated 2G and 3G PDP contexts.
3G-Actv Pdp Ctx	Total number of activated 3G PDP contexts only.
2G-Actv Pdp Ctx	Total number of activated 2G PDP contexts only.
Total Actv Pdp Ctx with Direct Tunnel	Total number of activated PDP contexts through direct tunnel.
Activated HSPA Subscribers	Displays the list of active HSPA subscribers.
Activated HSPA subscribers (16-32Mbps)	This counter displays the number of subscribers having: • One PDP context with negotiated MBR in the range 16-32 Mbps, or • One or more PDP context with negotiated MBR in the range 16-32 Mbps, or • One PDP context with negotiated MBR in the range 16-32 Mbps and rest with MBR less than 16 Mbps

Field	Description
Activated HSPA subscribers (32-64Mbps)	This counter displays the number of subscribers having: • One PDP context with negotiated MBR in the range 32-64 Mbps, or • One or more PDP context with negotiated MBR in the range 32-64 Mbps, or • One PDP context with negotiated MBR in the range 32-64 Mbps and rest with MBR less than 32 Mbps
Activated HSPA subscribers (64-128Mbps)	This counter displays the number of subscribers having: • One PDP context with negotiated MBR in the range 64-128 Mbps, or • One or more PDP context with negotiated MBR in the range 64-128 Mbps, or • One PDP context with negotiated MBR in the range 64-128 Mbps and rest with MBR less than 64 Mbps
Activated HSPA subscribers (128-256Mbps)	This counter displays the number of subscribers having: • One PDP context with negotiated MBR in the range 128-256 Mbps, or • One or more PDP context with negotiated MBR in the range 128-256 Mbps, or • One PDP context with negotiated MBR in the range 128-256 Mbps and rest with MBR less than 128 Mbps
Activated HSPA PDP Contexts	Displays the list of active HSPA PDP contexts.
Activated HSPA PDP Contexts (16-32Mbps)	Displays the number of HSPA PDP contexts with the negotiated MBR in the range 16-32 Mbps.
Activated HSPA PDP Contexts (32-64Mbps)	Displays the number of HSPA PDP contexts with the negotiated MBR in the range 32-64 Mbps.
Activated HSPA PDP Contexts (64-128Mbps)	Displays the number of HSPA PDP contexts with the negotiated MBR in the range 64-128 Mbps.
Activated HSPA PDP Contexts (128-256Mbps)	Displays the number of HSPA PDP contexts with the negotiated MBR in the range 128-256 Mbps.
Message Statistics	Indicates the statistics of messages.
Specific Procedures	Indicates the statistics related to specific procedures.
Attach Request	Total number of messages for Attach Request
Total-Attach	Indicates the statistics of total attach.
IMSI	Total attach through international mobile subscriber identity (IMSI).

Field	Description
Total-IMSI-Attach	Total international mobile subscriber identity (IMSI) attach including 2G and 3G.
3G-IMSI-Attach	3G-IMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total 3G-IMSI attach with GPRS only access.
Combined Attached	Total 3G-IMSI attach with combined (PS and CS) access.
2G-IMSI-Attach	2G-IMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total 2G-IMSI attach with GPRS only access.
Combined Attached	Total 2G-IMSI attach with combined (PS and CS) access.
PTMSI	Total attach through Packet-Temporary Mobile Subscriber Identity (P-TMSI).
Total-PTMSI-Attach	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G.
3G-PTMSI-Attach	3G-P-TMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total 3G-P-TMSI attach with GPRS only access.
Combined Attached	Total 3G-P-TMSI attach with combined (PS and CS) access.
2G-PTMSI-Attach	2G-P-TMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total 2G-P-TMSI attach with GPRS only access.
Combined Attached	Total 2G-P-TMSI attach with combined (PS and CS) access.
Attach Accept	Statistics of total attach accepts.
Total-Attach-Accept	Total attach accepts including 2G and 3G.
3G-Attach-Accept	3G-attach accept statistics for GPRS and non-GPRS.
Gprs-Attached	Total 3G-attach accepts with GPRS only access.
Comb-Attached	Total 3G-attach accepts with combined (PS and CS) access.
2G-Attach-Accept	2G-attach accept statistics for GPRS and non-GPRS.
Gprs-Attached	Total 2G-attach accepts with GPRS only access.
Comb-Attached	Total 2G-attach accepts with combined (PS and CS) access.
Attach Complete	Statistics of total attach completed.

Field	Description
Total-Attach-Complete	Total attach completed including 2G and 3G.
3G-Attach-Complete	3G-attach complete statistics for GPRS and non-GPRS.
2G-Attach-Complete	Total 2G-attach completed with GPRS only access.
Attach Reject	Total 2G and 3G attach rejected ststistics.
Total-Attach-Reject	Total 2G and 3G attach rejected ststistics for GPRS and non-GPRS.
3G-Attach-Reject	Total 3G-attach rejected for GPRS only access.
2G-Attach-Reject	Total 2G-attach rejected for combined (PS and CS) access.
Routing Area Update Request	RAU request statistics.
Total-RAU	Total RAU request messages.
Total-Intra-SGSN-RAU	Total intra-SGSN RAU request messages.
Total-Ra-Up-Intra-SGSN-RAU	Total routing area update request messages for intra-SGSN Routing Area (RA) updates.
3G-Ra-Up-Intra-SGSN-RAU	Total routing area update request messages for intra-SGSN Routing Area (RA) updates for 3G.
2G-Ra-Up-Intra-SGSN-RAU	Total routing area update request messages for intra-SGSN RA updates for 2G.
Total-Periodic-Intra-RAU	Total messages for periodic intra-RA updates.
3G-Periodic-Intra-RAU	Total messages for periodic intra-RA updates for 3G.
2G-Periodic-Intra-RAU	Total messages for periodic intra-RA updates for 2G.
Total-Comb-Intra-SGSN-RAU	Total intra-SGSN RAU request messages for combined (PS and CS) services.
3G-Comb-Intra-SGSN-RAU	otal intra-SGSN RAU request messages for combined (PS and CS) 3G services.
2G-Comb-Intra-SGSN-RAU	Total intra-SGSN RAU request messages for combined (PS and CS) 2G services.
Total-PS-Inter-SGSN-RAU	Total packet switched, inter-SGSN-RA update request messages.
3G-PS-Inter-SGSN-RAU	Total packet switched inter-SGSN-RA update request messages for 3G service.
2G-PS-Inter-SGSN-RAU	Total packet switched inter-SGSN-RA update request messages for 2G service.

Field	Description
Total-Comb-Inter-SGSN-RAU	Total combined (PS and CS) inter-SGSN-RA update request messages.
3G-Comb-Inter-SGSN-RAU	Total combined (PS and CS) inter-SGSN-RA update request messages for 3G service.
2G-Comb-Inter-SGSN-RAU	Total combined (PS and CS) inter-SGSN-RA update request messages for 2G service.
Routing Area Update Accept	Statistics of accepted routing area update messages.
Total-RAU-Accept	Total number of routing area update messages accepted.
3G-RAU-Accept	Total number of routing area update messages accepted for 3G service.
3G-Intra-SGSN-RAU-Accept	Total number of intra-SGSN routing area update messages accepted for 3G service.
RA-Updated	Total number of routing area information updated for 3G service.
Comb RA/LA-Updated	Total number of combined (PS and CS) routing area or location area information updated for 3G service.
2G-RAU-Accept	Total number of routing area update messages accepted for 2G service.
2G-Intra-SGSN-RAU-Accept	Total number of intra-SGSN routing area update messages accepted for 2G service.
RA-Updated	Total number of routing area information updated for 2G service.
Comb RA/LA-Updated	Total number of combined (PS and CS) routing area or location area information updated for 2G service.
3G-Inter-SGSN-RAU-Accept	Total number of inter-SGSN routing area update messages accepted for 3G service.
RA-Updated	Total number of routing area information updated for 3G service.
Comb RA/LA-Updated	Total number of combined (PS and CS) routing area or location area information updated for 3G service.
2G-RAU-Accept	Total number of routing area update messages accepted for 2G service.
2G-Inter-SGSN-RAU-Accept	Total number of inter-SGSN routing area update messages accepted for 2G service.

Field	Description
RA-Updated	Total number of routing area information updated for 2G service.
Comb RA/LA-Updated	Total number of combined (PS and CS) routing area or location area information updated for 2G service.
Routing Area Update Complete	Routing area update complete messages statistics.
Total-RAU-Complete	Total number of routing area update complete messages.
3G-RAU-Complete	Total number of routing area update complete messages for 3G service.
2G-RAU-Complete	Total number of routing area update complete messages for 2G service.
Routing Area Update Reject	Routing Area Update (RAU) reject messages statistics.
Total-RAU-Reject	Total number of RAU reject messages.
3G-RAU-Reject	Total number of RAU reject messages for 3G service.
2G-RAU-Reject	Total number of RAU reject messages for 2G service.
Detach Request	Detach request message statitics.
Dropped-Detach-Req	Total number of dropped detach request messages.
3G-MS-Init-IMSI-Detach-Req-During-actv/sms-auth-ongoing	This counter is incremented if UE-Init-IMSI-Detach-Request is dropped when it is received during ongoing authentication of Activation/SMS.
Total-Detach-Req	Total number of detach request messages.
Total-MS-Init-Detach-Req	Total number of Mobile Station (MS) initiated detach requests.
3G-MS-Init-GPRS-Detach-Req	Total number of MS initiated GPRS (PS) detach requests for 3G service.
3G-MS-Init-IMSI-Detach-Req	Total number of MS initiated IMSI (CS) detach requests for 3G service.
3G-MS-Init-Comb-Detach-Req	Total number of MS initiated combined (IMSI and GPRS) detach requests for 3G service.
2G-MS-Init-GPRS-Detach-Req	Total number of MS initiated GPRS detach requests for 2G service.
2G-MS-Init-IMSI-Detach-Req	Total number of MS initiated IMSI detach requests for 2G service.
2G-MS-Init-Comb-Detach-Req	Total number of MS initiated combined (PS and CS) detach requests for 2G service.

Field	Description
Total-Nw-Init-Detach-Req	Total number of network initiated detach requests.
3G-Nw-Init-Reatch-Req	During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. This Detach Request has a detach type -Reattach required, when it wants the MS to attach to the network again for GPRS services. **This counter pegs when**: A clear subscriber detach operation is performed.
2G-Nw-Init-Reatch-Req	During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - Reattach required, when it wants the MS to attach again for GPRS services. **This counter pegs when**: when a clear subscriber operation is performed.
3G-Nw-Init-Reatch-Not-Req	During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - Reattach not required, when it does not expect the MS to attach again for GPRS services. **This counter pegs when**: reception of a Cancel-Location (subscription-withdrawn) or a DSD (all-gprs-subscription withdrawn) is incremented.
2G-Nw-Init-Reatch-Not-Req	During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - Reattach not required, when it does not expect the MS to attach again for GPRS services. **This counter pegs when**: reception of a Cancel-Location (subscription-withdrawn) or a DSD (all-gprs-subscription withdrawn) is incremented.
3G-Nw-Init-IMSI-Detach	When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS. **This counter pegs when**: VLR-reset indication and a next uplink activity from MS is incremented.
2G-Nw-Init-IMSI-Detach	When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS. **This counter pegs when**: VLR-reset indication and a next uplink activity from MS is incremented.

Field	Description
Detach Accept	Detach request accept messages statistics.
Total-Detach-Acc	Total number of detach request accept messages.
Total-MS-Init-Detach-Acc	Total number of MS initiated detach requests accepted.
3G-MS-Init-Detach-Acc	Total number of MS initiated GPRS detach requests accepted for 3G service.
2G-MS-Init-Detach-Acc	Total number of MS initiated IMSI detach requests accepted for 2G service.
Total-Nw-Init-Detach-Acc	Total number of network initiated detach requests accepted.
3G-Nw-Init-Detach-Acc	Total number of network initiated detach requests accepted for 3G service.
3G-Nw-Init-GPRS-Detach-Acc	Total number of network initiated GPRS (PS) detach requests accepted for 3G service.
3G-Nw-Init-IMSI-Detach-Acc	Total number of network initiated IMSI (CS) detach request accepted for 3G service.
3G-Nw-Init-Comb-Detach-Acc	Total number of network initiated combined (PS and CS) detach requests accepted for 3G service.
2G-Nw-Init-Detach-Acc	Total number of network initiated detach requests accepted for 2G service.
2G-Nw-Init-GPRS-Detach-Acc	Total number of network initiated GPRS (PS) detach requests accepted for 2G service.
2G-Nw-Init-IMSI-Detach-Acc	Total number of network initiated IMSI (CS) detach requests accepted for 2G service.
2G-Nw-Init-Comb-Detach-Acc	Total number of network initiated combined (PS and CS) detach requests accepted for 2G service.
Service Request	Service request messages statistics.
Total-Serv-Req	Total number of service request messages.
Total-Signalling-Serv-Req	Total signalling service requests messages.
3G-Signalling-Serv-Req	Total signalling service requests messages for 3G service.
2G-Signalling-Serv-Req	Total signalling service requests messages for 2G service.
Total-Page-Rsp-Serv-Req	Total paging responses for service requests messages.
3G-Page-Rsp-Serv-Req	Total paging responses for service requests messages for 3G service.

Field	Description
2G-Page-Rsp-Serv-Req	Total paging responses for service requests messages for 2G service.
Total-Data-Serv-Req	Total data service requests messages.
3G-Data-Serv-Req	Total data service requests messages for 3G service.
2G-Data-Serv-Req	Total data service requests messages for 2G service.
Service Accept	Statistics of accepted service request messages.
Total-Serv-Resp	Total service response messages.
3G-Service-Resp	Total service response messages for 3G service.
2G-Service-Resp	Total service response messages for 2G service.
Service Reject	Statistics of rejected service request messages.
Total-Serv-Rej	Total service rejected messages.
3G-Service-Rej	Total service rejected messages for 3G service.
2G-Service-Rej	Total service rejected messages for 2G service.
Paging Initiated	Statistics of paging initiated procedures.
Total-Page-Requests	Total paging request messages.
3G-PS-Page-Requests	Total paging request messages in packet switching (PS) domain for 3G service.
3G-CS-Page-Requests	Total paging request messages in circuit switching (CS) domain for 3G service.
2G-PS-Page-Requests	Total paging request messages in packet switching (PS) domain for 2G service.
2G-CS-Page-Requests	Total paging request messages in circuit switching (CS) domain for 2G service.
Total-Page-Responses	Total paging request response messages.
3G-PS-Page-Responses	Total paging request response messages in packet switching (PS) domain for 3G service.
3G-CS-Page-Responses	Total paging request response messages in circuit switching (CS) domain for 3G service.
2G-PS-Page-Responses	Total paging request response messages in packet switching (PS) domain for 2G service.
2G-CS-Page-Responses	Total paging request response messages in circuit switching (CS) domain for 2G service.

Field	Description
Gmm Status Message	GPRS Mobility Management (GMM) procedure status messages.
Total-Gmm-Status-Sent	Total GMM procedure status messages sent.
3G-Gmm-Status-Sent	Total GMM procedure status messages sent for 3G service.
2G-Gmm-Status-Sent	Total GMM procedure status messages sent for 2G service.
Total-Gmm-Status-Rcvd	Total GMM procedure status messages received.
3G-Gmm-Status-Rcvd	Total GMM procedure status messages received for 3G service.
2G-Gmm-Status-Rcvd	Total GPRS Mobility Management (GMM) procedure status messages received for 2G service.
Gmm Information Sent	Statistics of messages sent with GPRS mobility management information.
Total-Gmm-Information-Sent	Total messages sent with GMM information.
3G-Gmm-Information-Sent	Total messages sent with GPRS Mobility Management (GMM) information for 3G service.
2G-Gmm-Information-Sent	Total messages sent with GMM information for 2G service.
Common Procedures	Statistics of common procedures in GPRS mobility management.
Authentication And Ciphering Request	Statistics of authentication and ciphering request messages.
Total-Auth-Cipher-Req	Total authentication and ciphering request messages.
3G-Auth-Cipher-Req	Total authentication and ciphering request messages for 3G service.
2G-Auth-Cipher-Req	Total authentication and ciphering request messages for 2G service.
Authentication And Ciphering Response	Statistics of authentication and ciphering request response messages
Total-Auth-Cipher-Resp	Total authentication and ciphering request response messages.
3G-Auth-Cipher-Resp	Total authentication and ciphering request response messages for 3G service.
2G-Auth-Cipher-Resp	Total authentication and ciphering request response messages for 2G service.

Field	Description
Authentication And Ciphering Response With SRES Mistmatch	Indicates the statistics of authentication and ciphering request response messages having Signed RESponse (SRES) mismatch.
Total-Auth-Cipher-Resp with Sres Mismatch	Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch.
3G-Auth-Cipher-Resp with Sres Mismatch	Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch for 3G service.
2G-Auth-Cipher-Resp with Sres Mismatch	Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch for 2G service.
Authentication And Ciphering Reject	Statistics of authentication and ciphering request reject messages.
Total-Auth-Cipher-Rej	Total authentication and ciphering requests rejected messages.
3G-Auth-Cipher-Rej	Total authentication and ciphering requestsrejected messages for 3G service.
2G-Auth-Cipher-Rej	Total authentication and ciphering requests rejected messages for 2G service.
Authentication And Ciphering Failure	Statistics of authentication and ciphering request failure messages.
Total-Auth-Cipher-Failure	Total authentication and ciphering request failures.
3G-Auth-Cipher-Mac-Failure	Total authentication and ciphering failures due to Message Authentication Code (MAC) for 3G service.
2G-Auth-Cipher-Mac-Failure	Total authentication and ciphering failures due to Message Authentication Code (MAC) for 2G service.
3G-Auth-Cipher-Sync-Failure	Total authentication and ciphering failures due to synchronisation failure for 3G service.
2G-Auth-Cipher-Syn-Failure	Total authentication and ciphering failures due to synchronisation failure for 2G service.
3G-Auth-Unacceptable	Total authentication and ciphering failures due to unacceptable delay for 3G service.
2G-Auth-Unacceptable	Total authentication and ciphering failures due to unacceptable delay for 2G service.
P-TMSI Realloc	Statistics of Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedures.

Field	Description
Total-PTMSI Realloc	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedures.
3G-PTMSI Realloc	Total Packet-Temporary Mobile Subscriber Identity reallocation procedures for 3G service.
2G-PTMSI Realloc	Total Packet-Temporary Mobile Subscriber Identity reallocation procedures for 2G service.
P-TMSI Realloc Complete	Statistics of completed P-TMSI reallocation procedures.
Total-PTMSI Realloc Complete	Total Packet-Temporary Mobile Subscriber Identity reallocation procedure completed.
3G-PTMSI Realloc Complete	Total Packet-Temporary Mobile Subscriber Identity reallocation procedure completed for 3G service.
2G-PTMSI Realloc Complete	Total Packet-Temporary Mobile Subscriber Identity reallocation procedure completed for 2G service.
Identity Request	Indicates the statistics of identity request messages.
Total-Identity-Req	Total identity request messages.
Total-IMSI-Identity-Req	Total international mobile subscriber identity (IMSI) identity request messages.
3G-IMSI-Identity-Req	Total IMSI identity request messages for 3G service.
2G-IMSI-Identity-Req	Total IMSI identity request messages for 2G service.
Total-IMEI-Identity-Req	Total International Mobile Equipment Identity (IMEI) request messages.
3G-IMEI-Identity-Req	Total IMEI identity request messages for 3G service.
2G-IMEI-Identity-Req	Total IMEI identity request messages for 2G service.
Total-IMEISV-Identity-Req	Total International Mobile Equipment Identity-software version (IMEI-SV) identity request messages.
3G-IMEISV-Identity-Req	Total IMEI-SV identity request messages for 3G service.
2G-IMEISV-Identity-Req	Total IMEI-SV identity request messages for 2G service.
Total-(P)TMSI-Identity-Req	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request messages.
3G-(P)TMSI-Identity-Req	Total P-TMSI identity request messages for 3G service.
2G-(P)TMSI-Identity-Req	Total P-TMSI identity request messages for 2G service.
Identity Response	Indicates the statistics of identity request messages.

Field	Description
Total-Identity-Rsp	Total identity request response messages.
Total-IMSI-Identity-Rsp	Total international mobile subscriber identity (IMSI) identity request response messages.
3G-IMSI-Identity-Rsp	Total IMSI identity request response messages for 3G service.
2G-IMSI-Identity-Rsp	Total IMSI identity request response messages for 2G service.
Total-IMEI-Identity-Rsp	Total International Mobile Equipment Identity (IMEI) request response messages.
3G-IMEI-Identity-Rsp	Total IMEI identity request response messages for 3G service.
2G-IMEI-Identity-Rsp	Total IMEI identity request response messages for 2G service.
Total-IMEISV-Identity-Rsp	Total International Mobile Equipment Identity-Software Version (IMEI-SV) identity request response messages.
3G-IMEISV-Identity-Rsp	Total IMEI-SV identity request response messages for 3G service.
2G-IMEISV-Identity-Rsp	Total IMEI-SV identity request response messages for 2G service.
Total-(P)TMSI-Identity-Rsp	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request response messages.
3G-(P)TMSI-Identity-Rsp	Total P-TMSI identity request response messages for 3G service.
2G-(P)TMSI-Identity-Rsp	Total P-TMSI identity request response messages for 2G service.
Total-Unknown-Identity-Rsp	Total identity request response messages for unknown identity.
3G-Unknown-Identity-Rsp	Total identity request response messages for unknown identity for 3G service.
2G-Unknown-Identity-Rsp	Total identity request response messages for unknown identity for 2G service.
Timers	Message and procedure timers statistics.
Total-T3350-Expiry	Total number of times the T3350 timer timed-out.
3G-T3350-Expiry	Total number of times the T3350 timer timed-out for 3G service.

Field	Description
2G-T3350-Expiry	Total number of times the T3350 timer timed-out for 2G service.
Total-T3360-Expiry	Total number of times the T3360 timer timed-out.
3G-T3360-Expiry	Total number of times the T3360 timer timed-out for 3G service.
2G-T3360-Expiry	Total number of times the T3360 timer timed-out for 2G service.
Total-T3370-Expiry	Total number of times the T3370 timer timed-out.
3G-T3370-Expiry	Total number of times the T3370 timer timed-out for 3G service. **Note** This counter is deprecated from release R 16.0 onwards. New counters are introduced to replace this counter. The new counters are based on Identity type.
2G-T3370-Expiry	Total number of times the T3370 timer timed-out for 2G service. **Note** This counter is deprecated from release R 16.0 onwards. New counters are introduced to replace this counter. The new counters are based on Identity type.
3G-T3370-Expiry-IMSI	Total number of times the T3370 timer timed-out for 3G IMSI identity request.
2G-T3370-Expiry-IMSI	Total number of times the T3370 timer timed-out for 2G IMSI identity request.
3G-T3370-Expiry-IMEI	Total number of times the T3370 timer timed-out for 3G IMEI identity request.
2G-T3370-Expiry-IMEI	Total number of times the T3370 timer timed-out for 2G IMEI identity request.
3G-T3370-Expiry-IMEISV	Total number of times the T3370 timer timed-out for 3G IMEISV identity request.
2G-T3370-Expiry-IMEISV	Total number of times the T3370 timer timed-out for 2G IMEISV identity request.
3G-T3370-Expiry-TMSI	Total number of times the T3370 timer timed-out for 3G TMSI identity request.
2G-T3370-Expiry-TMSI	Total number of times the T3370 timer timed-out for 2G TMSI identity request.

Field	Description
3G-T3370-Expiry-Other	Total number of times the T3370 timer timed-out for 3G identity request for unknown reason.
2G-T3370-Expiry-Other	Total number of times the T3370 timer timed-out for 2G identity request for unknown reason.
Total-T3322-Expiry	Total number of times the T3322 timer timed-out.
3G-T3322-Expiry	Total number of times the T3322 timer timed-out for 3G service.
2G-T3322-Expiry	Total number of times the T3322 timer timed-out for 2G service.
Total-T3313-Expiry	Total number of times the T3313 timer timed-out.
3G-T3313-Expiry	Total number of times the T3313 timer timed-out for 3G service.
2G-T3313-Expiry	Total number of times the T3313 timer timed-out for 2G service.
Ranap Procedures	Indicates the statistics of Radio Access Network Application Part (RANAP) procedures.
Initial UE Rcvd	Total number of initial User Equipment (UE) messages received.
Common Id sent	Total number of common identifier messages sent.
Direct Transfer Sent	Total number of direct transfer messages sent.
Direct Transfer Rcvd	Total number of direct transfer messages received.
Security Mode Command	Total number of security mode commands received.
Security Mode Complete	Total number of security mode completed.
Security Mode Reject	Total number of security mode commands rejected.
Iu Release Request	Total number of Iu interface release request received.
Iu Release Command	Total number of Iu interface release commands received.
Iu Release Complete	Total number of Iu interface release completed.
Reset Rcvd	Total number of reset requests received.
Retransmitted Reset Rcvd	Total number of retransmitted reset requests received.
Reset Ack Sent	Total number of reset request acknowledgement sent.
Reset Sent	Total number of reset requests sent.

Field	Description
Retransmitted Reset Sent	Total number of reset requests retransmitted.
Reset Ack Rcvd	Total number of reset request acknowledgements received.
Resource Reset Rcvd	Total number of resource reset requests received.
Resource Reset Dropped	Total number of resource reset requests dropped as a result of throttling mechanism which handles flurries of such messages to the MMgr.
Resource Reset Ack Sent	Total number of resource reset request acknowledgements sent.
Resource Reset Sent	Total number of resource reset requests sent.
Resource Reset Ack Rcvd	Total number of resource reset request acknowledgements received.
Overload ctrl Rcvd	Total number of resource overload control messages received.
PC Congested Received	Total number of Point Code (PC) congested messages received.
Error Indication Rcvd	Total number of error indication messages received.
Error Indication Sent	Total number of error indication messages sent.
Relocation Required	Total number of messages received for Serving Radio Network Subsystem (SRNS) relocation required.
Relocation Command	Total number of messages received with SRNS relocation command.
Relocation Request	Total number of SRNS relocation requests received.
Relocation Request Ack	Total number of SRNS relocation requests Ack sent.
Relocation Failure	Total number of SRNS relocation failure messages received.
Relocation Prep Failure	Total number of SRNS relocation preparation failure messages received.
Relocation Cancel	Total number of SRNS relocation cancel messages received.
Relocation Cancel Ack	Total number of SRNS relocation cancel acknowledge messages sent.
Relocation Detect	Total number of SRNS relocation detected.
Relocation Complete	Total number of SRNS relocation completed.

Field	Description
Forward SRNS Context	Total number of SRNS contexts forwarded.
NAS-PDU Stats	Protocol Data Units (PDUs) for Network Access Server (NAS) statistics.
Received	Indicates the total all type of PDUs received through NAS interface.
Sent	Indicates the total all type of PDUs sent through NAS interface.
Total-Received-NAS-Pdu	Total all type of Protocol Data Units received through NAS interface.
Total-Sent-NAS-Pdu	Total all type of PDUs sent through NAS interface.
GMM-Received-NAS-Pdu	Total PDUs received by GPRS mobility management (GMM) service through NAS interface.
GMM-Sent-NAS-Pdu	Total PDUs sent by GMM service through NAS interface.
SM-Received-NAS-Pdu	Total PDUs received by Service Management (SM) service through NAS interface.
SM-Sent-NAS-Pdu	Total PDUs sent by SM service through NAS interface.
UnIdentified-NAS-Pdu	Total number of unknown type PDUs received through NAS interface.
Dropped NAS-PDUS	Statistics of Protocol Data Units (PDUs) dropped through NAS interface.
Total-Dropped-NAS-Pdu	Total number of PDUs dropped through NAS interface.
Redirection Indication	Indicates the causes for redirection indication.
PLMN not allowed	The Attach/RAU Reject message is sent with GMM cause -PLMN not allowed"or any other values not specifically mapped to the other causes. **This counter pegs when**: Attach-reject/RAU-reject is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause.
Location area not allowed	The Attach/RAU Reject message is sent with GMM cause -Location Area not allowed. **This counter pegs when**: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause.

Field	Description
Roaming not allowed in LA	The Attach/RAU Reject message is sent with GMM cause - Roaming not allowed in this location area. **This counter pegs when**: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause.
No GPRS services in PLMN	The Attach/RAU Reject message is sent with GMM cause -GPRS services not allowed in this PLMN. **This counter pegs when**: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause.
CS/PS co-ord required	SGSN while interacting with the IMSI of the MS, rejects the MS to facilitate the RNC to choose the right CN operator. **This counter pegs when**: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause.
Unknown Reasons	The RANAP message is sent with none of the valid cause values. If the value is non-zero, it reflects an error in SGSN software. **This counter pegs when**: Attach-reject/RAU-reject message is sent in a MOCN configuration and the RNC tries the Attach/RAU at the next SGSN with the specific cause.
SMS Error Stats	Statistics of errors related to Short Message Service (SMS).
CP-ERROR (Tx)	Total number of control program errors sent (in upload direction) for short message service (SMS).
Network Overload Protection	
Attach requests queued in the pacing queue	Total number of Attach Request messages in the pacing queue waiting to be processed.
Inter SGSN RAU requests queued in the pacing queue	Total number of Inter SGSN RAU Request messages that have been buffered in the pacing queue.
Number of Inter SGSN RAU and Attach requests in the pacing queue	Total number of Attach Request messages and Inter SGSN Routing Area Update (RAU) Request messages that have been buffered in the pacing queue.
Attach requests successfully dequeued from the pacing queue	Total number of Attach Request messages that have been successfully removed from the pacing queue to be sent to the Session Manager for further processing.

Field	Description
Inter SGSN RAU requests successfully dequeued from the pacing queue	Total number of Inter SGSN RAU Request messages that have successfully been removed from the pacing queue and sent to the Session Manager for further processing.
Attaches rejected	Total number of Attach Request messages that were rejected due to a network overload situation.
Inter SGSN RAUs rejected	Total number of Inter SGSN RAU Request messages that were rejected due to a network overload situation.
Attaches dropped	Total number of Attaches that were dropped due to a network overload situation.
Inter SGSN RAUs dropped	Total number of Inter SGSN RAU Request messages that were dropped due to a network overload situation.
Attaches discarded due to excess wait time in the pacing queue	Total number of Attach Request messages that were discarded because the requests waited in the pacing queue for more than the t3310 timer value, which would have resulted in a timeout at the MS.
Inter SGSN RAUs discarded due to excess wait time in the pacing queue	Total number of Inter SGSN RAU messages that were discarded from the pacing queue as the requests waited more than the t3315 timer value, which would have resulted in a timeout at the MS.
Number of valid packets processed in the last sec	Total number of valid packets processed in the last second.
Number of packets in Q in the last tick	Total number of packets in the queue in the last tick.
Packets to be dequeued in the last tick	Total number of packets dequeued in the last tick.
Number of new requests processed from the pacing queue in the last tick	Total number of new requests processed from the pacing queue in the last tick.
Number of requests dropped from the pacing queue in the last tick	Total number of requests dropped from the pacing queue in the last tick.
Average Number of requests processed per min (1 min)	The average number of requests processed per minute.
Average Number of requests processed per min (5 min)	The average number of requests processed per minute.
Average Number of requests processed per min (10 min)	The average number of requests processed per minute.
Session Management Messages Statistics	
Activate Context Request	Statistics related to active context request in Session Management (SM) service.
Total-Actv-Request	Total number of request messages received for 2G and 3G context activation including primary and secondary contexts.

Field	Description
3G-Actv-Request	Total number of request messages received for 3G context activation including primary and secondary contexts.
2G-Actv Request	Total number of request messages received for 2G context activation including primary and secondary contexts.
Primary-Actv-Request	Total number of request messages received for 2G and 3G primary context activation.
3G-Primary-Actv-Request	Total number of request messages received for 3G primary context activation.
2G-Primary-Actv-Request	Total number of request messages received for 2G primary context activation.
Secondary-Actv-Request	Total number of request messages received for 2G and 3G secondary context activation.
3G-Secondary-Actv-Request	Total number of request messages received for 3G secondary context activation.
2G-Secondary-Actv-Request	Total number of request messages received for 2G secondary context activation.
Activate Context Accept	Statistics relaetd to active context requests accepted in Session Management service.
Total-Actv-Accept	Total number of request messages accepted for 2G and 3G context activation including primary and secondary type ofcontext.
3G-Actv-Accept	Total number of request messages accepted for 3G context activation including primary and secondary type of context.
2G-Actv Accept	Total number of request messages accepted for 2G context activation including primary and secondary type of context.
Primary-Actv-Accept	Total number of request messages accepted for 2G and 3G primary context activation.
3G-Primary-Actv-Accept	Total number of request messages accepted for 3G primary context activation.
2G-Primary-Actv-Accept	Total number of request messages accepted for 2G primary context activation.
Secondary-Actv-Accept	Total number of request messages accepted for 2G and 3G secondary context activation.
3G-Secondary-Actv-Accept	Total number of request messages accepted for 3G secondary context activation.

Field	Description
2G-Secondary-Actv-Accept	Total number of request messages accepted for 2G secondary context activation.
Activate Context Reject	Statistics of request messages rejected for 2G and 3G context activation including primary and secondary type of contexts.
Total-Actv-Reject	Total number of request messages rejected for 2G and 3G context activation including primary and secondary type of contexts.
3G-Actv-Reject	Total number of request messages rejected for 3G context activation including primary and secondary type of contexts.
2G-Actv-Reject	Total number of request messages rejected for 2G context activation including primary and secondary type of contexts.
Primary-Actv-Reject	Total number of request messages rejected for 2G and 3G primary context activation.
3G-Primary-Actv-Reject	Total number of request messages rejected for 3G primary context activation.
2G-Primary-Actv-Reject	Total number of request messages rejected for 2G primary context activation.
Secondary-Actv-Reject	Total number of request messages rejected for 2G and 3G secondary context activation.
3G-Secondary-Actv-Reject	Total number of request messages rejected for 3G secondary context activation.
2G-Secondary-Actv-Reject	Total number of request messages rejected for 2G secondary context activation.
Actv-Reject-Nrspca	Total number of request messages rejected for Network Requested Secondary PDP Context Activation.
3G-Actv-Reject-Nrspca	Total number of NRSPCA request messages rejected for 3G secondary context activation.
Activate Context Failure	
Total-Actv-Failure	Total number of context activation failures for 2G and 3G services, including primary and secondary types.
3G-Actv-Failure	Total number of context activation failures for 3G services.
2G-Actv Failure	Total number of context activation failures for 2G services.

Field	Description
Primary-Actv-Failure	Total number of failed primary context activations for 2G and 3G service.
3G-Primary-Actv-Failure	Total number of failed primary context activations for 3G service.
2G-Primary-Actv-Failure	Total number of failed primary context activations for 2G service.
Secondary-Actv-Failure	Total number of failed secondary context activations for 2G and 3G service.
3G-Secondary-Actv-Failure	Total number of failed secondary context activations for 3G service .
2G-Secondary-Actv-Failure	Total number of failed secondary context activations for 2G and 3G service .
Duplicate Activate Request	Statistics of duplicate context activation requests for 2G and 3G service received.
Total-Dup-Actv Req Received	Total number of duplicate context activation requests for 2G and 3G service received.
Total-Dup-3G-Actv Req Received	Total number of duplicate context activation requests for 3G service received.
3G-Dup Req In PDP-ACTIVE State	Statistics of duplicate context activation requests for 3G service in PDP activate state.
Duplicate TI	Total number of duplicate context activation requests for 3G service in PDP active state with duplicate Transaction Identifiers (TIs).
Duplicate NSAPI	Total number of duplicate context activation requests for 3G service in PDP active state with duplicate Network Service Access Point Identifier (NSAPI) for 3G service.
Duplicate PDP-Addr and APN	Total number of duplicate context activation requests for 3G service in PDP active state with duplicate PDP address and access point name for 3G service.
Total-Dup-2G-Actv Req Received	Total number of duplicate context activation requests for 2G service received.
2G-Dup Req In PDP-ACTIVE State	Indicates the statistics of duplicate context activation requests for 2G service in PDP activate state.
Duplicate TI	Total number of duplicate context activation requests for 2G service in PDP active state with duplicate Transaction Identifiers (TIs).

Field	Description
Duplicate NSAPI	Total number of duplicate context activation requests for 2G service in PDP active state with duplicate Network Service Access Point Identifier (NSAPI).
Duplicate PDP-Addr and APN	Total number of duplicate context activation requests for 2G service in PDP active state with duplicate PDP address and access point name.
3G-Dup Req In NOT PDP-ACTIVE State	Statistics of duplicate context activation requests for 3G service which are not in PDP active state.
Duplicate TI	Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate transaction identifiers (TIs).
Duplicate NSAPI	Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate Network Service Access Point Identifier (NSAPI).
Duplicate PDP-Addr and APN	Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate PDP address and access point name.
2G-Dup Req In NOT PDP-ACTIVE State	Indicates the statistics of duplicate context activation requests for 2G service which are not in PDP active state.
Duplicate TI	Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate transaction identifiers (TIs).
Duplicate NSAPI	Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate Network Service Access Point Identifier (NSAPI).
Duplicate PDP-Addr and APN	Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate PDP address and access point name.
Request Pdp Context Activation	Indicates the statistics of PDP context activation requests for 2G and 3G service.
Total-Request-Pdp-Ctxt-Req	Total number of PDP context activation requests received for 2G and 3G service.
3G-Request-Pdp-Ctxt-Req	Total number of PDP context activation requests received for 3G service.
2G-Request-Pdp-Ctxt-Req	Total number of PDP context activation requests received for 2G service.
Request Pdp Context Activation Reject	Indicates the statistics of PDP context activation requests rejected for 2G and 3G service.

Field	Description
Total-Request-Pdp-Ctxt-Req Reject	Total number of PDP context activation requests rejected for 2G and 3G service.
3G-Request-Pdp-Ctxt-Req Reject	Total number of PDP context activation requests rejected for 3G service.
2G-Request-Pdp-Ctxt-Req Reject	Total number of PDP context activation requests rejected for 2G service.
Modify Context Request	Statistics of MS and network initiated PDP context modification requests received for 2G and 3G service.
Total-Modify-Request	Total number of MS and network initiated PDP context modification requests received for 2G and 3G service.
3G-Modify-Request	Total number of MS and network initiated PDP context modification requests received for 3G service.
2G-Modify Request	Total number of MS and network initiated PDP context modification requests received for 2G service.
MS-Modify-Request	Total number of MS initiated PDP context modification requests received for 2G and 3G service.
3G-MS-Modify-Request	Total number of MS initiated PDP context modification requests received for 3G service.
2G-MS-Modify-Request	Total number of MS initiated PDP context modification requests received for 2G service.
NW-Modify-Request	Total number of network initiated PDP context modification requests received for 2G and 3G service.
3G-NW-Modify-Request	Total number of network initiated PDP context modification requests received for 3G service.
2G-NW-Modify-Request	Total number of network initiated PDP context modification requests received for 2G service.
Modify Context Accept	Statistics of MS and network initiated PDP context modification requests accepted for 2G and 3G service.
Total-Modify-Accept	Total number of MS and network initiated PDP context modification requests accepted for 2G and 3G service.
3G-Modify-Accept	Total number of MS and network initiated PDP context modification requests accepted for 3G service.
2G-Modify-Accept	Total number of MS and network initiated PDP context modification requests accepted for 2G service.
MS-Modify-Accept	Total number of MS initiated PDP context modification requests accepted for 2G and 3G service.

Field	Description
3G-MS-Modify-Accept	Total number of MS initiated PDP context modification requests accepted for 3G service.
2G-MS-Modify-Accept	Total number of MS initiated PDP context modification requests accepted for 2G service.
NW-Modify-Accept	Total number of network initiated PDP context modification requests accepted for 2G and 3G service.
3G-NW-Modify-Accept	Total number of network initiated PDP context modification requests received for 3G service.
2G-NW-Modify-Accept	Total number of network initiated PDP context modification requests accepted for 2G service.
Modify Context Reject	Indicates the statistics of MS and network initiated PDP context modification requests rejected for 2G and 3G service.
Total-Modify-Reject	Total number of MS and network initiated PDP context modification requests rejected for 2G and 3G service.
3G-Modify-Reject	Total number of MS and network initiated PDP context modification requests rejected for 3G service.
2G-Modify-Reject	Total number of MS and network initiated PDP context modification requests rejected for 2G service.
MS-Modify-Reject	Total number of MS initiated PDP context modification requests rejected for 2G and 3G service.
3G-MS-Modify-Reject	Total number of MS initiated PDP context modification requests rejected for 3G service.
2G-MS-Modify-Reject	Total number of MS initiated PDP context modification requests rejected for 2G service.
NW-Modify-Reject	Total number of network initiated PDP context modification requests rejected for 2G and 3G service.
3G-NW-Modify-Reject	Total number of network initiated PDP context modification requests rejected for 3G service.
2G-NW-Modify-Reject	Total number of network initiated PDP context modification requests rejected for 2G service.
Deactivate Context Request	Statistics of MS and network initiated PDP context deactivation requests received for 2G and 3G service.
Total-Deactv-Request	Total number of MS and network initiated PDP context deactivation requests received for 2G and 3G service.

Field	Description
3G-Deactv-Request	Total number of MS and network initiated PDP context deactivation requests received for 3G service.
2G-Deactv-Request	Total number of MS and network initiated PDP context deactivation requests received for 2G service.
MS-Deactv-Request	Total number of MS initiated PDP context deactivation requests received for 2G and 3G service.
3G-MS-Deactv-Request	Total number of MS initiated PDP context deactivation requests received for 3G service.
2G-MS-Deactv-Request	Total number of MS initiated PDP context deactivation requests received for 2G service.
NW-Deactv-Request	Total number of network initiated PDP context deactivation requests received for 2G and 3G service.
3G-NW-Deactv-Request	Total number of network initiated PDP context deactivation requests received for 3G service.
2G-NW-Deactv-Request	Total number of network initiated PDP context deactivation requests received for 2G service.
Deactivate Context Accept	Statistics of MS and network initiated PDP context deactivation requests accepted for 2G and 3G service.
Total-Deactv-Accept	Total number of MS and network initiated PDP context deactivation requests accepted for 2G and 3G service.
3G-Deactv-Accept	Total number of MS and network initiated PDP context deactivation requests accepted for 3G service.
2G-Deactv-Accept	Total number of MS and network initiated PDP context deactivation requests accepted for 2G service.
MS-Deactv-Accept	Total number of MS initiated PDP context deactivation requests accepted for 2G and 3G service.
3G-MS-Deactv-Accept	Total number of MS initiated PDP context deactivation requests accepted for 3G service.
2G-MS-Deactv-Accept	Total number of MS initiated PDP context deactivation requests accepted for 2G service.
NW-Deactv-Accept	Total number of network initiated PDP context deactivation requests accepted for 2G and 3G service.
3G-NW-Deactv-Accept	Total number of network initiated PDP context deactivation requests accepted for 3G service.
2G-NW-Deactv-Accept	Total number of network initiated PDP context deactivation requests accepted for 2G service.

Field	Description
SM Status Messages	Indicates the statistics of the service manager status messages for 2G and 3G service.
Total-SM-Status-Sent	Total number of service manager status messages sent for 2G and 3G service.
3G-SM-Status-Sent	Total number of service manager status messages sent for 3G service.
2G-SM-Status-Sent	Total number of service manager status messages sent for 2G service.
Total-SM-Status-Rcvd	Total number of service manager status messages received for 2G and 3G service.
3G-SM-Status-Rcvd	Total number of service manager status messages received for 3G service.
2G-SM-Status-Rcvd	Total number of service manager status messages received for 2G service.
RNC Initiated RAB Messages	Statistics of the Radio Network Controller (RNC) initiated Radio Access Bearer (RAB) messages for 2G and 3G service.
Total Rab Mod Requested	Total number of requests forRadio Access Bearer (RAB) modification initiated by Radio Network Controller (RNC).
Num Rab Mod	Total number of RABs modified on request for modification initiated by RNC.
Total Rab Rel Requested	Total number of requests for RAB release initiated by RNC.
Num Rab Rel	Total number of RABs modified on request for release initiated by RNC.
SGSN Initiated RAB Messages	Indicates the statistics of the SGSN initiated radio access bearer (RAB) messages for 2G and 3G service.
Total Rab Assign Requested	Total number of SGSN initiated RAB assign requests messages received.
Total Rab Assign Rsp Rcvd	Total number of SGSN initiated RAB assign response messages received.
Rab Setup/Mod Attempted	Total number of SGSN initiated setup and modification attempted for RAB.
Rab Setup/Mod Accepted	Total number of SGSN initiated setup and modifications accepted for RAB.

Field	Description
Rab Setup Attempted	This proprietary counter tracks the number of RAB Setup Request messages initiated by the SGSN.
Rab Setup Accepted	This proprietary counter tracks the number of successful RAB Setup Request messages. The SGSN initiates RAB Setup Request towards the RNC to setup a RAB.
Rab Modify Attempted	This proprietary counter tracks the number of RAB Modify Request messages initiated by the SGSN.
Rab Modify Accepted	This proprietary counter tracks the number of successful RAB Modify Request messages. The SGSN initiates RAB Modify Request towards the RNC to modify a RAB
Rab Setup/Mod Timer Expired	Total number of SGSN initiated RAB setup and modification events where procedure timer was exhausted.
Rab Setup/Mod Failed	Total number of SGSN initiated RAB setup and modification events failed.
Rab Setup Timer Expired	This proprietary counter tracks the number of RAB Setup Request messages that timeout. The SGSN initiates RAB Setup Request towards the RNC and starts a timer. When no response is received within a certain time, the SGSN performs an action appropriate to the procedure – during activation, the SGSN sends Activation Reject. For other procedures, the PDP context is preserved.
Rab Setup Failed	This proprietary counter tracks the number of unsuccessful RAB Setup Request messages. The SGSN initiates RAB Setup Request towards the RNC to setup a RAB.
Rab Modify Timer Expired	This proprietary counter tracks the number of RAB Modify Request messages that timeout. The SGSN initiates RAB Modify Request towards the RNC and starts a timer. When no response is received within a certain time, the SGSN performs an action appropriate to the procedure – during activation, the SGSN sends Activation Reject. For other procedures, the PDP context is preserved.
Rab Modify Failed	This proprietary counter tracks the number of unsuccessful RAB Modify Request messages. The SGSN initiates RAB Modify Request towards the RNC to modify a RAB.
Rab Rel Attempted	Total number of SGSN initiated RAB release procedure attempted.
Rab Rel Accepted	Total number of SGSN initiated RAB release procedure accepted.

Field	Description
Rab Rel Timer Expired	Total number of SGSN initiated RAB release procedure where procedure timer exhausted.
Rab Rel Failed	Total number of SGSN initiated RAB release procedure failed.
Rab Queued	Total number of SGSN initiated RAB messages in queue.
Rab Setup Reattempted (Diff IP)	Total number of SGSN initiated RAB setup reattempted with different IP address.
Total Set/Mod/Rel Rab Rejected	Total number of SGSN initiated RAB setup, modification/release rejected.
SRNS Context Transfer Messages	Statistics of SGSN Radio Network Subsystem (SRNS) context transfer messages.
SRNS Context Req Send	Total number of SRNS context transfer request messages sent.
SRNS Context Rsp Rcvd	Total number of SGSN Radio Network Subsystem (SRNS) context transfer response messages received.
SRNS Context Req Timer Expired	Total number of events when timer exhausted for SRNS context transfer request messages.
Total PDP-Ctxt Accepted	Total number of PDP context accepted for SRNS.
Total PDP-Ctxt Rejected	Total number of PDP context rejected for SRNS.
SRNS Data Fwd Cmd Send	Total number of SRNS data forward commands sent.

show gmm-sm statistics verbose

Table 291: show gmm-sm statistics verbose Command Output Descriptions

Field	Description
Session Statistics	
Attached Subscribers	Statistics for attached subscribers.
Total Attached	Total subscribers attached for 2G and 3G.
3G Attached	Total subscribers attached for 3G only.
2G Attached	Total subscribers attached for 3G only.
Home Subscribers	Statistics for attached home subscribers.
Total Home	Total home subscribers attached for 2G and 3G.

Field	Description
3G Home	Total home subscribers attached for 3G only.
2G Home	Total home subscribers attached for 3G only.
Visiting National Subscribers	Statistics for attached visiting national subscribers.
Total-Visiting-National	Total visiting national subscribers attached for 2G and 3G.
3G-Visiting-National	Total visiting national subscribers attached for 3G only.
2G-Visiting-National	Total visiting national subscribers attached for 3G only.
Visiting Foreign Subscribers	Statistics for attached visiting foreign subscribers.
Total-Visiting-Foreign	Total visiting foreign subscribers attached for 2G and 3G.
3G-Visiting-Foreign	Total visiting foreign subscribers attached for 3G only.
2G-Visiting-Foreign	Total visiting foreign subscribers attached for 2G only.
Network Sharing Subscribers	Statistics for network sharing subscribers.
3G-Supporting-UE	Total number of 3G Network Sharing Supporting User Equipment currently in the system. **This counter pegs when**: Increments when a network sharing supporting UE connects with the 3G SGSN.
3G-Non-Supporting-UE	Total number of 3G Network Sharing Non Supporting User Equipment currently in the system. **This counter pegs when**: A network sharing non-supporting UE connects with the 3G SGSN.
Subscribers in PMM-REGISTERED state	Total subscribers in Packet Mobility Management-registered (PMM-REGISTERED) state, including connected and idle.
PMM-CONNECTED	Total subscribers in PMM connected state.
PMM-IDLE	Total subscribers in PMM idle state.
Subscribers in GPRS-CONNECTED state	Total number of subscribers in GPRS-CONNECTEDD state. It is a Gauge type of counter.
GPRS-STANDBY	Total number of subscribers in GPRS-STANDBY state. It is a Gauge type of counter.
GPRS-READY	Total number of subscribers in GPRS-READY state. It is a Gauge type of counter.
Activated Subscribers	Statistics of activated subscribers.
Total Activated	Total number of activated 2G and 3G subscribers.

Field	Description
3G Activated	Total number of activated 3G subscribers only.
2G Activated	Total number of activated 2G subscribers only.
Activate PDP Contexts	Statistics of activated PDP contexts.
Total Actv PDP Ctx	Total number of activated 2G and 3G PDP contexts.
3G-Actv Pdp Ctx	Total number of activated 3G PDP contexts only.
2G-Actv Pdp Ctx	Total number of activated 2G PDP contexts only.
Total Actv Pdp Ctx with Direct Tunnel	Total number of activated PDP contexts through direct tunnel.
Message Statistics	Statistics of messages.
Specific Procedures	Indicates the statistics related to specific procedures.
Attach Request	Total number of messages for Attach Request.
Total-Attach	Statistics of total attach messages.
IMSI	Indicates the statistics of total attach through international mobile subscriber identity (IMSI).
Total-IMSI-Attach	Total international mobile subscriber identity (IMSI) attach including 2G and 3G.
3G-IMSI-Attach	3G-IMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total 3G-IMSI attach with GPRS only access.
Combined Attached	Total 3G-IMSI attach with combined (PS and CS) access.
2G-IMSI-Attach	2G-IMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total 2G-IMSI attach with GPRS only access.
Combined Attached	Total 2G-IMSI attach with combined (PS and CS) access.
PTMSI	Statistics of total attach through Packet-Temporary Mobile Subscriber Identity (P-TMSI).
Total-PTMSI-Attach	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G.
3G-PTMSI-Attach	3G-P-TMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total 3G-P-TMSI attach with GPRS only access.
Combined Attached	Total 3G-P-TMSI attach with combined (PS and CS) access.
2G-PTMSI-Attach	Indicates the 2G-P-TMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total 2G-P-TMSI attach with GPRS only access.

Field	Description
Combined Attached	Total 2G-P-TMSI attach with combined (PS and CS) access.
Local-PTMSI	Statistics of total attach through local Packet-Temporary Mobile Subscriber Identity (P-TMSI).
Total-loc-PTMSI-Attach	Total local Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G.
3G-loc-PTMSI-Attach	Local 3G-P-TMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total local 3G-P-TMSI attach with GPRS only access.
Combined Attached	Total local 3G-P-TMSI attach with combined (PS and CS) access.
2G-loc-PTMSI-Attach	Indicates the local 2G-P-TMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total local 2G-P-TMSI attach with GPRS only access.
Combined Attached	Total local 2G-P-TMSI attach with combined (PS and CS) access.
Remote-PTMSI	Statistics of total attach through remote Packet-Temporary Mobile Subscriber Identity (P-TMSI).
Total-remo-PTMSI-Attach	Total remote Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G.
3G-remote-PTMSI-Attach	3G-P-TMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total remote 3G-P-TMSI attach with GPRS only access.
Combined Attached	Total remote 3G-P-TMSI attach with combined (PS and CS) access.
2G-remote-PTMSI-Attach	Remote 2G-P-TMSI attach statistics for GPRS and non-GPRS.
GPRS-only Attached	Total remote 2G-P-TMSI attach with GPRS only access.
Combined Attached	Total remote 2G-P-TMSI attach with combined (PS and CS) access.
Retransmission	Statistics of retransmitted messages.
Ret-Total-Attach	Statistics of total retransmitted attach requests.
IMSI	Statistics of total attach through retransmitted International Mobile Subscriber Identity (IMSI) .
Ret-Total-IMSI-Attach	Total IMSI attach including retransmitted 2G and 3G .
Ret-3G-IMSI-Attach	3G-IMSI attach statistics for retransmitted GPRS and non-GPRS.
GPRS-only Attached	Total 3G-IMSI attach retransmitted with GPRS only access .
Combined Attached	Total 3G-IMSI attach with combined (PS and CS) access messages.
Ret-2G-IMSI-Attach	Indicates the retransmitted 2G-IMSI attach statistics for GPRS and non-GPRS.

Field	Description
GPRS-only Attached	Total 2G-IMSI attach retransmitted with GPRS only access .
Combined Attached	Total 2G-IMSI attach retransmitted with combined (PS and CS) access .
PTMSI	Statistics of total attach through retransmitted Packet-Temporary Mobile Subscriber Identity (P-TMSI) .
Ret-Total-PTMSI-Attach	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) attachretransmitted including 2G and 3G.
Ret-3G-PTMSI-Attach	3G-P-TMSI attach retransmitted statistics for GPRS and non-GPRS .
GPRS-only Attached	Total 3G-P-TMSI attach retransmitted with GPRS only access.
Combined Attached	Total 3G-P-TMSI attach retransmitted with combined (PS and CS) access .
Ret-2G-PTMSI-Attach	2G-P-TMSI attach retransmitted statistics for GPRS and non-GPRS .
GPRS-only Attached	Total 2G-P-TMSI attach retransmitted with GPRS only access .
Combined Attached	Total 2G-P-TMSI attach with combined (PS and CS) access retransmitted.
Local-PTMSI	Statistics of total attach through retransmitted local Packet-Temporary Mobile Subscriber Identity (P-TMSI).
Ret-Total-loc-PTMSI-Attach	Total retransmitted local Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach including 2G and 3G.
Ret-3G-loc-PTMSI-Attach	Local 3G-P-TMSI attach retransmitted statistics for GPRS and non-GPRS.
GPRS-only Attached	Total local 3G-P-TMSI attach retransmitted with GPRS only access .
Combined Attached	Total local 3G-P-TMSI attach retransmitted with combined (PS and CS) access .
Ret-2G-loc-PTMSI-Attach	Statistics for local 2G-P-TMSI attach retransmitted for GPRS and non-GPRS .
GPRS-only Attached	Total local 2G-P-TMSI attach retransmitted with GPRS only access .
Combined Attached	Total local 2G-P-TMSI attach retransmitted with combined (PS and CS) access.
Remote-PTMSI	Statistics of total attach through retransmitted remote Packet-Temporary Mobile Subscriber Identity (P-TMSI).
Ret-Total-remo-PTMSI-Attach	Total remote Packet-Temporary Mobile Subscriber Identity (P-TMSI) attach retransmitted for 2G and 3G .
Ret-3G-remote-PTMSI-Attach	Statistics for remote 3G-P-TMSI attach for GPRS and non-GPRS retransmitted.
GPRS-only Attached	Total remote 3G-P-TMSI attach with GPRS only access retransmitted.
Combined Attached	Total remote 3G-P-TMSI attach with combined (PS and CS) access retransmitted.
Ret-2G-remote-PTMSI-Attach	Indicates the remote 2G-P-TMSI attach statistics for GPRS and non-GPRS retransmitted.

Field	Description
GPRS-only Attached	Total remote 2G-P-TMSI attach with GPRS only access retransmitted.
Combined Attached	Total remote 2G-P-TMSI attach with combined (PS and CS) access retransmitted.
Attach Accept	Indicates the statistics of total attach accepts.
Total-Attach-Accept	Total attach accepts including 2G and 3G.
3G-Attach-Accept	Indicates the 3G-attach accept statistics for GPRS and non-GPRS.
Gprs-Attached	Total 3G-attach accepts with GPRS only access.
Comb-Attached	Total 3G-attach accepts with combined (PS and CS) access.
2G-Attach-Accept	Indicates the 2G-attach accept statistics for GPRS and non-GPRS.
Gprs-Attached	Total 2G-attach accepts with GPRS only access.
Comb-Attached	Total 2G-attach accepts with combined (PS and CS) access.
Retransmission	Indicates the statistics of total attach accepts retransmitted.
Ret-Total-Attach-Accept	Total attach accepts including 2G and 3G retransmitted.
Ret-3G-Attach-Accept	Indicates the 3G-attach accept retransmitted statistics for GPRS and non-GPRS.
Gprs-Attached	Total 3G-attach accepts with GPRS only access retransmitted.
Comb-Attached	Total 3G-attach accepts with combined (PS and CS) access retransmitted.
Ret-2G-Attach-Accept	Indicates the 2G-attach accept statistics for GPRS and non-GPRS retransmitted.
Gprs-Attached	Total 2G-attach accepts with GPRS only access retransmitted.
Comb-Attached	Total 2G-attach accepts with combined (PS and CS) access retransmitted.
Attach Complete	Indicates the statistics of total attach completed.
Total-Attach-Complete	Total attach completed including 2G and 3G.
3G-Attach-Complete	Indicates the 3G-attach complete statistics for GPRS and non-GPRS.
2G-Attach-Complete	Total 3G-attach completed with GPRS only access.
Attach Reject	Total 3G-attach completed with combined (PS and CS) access.
Total-Attach-Reject	Indicates the 2G-attach complete statistics for GPRS and non-GPRS.
3G-Attach-Reject	Total 2G-attach completed with GPRS only access.
2G-Attach-Reject	Total 2G-attach completed with combined (PS and CS) access.
Gprs-Attach Reject Causes	Indicates the statistics of causes for GPRS attach rejected for 2G and 3G service.
3G-IMSI Unknown in HLR	Total number of GPRS attach rejected for 3G service due to unknown IMSI in HLR.

Field	Description
2G-IMSI Unknown in HLR	Total number of GPRS attach rejected for 2G service due to unknown IMSI in HLR.
3G-Illegal MS	Total number of GPRS attach rejected for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of GPRS attach rejected for 2G service due to illegal mobile subscriber.
3G-Illegal ME	Total number of GPRS attach rejected for 3G service due to illegal mobile equipment.
2G-Illegal ME	Total number of GPRS attach rejected for 2G service due to illegal mobile equipment.
3G-GPRS service not allowed	Total number of GPRS attach rejected for 3G service due to GPRS service not allowed for subscriber.
2G-GPRS service not allowed	Total number of GPRS attach rejected for 2G service due to GPRS service not allowed for subscriber.
3G-GPRS and Non-GPRS service not allowed	Total number of GPRS attach rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber.
2G-GPRS and Non-GPRS service not allowed	Total number of GPRS attach rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber.
3G-MsId not derived by Nw	Total number of GPRS attach rejected for 3G service due to network failed to derive MSID from attach message.
2G-MsId not derived by Nw	Total number of GPRS attach rejected for 2G service due to network failed to derive MSID from attach message.
3G-Implicitly detached	Total number of GPRS attach rejected for 3G service due to implicitly detach.
2G-Implicitly detached	Total number of GPRS attach rejected for 2G service due to implicitly detach.
3G-PLMN not allowed	Total number of GPRS attach rejected for 3G service due to specific PLMN not allowed.
2G-PLMN not allowed	Total number of GPRS attach rejected for 2G service due to specific PLMN not allowed.
3G-Location Area not allowed	Total number of GPRS attach rejected for 3G service due to specific location area not allowed.
2G-Location Area not allowed	Total number of GPRS attach rejected for 2G service due to specific location area not allowed.
3G-Roaming not allowed in this Location Area	Total number of GPRS attach rejected for 3G service due to roaming not allowed in specific location area.
2G-Roaming not allowed in this Location Area	Total number of GPRS attach rejected for 2G service due to roaming not allowed in specific location area.
3G-GPRS service not allowed in this PLMN	Total number of GPRS attach rejected for 3G service due to GPRS service not allowed in specific PLMN.

Field	Description
2G-GPRS service not allowed in this PLMN	Total number of GPRS attach rejected for 2G service due to GPRS service not allowed in specific PLMN.
3G-No suitable cells in this Location Area	Total number of GPRS attach rejected for 3G service due to non availability of suitable cell in specific location area.
2G-No suitable cells in this Location Area	Total number of GPRS attach rejected for 2G service due to non availability of suitable cell in specific location area.
3G-MSC not reachable	Total number of GPRS attach rejected for 3G service as MSC not reachable.
2G-MSC not reachable	Total number of GPRS attach rejected for 2G service as MSC not reachable.
3G-Network Failure	Total number of GPRS attach rejected for 3G service due to network failure.
2G-Network Failure	Total number of GPRS attach rejected for 2G service due to network failure.
3G-MAC Failure	Total number of GPRS attach rejected for 3G service due to message authenticate code (MAC) failure.
2G-MAC Failure	Total number of GPRS attach rejected for 2G service due to MAC failure.
3G-SYNC Failure	Total number of GPRS attach rejected for 3G service due to context synchronization failure.
2G-SYNC Failure	Total number of GPRS attach rejected for 2G service due to context synchronization failure.
3G-Congestion	Total number of GPRS attach rejected for 3G service due to network congestion.
2G-Congestion	Total number of GPRS attach rejected for 2G service due to network congestion.
3G-GSM Auth Unacceptable	Total number of GPRS attach rejected for 3G service due to unacceptable authentication from GSM network.
2G-GSM Auth Unacceptable	Total number of GPRS attach rejected for 2G service due to unacceptable authentication from GSM network.
3G-No PDP contexts activated	Total number of GPRS attach rejected for 3G service as PDP context is not activated.
2G-No PDP contexts activated	Total number of GPRS attach rejected for 2G service as PDP context is not activated.
3G-Retry from new cell	Total number of GPRS attach rejected for 3G service as PDP context activation was tried from new mobile cell.
2G-Retry from new cell	Total number of GPRS attach rejected for 2G service as PDP context activation was tried from new mobile cell.
3G-Semantically Wrong Msg	Total number of GPRS attach rejected for 3G service as attach request message is semantically wrong.
2G-Semantically Wrong Msg	Total number of GPRS attach rejected for 2G service as attach request message is semantically wrong.

Field	Description
3G-Invalid Mandatory Info	Total number of GPRS attach rejected for 3G service as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of GPRS attach rejected for 2G service as mandatory information in message is invalid.
3G-MSG type Non Existent	Total number of GPRS attach rejected for 3G service due to non-existent type of message.
2G-MSG type Non Existent	Total number of GPRS attach rejected for 2G service due to non-existent type of message.
3G-MSG type not compatible with protocol state	Total number of GPRS attach rejected for 3G service as message type is not compatible with protocol state.
2G-MSG type not compatible with protocol state	Total number of GPRS attach rejected for 2G service as message type is not compatible with protocol state.
3G-IE Non Existent	Total number of GPRS attach rejected for 3G service rejected due to non-existence of information element.
2G-IE Non Existent	Total number of GPRS attach rejected for 2G service rejected due to non-existence of information element.
3G-Conditional IE Error	Total number of GPRS attach rejected for 3G service due to error in conditional information element.
2G-conditional IE Error	Total number of GPRS attach rejected for 2G service due to error in conditional information element.
3G-Message not compatible with protocol state	Total number of GPRS attach rejected for 3G service as message is not compatible with protocol state.
2G-Message not compatible with protocol state	Total number of GPRS attach rejected for 2G service as message is not compatible with protocol state.
3G-protocol Error	Total number of GPRS attach rejected for 3G service due to protocol error in message.
2G-protocol Error	Total number of GPRS attach rejected for 2G service due to protocol error in message.
3G-Unknown cause	Total number of GPRS attach rejected for 3G service where cause is unknown or not specified here.
2G-Unknown cause	Total number of GPRS attach rejected for 2G service where cause is unknown or not specified here.
Comb-Attach Reject Causes	Indicates the statistics of causes for combined GPRS (PS and CS) attach rejected for 2G and 3G service.
3G-IMSI Unknown in HLR	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to unknown IMSI in HLR.

Field	Description
2G-IMSI Unknown in HLR	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to unknown IMSI in HLR.
3G-Illegal MS	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to illegal mobile subscriber.
3G-Illegal ME	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to illegal mobile equipment.
2G-Illegal ME	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to illegal mobile equipment.
3G-GPRS service not allowed	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to GPRS service not allowed for subscriber.
2G-GPRS service not allowed	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to GPRS service not allowed for subscriber.
3G-GPRS and Non-GPRS service not allowed	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber.
2G-GPRS and Non-GPRS service not allowed	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber.
3G-MsId not derived by Nw	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to network failed to derive MSID from attach message.
2G-MsId not derived by Nw	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to network failed to derive MSID from attach message.
3G-Implicitly detached	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to implicitly detach.
2G-Implicitly detached	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to implicitly detach.
3G-PLMN not allowed	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to specific PLMN not allowed.
2G-PLMN not allowed	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to specific PLMN not allowed.
3G-Location Area not allowed	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to specific location area not allowed.
2G-Location Area not allowed	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to specific location area not allowed.
3G-Roaming not allowed in this Location Area	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to roaming not allowed in specific location area.

Field	Description
2G-Roaming not allowed in this Location Area	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to roaming not allowed in specific location area.
3G-GPRS service not allowed in this PLMN	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to GPRS service not allowed in specific PLMN.
2G-GPRS service not allowed in this PLMN	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to GPRS service not allowed in specific PLMN.
3G-No suitable cells in this Location Area	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to non availability of suitable cell in specific location area.
2G-No suitable cells in this Location Area	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to non availability of suitable cell in specific location area.
3G-MSC not reachable	Total number of combined GPRS (PS and CS) attach rejected for 3G service as MSC not reachable.
2G-MSC not reachable	Total number of combined GPRS (PS and CS) attach rejected for 2G service as MSC not reachable.
3G-Network Failure	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to network failure.
2G-Network Failure	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to network failure.
3G-MAC Failure	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to message authenticate code (MAC) failure.
2G-MAC Failure	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to MAC failure.
3G-SYNC Failure	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to context synchronization failure.
2G-SYNC Failure	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to context synchronization failure.
3G-Congestion	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to network congestion.
2G-Congestion	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to network congestion.
3G-GSM Auth Unacceptable	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to unacceptable authentication from GSM network.
2G-GSM Auth Unacceptable	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to unacceptable authentication from GSM network.
3G-No PDP contexts activated	Total number of combined GPRS (PS and CS) attach rejected for 3G service as PDP context is not activated.

Field	Description
2G-No PDP contexts activated	Total number of combined GPRS (PS and CS) attach rejected for 2G service as PDP context is not activated.
3G-Retry from new cell	Total number of combined GPRS (PS and CS) attach rejected for 3G service as PDP context activation was tried from new mobile cell.
2G-Retry from new cell	Total number of combined GPRS (PS and CS) attach rejected for 2G service as PDP context activation was tried from new mobile cell.
3G-Semantically Wrong Msg	Total number of combined GPRS (PS and CS) attach rejected for 3G service as attach request message is semantically wrong.
2G-Semantically Wrong Msg	Total number of combined GPRS (PS and CS) attach rejected for 2G service as attach request message is semantically wrong.
3G-Invalid Mandatory Info	Total number of combined GPRS (PS and CS) attach rejected for 3G service as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of combined GPRS (PS and CS) attach rejected for 2G service as mandatory information in message is invalid.
3G-MSG type Non Existent	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to non-existent type of message.
2G-MSG type Non Existent	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to non-existent type of message.
3G-MSG type not compatible with protocol state	Total number of combined GPRS (PS and CS) attach rejected for 3G service as message type is not compatible with protocol state.
2G-MSG type not compatible with protocol state	Total number of combined GPRS (PS and CS) attach rejected for 2G service as message type is not compatible with protocol state.
3G-IE Non Existent	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to inclusion of non-existent information element (IE) in message.
2G-IE Non Existent	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to inclusion of non-existent information element (IE) in message.
3G-Conditional IE Error	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to error in conditional information element.
2G-Conditional IE Error	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to error in conditional information element.
3G-Message not compatible with protocol state	Total number of combined GPRS (PS and CS) attach rejected for 3G service as message is not compatible with protocol state.
2G-Message not compatible with protocol state	Total number of combined GPRS (PS and CS) attach rejected for 2G service as message is not compatible with protocol state.
3G-protocol Error	Total number of combined GPRS (PS and CS) attach rejected for 3G service due to protocol error in message.

Field	Description
2G-protocol Error	Total number of combined GPRS (PS and CS) attach rejected for 2G service due to protocol error in message.
3G-Unknown cause	Total number of combined GPRS (PS and CS) attach rejected for 3G service where cause is unknown or not specified here.
2G-Unknown cause	Total number of combined GPRS (PS and CS) attach rejected for 2G service where cause is unknown or not specified here.
Attach Failure	This group displays the statistics for failures occurred during attach procedure.
Total Attach Failure	This group displays the statistics for total failures occurred during 2G and 3G attach procedure.
3G-Attach-Failure	Total number of failures occurred during attach procedure for 3G service.
Gprs-Attach-Failure	Total number of failures occurred during GPRS attach procedure for 3G service.
Comb-Attach-Failure	Total number of failures occurred during combined (PS and CS) service attach procedure for 3G service.
2G-Attach-Failure	Total number of failures occurred during attach procedure for 2G service.
Gprs-Attach-Failure	Total number of failures occurred during GPRS attach procedure for 2G service.
Comb-Attach-Failure	Total number of failures occurred during combined (PS and CS) service attach procedure for 2G service.
Gprs-Attach Failure Causes	This group displays the causes for failure occurred during GPRS attach procedure.
3G-Iu release before Attach over	Total number of 3G GPRS attach procedure failures due to 3G Iu interface release happened before attach procedure completed.
3G-Failure due to Other Ongoing Procedure	Total number of 3G GPRS attach procedure failed due to other procedure was in process while attach requested.
2G-Failure due to Other Ongoing Procedure	Total number of 2G attach procedure failed due to other procedure was in process while attach requested.
Comb-Attach Failure Causes	This group displays the causes for failure occurred during combined (PS and CS) service attach procedure.
3G-Iu release before Attach over	Total number of combined attach procedure failed due to 3G Iu interface release happened before completion of attach procedure
3G-Failure due to Other Ongoing Procedure	Total number of combined 3G attach procedure failed due to other procedure was in process while attach requested.
2G-Failure due to Other Ongoing Procedure	Total number of combined 2G attach procedure failed due to other procedure was in process while attach requested.
Routing Area Update Request	Indicates the statistics of RAU request.
Total-RAU	Indicates the total RAU request.

Field	Description
Total-Intra-SGSN-RAU	Total intra-SGSN RAU request messages.
Total-Ra-Up-Intra-SGSN-RAU	Total routing area update request messages for intra-SGSN RA updates.
3G-Ra-Up-Intra-SGSN-RAU	Total routing area update request messages for intra-SGSN RA updates for 3G.
2G-Ra-Up-Intra-SGSN-RAU	Total routing area update request messages for intra-SGSN RA updates for 2G.
Total-Periodic-Intra-RAU	Total periodic intra-RA update messages.
3G-Periodic-Intra-RAU	Total periodic intra-RA update messages for 3G.
2G-Periodic-Intra-RAU	Total periodic intra-RA update messages for 2G.
Total-Comb-Intra-SGSN-RAU	Total intra-SGSN RAU request messages for combined (PS and CS) services.
3G-Comb-Intra-SGSN-RAU	Total intra-SGSN RAU request messages for combined (PS and CS) 3G services.
2G-Comb-Intra-SGSN-RAU	Total intra-SGSN RAU request messages for combined (PS and CS) 2G services.
Total-PS-Inter-SGSN-RAU	Total packet switching inter-SGSN-RA update request messages.
3G-PS-Inter-SGSN-RAU	Total packet switched inter-SGSN-RA update request messages for 3G service.
2G-PS-Inter-SGSN-RAU	Total packet switched inter-SGSN-RA update request messages for 2G service.
Total-Comb-Inter-SGSN-RAU	Total combined (PS and CS) inter-SGSN-RA update request messages.
3G-Comb-Inter-SGSN-RAU	Total combined (PS and CS) inter-SGSN-RA update request messages for 3G service.
2G-Comb-Inter-SGSN-RAU	Total combined (PS and CS) inter-SGSN-RA update request messages for 2G service.
Total-Ps-Inter-Rat-RAU	**Description**: Total number of GPRS only Inter RAT RAU Requests received in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
3G-Ps-Inter-Rat-RAU	**Description**: Total number of GPRS only Inter RAT RAU Requests received in a 3G service from a 2G service. **Availability**: per RA, per RNC, per SGSN service
2G-Ps-Inter-Rat-RAU	**Description**: Total number of GPRS only Inter RAT RAU Requests received in a 2G service from a 3G service. **Availability**: per RA, per GPRS service
Total-Comb-Inter-Rat-RAU	**Description**: Total number of Combined Inter RAT RAU Requests received in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
3G-Comb-Inter-Rat-RAU	**Description**: Total number of Combined Inter RAT RAU Requests received in a 3G service from a 2G service. **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Comb-Inter-Rat-RAU	**Description**: Total number of Combined Inter RAT RAU Requests received in a 2G service from a 3G service. **Availability**: per RA, per GPRS service
Total-Ps-Inter-Serv-RAU	**Description**: Total number of GPRS only Inter Service RAU Requests received in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
3G-Ps-Inter-Serv-RAU	**Description**: Total number of GPRS only Inter Service RAU Requests from one 3G service to another 3G service. **Availability**: per RA, per RNC, per SGSN service
2G-Ps-Inter-Serv-RAU	**Description**: Total number of GPRS only Inter Service RAU Requests from one 2G service to another 2G service. **Availability**: per RA, per GPRS service
Total-Comb-Inter-Serv-RAU	**Description**: Total number of Combined Inter Service RAU Requests received in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
3G-Comb-Inter-Serv-RAU	**Description**: Total number of Combined Inter Service RAU Requests from one 3G service to another 3G service. **Availability**: per RA, per RNC, per SGSN service
2G-Comb-Inter-Serv-RAU	**Description**: Total number of Combined Inter Service RAU Requests from one 2G service to another 2G service. **Availability**: per RA, per GPRS service
Retransmission	Indicates the statistics of RAU requests retransmitted.
Ret-Total-RAU	Indicates the total RAU requests retransmitted.
Ret-Total-Intra-SGSN-RAU	Total intra-SGSN RAU request messages retransmitted.
Ret-Total-Ra-Up-Intra-SGSN	Total routing area update request messages retransmitted for intra-SGSN RA updates.
Ret-3G-Ra-Up-Intra-SGSN	Total routing area update request messages retransmitted for intra-SGSN RA updates for 3G.
Ret-2G-Ra-Up-Intra-SGSN	Total routing area update request messages retransmitted for intra-SGSN RA updates for 2G.
Ret-Total-Perio-Intra-RAU	Total periodic intra-RA update messages retransmitted.
Ret-3G-Perio-Intra-RAU	Total periodic intra-RA update messages retransmitted for 3G.
Ret-2G-Perio-Intra-RAU	Total periodic intra-RA update messages retransmitted for 2G.

Field	Description
Ret-Total-Comb-Intra-RAU	Total intra-SGSN RAU request messages retransmitted for combined (PS and CS) services.
Ret-3G-Comb-Intra-RAU	Total intra-RAU request messages retransmitted for combined (PS and CS) 3G services.
Ret-2G-Comb-Intra-RAU	Total intra-RAU request messages retransmitted for combined (PS and CS) 2G services.
Ret-Total-PS-Inter-SGSN-RAU	Total packet switching inter-SGSN-RA update request messages retransmitted.
Ret-3G-PS-Inter-SGSN-RAU	Total packet switched inter-SGSN-RA update request messages retransmitted for 3G service.
Ret-2G-PS-Inter-SGSN-RAU	Total packet switched inter-SGSN-RA update request messages retransmitted for 2G service.
Ret-Total-Comb-Inter-RAU	Total combined (PS and CS) inter-SGSN-RA update request messages retransmitted.
Ret-3G-Comb-Inter-RAU	Total combined (PS and CS) inter-SGSN-RA update request messages retransmitted for 3G service.
Ret-2G-Comb-Inter-RAU	Total combined (PS and CS) inter-SGSN-RA update request messages retransmitted for 2G service.
Ret-Total-Ps-Inter-Rat-RAU	**Description**: Total number of retransmitted GPRS only Inter RAT RAU Requests received in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
Ret-3G-Ps-Inter-Rat-RAU	**Description**: Total number of retransmitted GPRS only Inter RAT RAU Requests received in a 3G service from a 2G service. **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Ps-Inter-Rat-RAU	**Description**: Total number of retransmitted GPRS only Inter RAT RAU Requests received in a 2G service from a 3G service. **Availability**: per RA, per GPRS service
Ret-Total-Comb-Inter-Rat-RAU	**Description**: Total number of retransmitted Combined Inter RAT RAU Requests received in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
Ret-3G-Comb-Inter-Rat-RAU	**Description**: Total number of retransmitted Combined Inter RAT RAU Requests received in a 3G service from a 2G service. **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Comb-Inter-Rat-RAU	**Description**: Total number of retransmitted Combined Inter RAT RAU Requests received in a 2G service from a 3G service. **Availability**: per RA, per GPRS service

Field	Description
Ret-Total-Ps-Inter-Serv-RAU	**Description**: Total number of retransmitted GPRS only Inter Service RAU Requests received in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
Ret-3G-Ps-Inter-Serv-RAU	**Description**: Total number of retransmitted GPRS only Inter Service RAU Requests from one 3G service to another 3G service. **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Ps-Inter-Serv-RAU	**Description**: Total number of retransmitted GPRS only Inter Service RAU Requests from one 2G service to another 2G service. **Availability**: per RA, per GPRS service
Ret-Total-Comb-Inter-Serv-RAU	**Description**: Total number of retransmitted Combined Inter Service RAU Requests received in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
Ret-3G-Comb-Inter-Serv-RAU	**Description**: Total number of retransmitted Combined Inter Service RAU Requests from one 3G service to another 3G service. **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Comb-Inter-Serv-RAU	**Description**: Total number of retransmitted Combined Inter Service RAU Requests from one 2G service to another 2G service. **Availability**: per RA, per GPRS service
Routing Area Update Accept	Indicates the statistics of routing area update accept messages on system.
Total-RAU-Accept	Total number of routing area update accept messages sent by SGSN.
Total-Intra-RAU-Accept	Total number of intra-SGSN routing area update accept messages sent by SGSN.
Total-Ra-Up-Intra-RAU-Acc	Total number of intra-SGSN RAU accept messages sent by SGSN for 2G and 3G service.
3G-Ra-Up-Intra-RAU-Accept	Total number of intra-SGSN RAU accept messages sent by SGSN for 3G service.
2G-Ra-Up-Intra-RAU-Accept	Total number of intra-SGSN RAU accept messages sent by SGSN for 2G service.
Total-Periodic-RAU-Accept	Total number of periodic RAU accept messages sent by SGSN for 2G and 3G service.
3G-Periodic-RAU-Accept	Total number of periodic RAU accept messages sent by SGSN for 3G service.
2G-Periodic-RAU-Accept	Total number of periodic RAU accept messages sent by SGSN for 2G service.
Total-Comb-Intra-RAU-Acc	Total number of combined (PS and CS) intra-RAU accept messages sent by SGSN for 2G and 3G service.
3G-Comb-Intra-RAU-Acc	Total number of combined (PS and CS) intra-RAU accept messages sent by SGSN for 3G service.

Field	Description
2G-Comb-Intra-RAU-Acc	Total number of combined (PS and CS) intra-RAU accept messages sent by SGSN for 2G service.
Total-Inter-SGSN-RAU-Acc	This group displays inter SGSN RAU Accept message statistics on SGSN.
Total-PS-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in PS network for 2G and 3G services sent by SGSN.
3G-PS-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in PS network for 3G service sent by SGSN.
2G-PS-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in PS network for 2G service sent by SGSN.
Total-Comb-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 2G and 3G services sent by SGSN.
3G-Comb-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 3G services sent by SGSN.
2G-Comb-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 2G services sent by SGSN.
Total-Ps-Inter-Rat-RAU-Acc	**Description**: Total number of GPRS only Inter RAT RAU Accepts sent in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
3G-Ps-Inter-Rat-RAU-Acc	**Description**: Total number of GPRS only Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 2G service to a 3G service. **Availability**: per RA, per RNC, per SGSN service
2G-Ps-Inter-Rat-Acc	**Description**: Total number of GPRS only Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 3G service to a 2G service. **Availability**: per RA, per GPRS service
Total-Comb-Inter-Rat-RAU-Acc	**Description**: Total number of Combined Inter RAT RAU Accepts sent in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
3G-Comb-Inter-Rat-RAU-Acc	**Description**: Total number of Combined Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 2G service to a 3G service. **Availability**: per RA, per RNC, per SGSN service
2G-Comb-Inter-Rat-Acc	**Description**: Total number of Combined Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 3G service to a 2G service. **Availability**: per RA, per GPRS service

Field	Description
Total-Ps-Inter-Serv-RAU-Acc	**Description**: Total number of GPRS only Inter Service RAU Accepts sent in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
3G-Ps-Inter-Serv-RAU-Acc	**Description**: Total number of GPRS only Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 3G service to another 3G service. **Availability**: per RA, per RNC, per SGSN service
2G-Ps-Inter-Serv-RAU-Acc	**Description**: Total number of GPRS only Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 2G service to another 2G service. **Availability**: per RA, per GPRS service
Total-Comb-Inter-Serv-RAU-Acc	**Description**: Total number of Combined Inter Service RAU Accepts sent in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
3G-Comb-Inter-Serv-RAU-Acc	**Description**: Total number of Combined Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 3G service to another 3G service. **Availability**: per RA, per RNC, per SGSN service
2G-Comb-Inter-Serv-RAU-Acc	**Description**: Total number of Combined Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 2G service to another 2G service. **Availability**: per RA, per GPRS service
Retransmission	Indicates the statistics of routing area update messages retransmitted.
Ret-Total-RAU-Accept	Total number of routing area update accept messages retransmitted by SGSN.
Ret-Total-Intra-RAU-Accept	Total number of intra-SGSN routing area update accept messages retransmitted by SGSN.
Ret-Total-Ra-Up-Intra-RAU-Acc	Total number of intra-SGSN RAU accept messages retransmitted by SGSN for 2G and 3G service.
Ret-3G-Ra-Up-Intra-RAU-Acc	Total number of intra-SGSN RAU accept messages retransmitted by SGSN for 3G service.
Ret-2G-Ra-Up-Intra-RAU-Acc	Total number of intra-SGSN RAU accept messages retransmitted by SGSN for 2G service.
Ret-Total-Periodic-RAU-Acc	Total number of periodic RAU accept messages retransmitted by SGSN for 2G and 3G service.
Ret-3G-Periodic-RAU-Acc	Total number of periodic RAU accept messages retransmitted by SGSN for 3G service.
Ret-2G-Periodic-RAU-Acc	Total number of periodic RAU accept messages retransmitted by SGSN for 2G service.
Ret-Total-Comb-Intra-RAU-Acc	Total number of combined (PS and CS) intra-RAU accept messages retransmitted by SGSN for 2G and 3G service.

Field	Description
Ret-3G-Comb-Intra-RAU-Acc	Total number of combined (PS and CS) intra-RAU accept messages retransmitted by SGSN for 3G service.
Ret-2G-Comb-Intra-RAU-Acc	Total number of combined (PS and CS) intra-RAU accept messages retransmitted by SGSN for 2G service.
Ret-Total-Inter-SGSN-RAU-Acc	This group displays inter SGSN RAU Accept message statistics on SGSN.
Ret-Total-PS-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in PS network for 2G and 3G services retransmitted by SGSN.
Ret-3G-PS-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in PS network for 3G service retransmitted by SGSN.
Ret-2G-PS-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in PS network for 2G service retransmitted by SGSN.
Ret-Total-Comb-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 2G and 3G services retransmitted by SGSN.
Ret-3G-Comb-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 3G services retransmitted by SGSN.
Ret-2G-Comb-Inter-RAU-Acc	Total number of inter SGSN RAU accept messages in combined (PS and CS) network for 2G services retransmitted by SGSN.
Ret-Total-Ps-Inter-Rat-RAU-Acc	**Description**: Total number of retransmitted GPRS only Inter RAT RAU Accepts sent in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
Ret-3G-Ps-Inter-Rat-RAU-Acc	**Description**: Total number of retransmitted GPRS only Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 2G service to a 3G service. **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Ps-Inter-Rat-Acc	**Description**: Total number of retransmitted GPRS only Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 3G service to a 2G service. **Availability**: per RA, per GPRS service
Ret-Total-Comb-Inter-Rat-RAU-Acc	**Description**: Total number of retransmitted Combined Inter RAT RAU Accepts sent in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
Ret-3G-Comb-Inter-Rat-RAU-Acc	**Description**: Total number of retransmitted Combined Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 3G service to a 2G service. **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Comb-Inter-Rat-Acc	**Description**: Total number of retransmitted Combined Inter RAT RAU Accepts sent against RAU Requests from subscribers moving from a 2G service to a 3G service. **Availability**: per RA, per GPRS service

Field	Description
Ret-Total-Ps-Inter-Serv-RAU-Acc	**Description**: Total number of retransmitted GPRS only Inter Service RAU Accepts sent in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
Ret-3G-Ps-Inter-Serv-RAU-Acc	**Description**: Total number of retransmitted GPRS only Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 3G service to another 3G service. **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Ps-Inter-Serv-RAU-Acc	**Description**: Total number of retransmitted GPRS only Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 2G service to another 2G service. **Availability**: per RA, per GPRS service
Ret-Total-Comb-Inter-Serv-RAU-Acc	**Description**: Total number of retransmitted Combined Inter Service RAU Accepts sent in both 2G and 3G services. **Availability**: per RA, per RNC, per GPRS/SGSN service
Ret-3G-Comb-Inter-Serv-RAU-Acc	**Description**: Total number of retransmitted Combined Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 3G service to another 3G service. **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Comb-Inter-Serv-RAU-Acc	**Description**: Total number of retransmitted Combined Inter Service RAU Accepts sent against RAU Requests from subscribers moving from one 2G service to another 2G service. **Availability**: per RA, per GPRS service
Routing Area Update Complete	Indicates the statistics of routing area update complete messages.
Total-RAU-Complete	Total number of routing area update complete messages.
3G-RAU-Complete	Total number of routing area update complete messages for 3G service.
2G-RAU-Complete	Total number of routing area update complete messages for 2G service.
Routing Area Update Reject	Indicates the statistics of routing area update reject messages.
Total-RAU-Reject	Total number of routing area update reject messages.
Total-Intra-RAU-Reject	Total number of intra-SGSN routing area update reject messages sent by SGSN.
Total-Ra-up-Intra-RAU-Rej	Total number of intra-SGSN RAU reject messages reject by SGSN for 2G and 3G service.
3G-Ra-Up-Intra-RAU-Reject	Total number of intra-SGSN RAU reject messages sent by SGSN for 3G service.
2G-Ra-Up-Intra-RAU-Reject	Total number of intra-SGSN RAU reject messages sent by SGSN for 2G service.
Total-Periodic-RAU-Reject	Total number of periodic RAU reject messages sent by SGSN for 2G and 3G service.

Field	Description
3G-Periodic-RAU-Reject	Total number of periodic RAU reject messages sent by SGSN for 3G service.
2G-Periodic-RAU-Reject	Total number of periodic RAU reject messages sent by SGSN for 2G service.
Total-Comb-Intra-RAU-Rej	Total number of combined (PS and CS) intra-RAU reject messages sent by SGSN for 2G and 3G service.
3G-Comb-Intra-RAU-Reject	Total number of combined (PS and CS) intra-RAU reject messages sent by SGSN for 3G service.
2G-Comb-Intra-RAU-Reject	Total number of combined (PS and CS) intra-RAU reject messages sent by SGSN for 2G service.
Total-Inter-SGSN-RAU-Rej	This group displays inter SGSN RAU reject message statistics on SGSN.
Total-PS-Inter-RAU-Rej	Total number of inter SGSN RAU reject messages in PS network for 2G and 3G services sent by SGSN.
3G-PS-Inter-RAU-Rej	Total number of inter SGSN RAU reject messages in PS network for 3G service sent by SGSN.
2G-PS-Inter-RAU-Rej	Total number of inter SGSN RAU reject messages in PS network for 2G service sent by SGSN.
Total-Comb-Inter-RAU-Rej	Total number of inter SGSN RAU reject messages in combined (PS and CS) network for 2G and 3G services sent by SGSN.
3G-Comb-Inter-RAU-Rej	Total number of inter SGSN RAU reject messages in combined (PS and CS) network for 3G services sent by SGSN.
2G-Comb-Inter-RAU-Rej	Total number of inter SGSN RAU reject messages in combined (PS and CS) network for 2G services sent by SGSN.
Total-Inter-RAT-RAU-Rej	This group displays inter Radio Access Technology (RAT) RAU reject message statistics on SGSN.
Total-PS-Inter-RAT-RAU-Rej	Total number of inter RAT RAU reject messages in PS network for 2G and 3G services sent by SGSN.
3G-PS-Inter-RAT-RAU-Rej	Total number of inter RAT RAU reject messages in PS network for 3G service sent by SGSN.
2G-PS-Inter-RAT-RAU-Rej	Total number of inter RAT RAU reject messages in PS network for 2G service sent by SGSN.
Total-Comb-Inter-RAT-RAU-Rej	Total number of inter RAT RAU reject messages in combined (PS and CS) network for 2G and 3G services sent by SGSN.
3G-Comb-Inter-RAT-RAU-Rej	Total number of inter RAT RAU reject messages in combined (PS and CS) network for 3G services sent by SGSN.
2G-Comb-Inter-RAT-RAU-Rej	Total number of inter RAT RAU reject messages in combined (PS and CS) network for 2G services sent by SGSN.

Field	Description
Total-Inter-SRV-RAU-Rej	This group displays inter-SRV RAU reject message statistics on SGSN.
Total-PS-Inter-SRV-RAU-Rej	Total number of inter SRV RAU reject messages in PS network for 2G and 3G services sent by SGSN.
3G-PS-Inter-SRV-RAU-Rej	Total number of inter SRV RAU reject messages in PS network for 3G service sent by SGSN.
2G-PS-Inter-SRV-RAU-Rej	Total number of inter SRV RAU reject messages in PS network for 2G service sent by SGSN.
Total-Comb-Inter-SRV-RAU-Rej	Total number of inter SRV RAU reject messages in combined (PS and CS) network for 2G and 3G services sent by SGSN.
3G-Comb-Inter-SRV-RAU-Rej	Total number of inter SRV RAU reject messages in combined (PS and CS) network for 3G services sent by SGSN.
2G-Comb-Inter-SRV-RAU-Rej	Total number of inter SRV RAU reject messages in combined (PS and CS) network for 2G services sent by SGSN.
Intra Ra-Updated Routing Area Update Reject Causes	This group displays the causes for intra-RAT routing area update reject messages.
3G-IMSI Unknown in HLR	Total number of intra RAT routing area update requests rejected for 3G service due to unknown IMSI in HLR.
2G-IMSI Unknown in HLR	Total number of intra RAT routing area update requests rejected for 2G service due to unknown IMSI in HLR.
3G-Illegal MS	Total number of intra RAT routing area update requests rejected for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of intra RAT routing area update requests rejected for 2G service due to illegal mobile subscriber.
3G-Illegal ME	Total number of intra RAT routing area update requests rejected for 3G service due to illegal mobile equipment.
2G-Illegal ME	Total number of intra RAT routing area update requests rejected for 2G service due to illegal mobile equipment.
3G-GPRS service not allowed	Total number of intra RAT routing area update requests rejected for 3G service due to GPRS service not allowed for subscriber.
2G-GPRS service not allowed	Total number of intra RAT routing area update requests rejected for 2G service due to GPRS service not allowed for subscriber.
3G-GPRS and Non-GPRS service not allowed	Total number of intra RAT routing area update requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber.
2G-GPRS and Non-GPRS service not allowed	Total number of intra RAT routing area update requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber.

Field	Description
3G-MsId not derived by Nw	Total number of intra RAT routing area update requests rejected for 3G service due to network failed to derive MSID from attach message.
2G-MsId not derived by Nw	Total number of intra RAT routing area update requests rejected for 2G service due to network failed to derive MSID from attach message.
3G-Implicitly detached	Total number of intra RAT routing area update requests rejected for 3G service due to implicitly detach.
2G-Implicitly detached	Total number of intra RAT routing area update requests rejected for 2G service due to implicitly detach.
3G-PLMN not allowed	Total number of intra RAT routing area update requests rejected for 3G service due to specific PLMN not allowed.
2G-PLMN not allowed	Total number of intra RAT routing area update requests rejected for 2G service due to specific PLMN not allowed.
3G-Location Area not allowed	Total number of intra RAT routing area update requests rejected for 3G service due to specific location area not allowed.
2G-Location Area not allowed	Total number of intra RAT routing area update requests rejected for 2G service due to specific location area not allowed.
3G-Roaming not allowed in this location area	Total number of intra RAT routing area update requests rejected for 3G service due to roaming not allowed in specific location area.
2G-Roaming not allowed in this location area	Total number of intra RAT routing area update requests rejected for 2G service due to roaming not allowed in specific location area.
3G-GPRS service not allowed in this PLMN	Total number of intra RAT routing area update requests rejected for 3G service due to GPRS service not allowed in specific PLMN.
2G-GPRS service not allowed in this PLMN	Total number of intra RAT routing area update requests rejected for 2G service due to GPRS service not allowed in specific PLMN.
3G-No suitable cells in this Location Area	Total number of intra RAT routing area update requests rejected for 3G service due to non availability of suitable cell in specific location area.
2G-No suitable cells in this Location Area	Total number of intra RAT routing area update requests rejected for 2G service due to non availability of suitable cell in specific location area.
3G-MSC not reachable	Total number of intra RAT routing area update requests rejected for 3G service as MSC not reachable.
2G-MSC not reachable	Total number of intra RAT routing area update requests rejected for 2G service as MSC not reachable.
3G-Network Failure	Total number of intra RAT routing area update requests rejected for 3G service due to network failure.
2G-Network Failure	Total number of intra RAT routing area update requests rejected for 2G service due to network failure.

Field	Description
3G-MAC Failure	Total number of intra RAT routing area update requests rejected for 3G service due to message authenticate code (MAC) failure.
2G-MAC Failure	Total number of intra RAT routing area update requests rejected for 2G service due to MAC failure.
3G-SYNC Failure	Total number of intra RAT routing area update requests rejected for 3G service due to context synchronization failure.
2G-SYNC Failure	Total number of intra RAT routing area update requests rejected for 2G service due to context synchronization failure.
3G-Congestion	Total number of intra RAT routing area update requests rejected for 3G service due to network congestion.
2G-Congestion	Total number of intra RAT routing area update requests rejected for 2G service due to network congestion.
3G-GSM Auth Unacceptable	Total number of intra RAT routing area update requests rejected for 3G service due to unacceptable authentication from GSM network.
2G-GSM Auth Unacceptable	Total number of intra RAT routing area update requests rejected for 2G service due to unacceptable authentication from GSM network.
3G-No PDP contexts activated	Total number of intra RAT routing area update requests rejected for 3G service as PDP context is not activated.
2G-No PDP contexts activated	Total number of intra RAT routing area update requests rejected for 2G service as PDP context is not activated.
3G-Retry from new cell	Total number of intra RAT routing area update requests rejected for 3G service as UE retried the update from new cell.
2G-Retry from new cell	Total number of intra RAT routing area update requests rejected for 2G service as UE retried the update from new cell.
3G-Semantically Wrong Msg	Total number of intra RAT routing area update request rejected for 3G service as attach request message is semantically wrong.
2G-Semantically Wrg Msg	Total number of intra RAT routing area update request rejected for 2G service as attach request message is semantically wrong.
3G-Invalid Mandatory Info	Total number of intra RAT routing area update request rejected for 3G service as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of intra RAT routing area update request rejected for 2G service as mandatory information in message is invalid.
3G-MSG type Non Existent	Total number of intra RAT routing area update request rejected for 3G service due to non-existent type of message.
2G-MSG type Non Existent	Total number of intra RAT routing area update request rejected for 2G service due to non-existent type of message.

Field	Description
3G-MSG type not compatible with protocol state	Total number of intra RAT routing area update request rejected for 3G service as message type is not compatible with protocol state.
2G-MSG type not compatible with protocol state	Total number of intra RAT routing area update request rejected for 2G service as message type is not compatible with protocol state.
3G-IE Non Existent	Total number of intra RAT routing area update request rejected for 3G service due to inclusion of non-existent information element (IE) in message.
2G-IE Non Existent	Total number of intra RAT routing area update request rejected for 2G service due to inclusion of non-existent information element (IE) in message.
3G-Conditional IE Error	Total number of intra RAT routing area update request rejected for 3G service due to error in conditional informational element.
2G-Conditional IE Error	Total number of intra RAT routing area update request rejected for 2G service due to error in conditional informational element.
3G-Message not compatible with protocol state	Total number of intra RAT routing area update request rejected for 3G service due to incompatible protocol state in message.
2G-Message not compatible with protocol state	Total number of intra RAT routing area update request rejected for 2G service due to incompatible protocol state in message
3G-Protocol Error	Total number of intra RAT routing area update request rejected for 3G service due to protocol error in message.
2G-Protocol Error	Total number of intra RAT routing area update request rejected for 2G service due to protocol error in message
3G-Unknown cause	Total number of intra RAT routing area update request rejected for 3G service due to reasons other than listed here in message.
2G-Unknown cause	Total number of intra RAT routing area update request rejected for 2G service due to reasons other than listed here in message.
Intra Periodic Routing Area Update Reject Causes	This group displays the intra RAT periodic RAU reject causes on SGSN.
3G-IMSI Unknown in HLR	Total number of intra RAT periodic RAU requests rejected for 3G service due to unknown IMSI in HLR.
2G-IMSI Unknown in HLR	Total number of intra RAT periodic RAU requests rejected for 2G service due to unknown IMSI in HLR.
3G-Illegal MS	Total number of intra RAT periodic RAU requests rejected for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of intra RAT periodic RAU requests rejected for 2G service due to illegal mobile subscriber.
3G-Illegal ME	Total number of intra RAT periodic RAU requests rejected for 3G service due to illegal mobile equipment.

Field	Description
2G-Illegal ME	Total number of intra RAT periodic RAU requests rejected for 2G service due to illegal mobile equipment.
3G-GPRS service not allowed	Total number of intra RAT periodic RAU requests rejected for 3G service due to GPRS service not allowed for subscriber.
2G-GPRS service not allowed	Total number of intra RAT periodic RAU requests rejected for 2G service due to GPRS service not allowed for subscriber.
3G-GPRS and Non-GPRS service not allowed	Total number of intra RAT periodic RAU requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber.
2G-GPRS and Non-GPRS service not allowed	Total number of intra RAT periodic RAU requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber.
3G-MsId not derived by Nw	Total number of intra RAT periodic RAU requests rejected for 3G service due to network failed to derive MSID from attach message.
2G-MsId not derived by Nw	Total number of intra RAT periodic RAU requests rejected for 2G service due to network failed to derive MSID from attach message.
3G-Implicitly Detached	Total number of intra RAT periodic RAU requests rejected for 3G service due to implicitly detach.
2G-Imlicitly Detached	Total number of intra RAT periodic RAU requests rejected for 2G service due to implicitly detach.
3G-PLMN not allowed	Total number of intra RAT periodic RAU requests rejected for 3G service due to specific PLMN not allowed.
2G-PLMN not allowed	Total number of intra RAT periodic RAU requests rejected for 2G service due to specific PLMN not allowed.
3G-Location Area not allowed	Total number of intra RAT periodic RAU requests rejected for 3G service due to specific location area not allowed.
2G-Location Area not allowed	Total number of intra RAT periodic RAU requests rejected for 2G service due to specific location area not allowed.
3G-Roaming not allowed in this Location Area	Total number of intra RAT periodic RAU requests rejected for 3G service due to roaming not allowed in specific location area.
2G-Roaming not allowed in this Location Area	Total number of intra RAT periodic RAU requests rejected for 2G service due to roaming not allowed in specific location area.
3G-GPRS service not allowed in this PLMN	Total number of intra RAT periodic RAU requests rejected for 3G service due to GPRS service not allowed in specific PLMN.
2G-GPRS service not allowed in this PLMN	Total number of intra RAT periodic RAU requests rejected for 2G service due to GPRS service not allowed in specific PLMN.
3G-No suitable cells in this Location Area	Total number of intra RAT periodic RAU requests rejected for 3G service due to non availability of suitable cell in specific location area.

Field	Description
2G-No suitable cells in this Location Area	Total number of intra RAT periodic RAU requests rejected for 2G service due to non availability of suitable cell in specific location area.
3G-MSC not reachable	Total number of intra RAT periodic RAU requests rejected for 3G service as MSC not reachable.
2G-MSC not reachable	Total number of intra RAT periodic RAU requests rejected for 2G service as MSC not reachable.
3G-Network Failure	Total number of intra RAT periodic RAU requests rejected for 3G service due to network failure.
2G-Network Failure	Total number of intra RAT periodic RAU requests rejected for 2G service due to network failure.
3G-MAC Failure	Total number of intra RAT periodic RAU requests rejected for 3G service due to message authenticate code (MAC) failure.
2G-MAC Failure	Total number of intra RAT periodic RAU requests rejected for 2G service due to MAC failure.
3G-SYNC Failure	Total number of intra RAT periodic RAU requests rejected for 3G service due to context synchronization failure.
2G-SYNC Failure	Total number of intra RAT periodic RAU requests rejected for 2G service due to context synchronization failure.
3G-Congestion	Total number of intra RAT periodic RAU requests rejected for 3G service due to network congestion.
2G-Congestion	Total number of intra RAT periodic RAU requests rejected for 2G service due to network congestion.
3G-GSM Auth Unacceptable	Total number of intra RAT periodic RAU requests rejected for 3G service due to unacceptable authentication from GSM network.
2G-GSM Auth Unacceptable	Total number of intra RAT periodic RAU requests rejected for 2G service due to unacceptable authentication from GSM network.
3G-No PDP contexts activated	Total number of intra RAT periodic RAU requests rejected for 3G service as PDP context is not activated.
2G-No PDP contexts activated	Total number of intra RAT periodic RAU requests rejected for 2G service as PDP context is not activated.
3G-Retry from new cell	Total number of intra RAT periodic RAU requests rejected for 3G service as UE retried the update from new cell.
2G-Retry from new cell	Total number of intra RAT periodic RAU requests rejected for 2G service as UE retried the update from new cell.
3G-Semantically Wrong Msg	Total number of intra RAT periodic RAU requests rejected for 3G service as attach request message is semantically wrong.

Field	Description
2G-Semantically Wrg Msg	Total number of intra RAT periodic RAU requests rejected for 2G service as attach request message is semantically wrong.
3G-Invalid Mandatory Info	Total number of intra RAT periodic RAU requests rejected for 3G service as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of intra RAT periodic RAU requests rejected for 2G service as mandatory information in message is invalid.
3G-MSG type Non Existent	Total number of intra RAT periodic RAU requests rejected for 3G service due to non-existent type of message.
2G-MSG type Non Existent	Total number of intra RAT periodic RAU requests rejected for 2G service due to non-existent type of message.
3G-MSG type not compatible with protocol state	Total number of intra RAT periodic RAU requests rejected for 3G service as message type is not compatible with protocol state.
2G-MSG type not compatible with protocol state	Total number of intra RAT periodic RAU requests rejected for 2G service as message type is not compatible with protocol state.
3G-IE Non Existent	Total number of intra RAT periodic RAU requests rejected for 3G service due to inclusion of non-existent information element (IE) in message.
2G-IE Non Existent	Total number of intra RAT periodic RAU requests rejected for 2G service due to inclusion of non-existent information element (IE) in message.
3G-Conditional IE Error	Total number of intra RAT periodic RAU requests rejected for 3G service due to error in conditional informational element.
2G-Conditioanl IE Error	Total number of intra RAT periodic RAU requests rejected for 2G service due to error in conditional informational element.
3G-Message not compatible with protocol state	Total number of intra RAT periodic RAU requests rejected for 3G service due to incompatible protocol state in message.
2G-Message not compatible with protocol state	Total number of intra RAT periodic RAU requests rejected for 2G service due to incompatible protocol state in message
3G-Protocol Error	Total number of intra RAT periodic RAU requests rejected for 3G service due to protocol error in message.
2G-Protocol Error	Total number of intra RAT periodic RAU requests rejected for 2G service due to protocol error in message
3G-Unknown cause	Total number of intra RAT periodic RAU requests rejected for 3G service due to reasons other than listed here in message.
2G-Unknown cause	Total number of intra RAT periodic RAU requests rejected for 2G service due to reasons other than listed here in message.
Intra Combo. Routing Area Update Reject Causes	This group displays the intra RAT combined (PS and CS) RAU request reject causes on SGSN.

Field	Description
3G-IMSI Unknown in HLR	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to unknown IMSI in HLR.
2G-IMSI Unknown in HLR	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to unknown IMSI in HLR.
3G-Illegal MS	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to illegal mobile subscriber.
3G-Illegal ME	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to illegal mobile equipment.
2G-Illegal ME	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to illegal mobile equipment.
3G-GPRS service not allowed	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to GPRS service not allowed for subscriber.
2G-GPRS service not allowed	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to GPRS service not allowed for subscriber.
3G-GPRS and Non-GPRS service not allowed	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber.
2G-GPRS and Non-GPRS service not allowed	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber.
3G-MsId not derived by Nw	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to network failed to derive MSID from attach message.
2G-MsId not derived by Nw	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to network failed to derive MSID from attach message.
3G-Implicitly Detached	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to implicitly detach.
2G-Implicitly Detached	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to implicitly detach.
3G-PLMN not allowed	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to specific PLMN not allowed.
2G-PLMN not allowed	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to specific PLMN not allowed.
3G-Location Area not allowed	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to specific location area not allowed.
2G-Location Area not allowed	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to specific location area not allowed.

Field	Description
3G-Roaming not allowed in this Location Area	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to roaming not allowed in specific location area.
2G-Roaming not allowed in this Location Area	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to roaming not allowed in specific location area.
3G-GPRS service not allowed in this PLMN	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to GPRS service not allowed in specific PLMN.
2G-GPRS service not allowed in this PLMN	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to GPRS service not allowed in specific PLMN.
3G-No suitable cells in this Location Area	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to non availability of suitable cell in specific location area.
2G-No suitable cells in this Location Area	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to non availability of suitable cell in specific location area.
3G-MSC not reachable	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as MSC not reachable.
2G-MSC not reachable	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as MSC not reachable.
3G-Network Failure	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to network failure.
2G-Network Failure	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to network failure.
3G-MAC Failure	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to message authenticate code (MAC) failure.
2G-MAC Failure	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to MAC failure.
3G-SYNC Failure	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to context synchronization failure.
2G-SYNC Failure	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to context synchronization failure.
3G-Congestion	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to network congestion.
2G-Congestion	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to network congestion.
3G-GSM Auth Unacceptable	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to unacceptable authentication from GSM network.
2G-GSM Auth Unacceptable	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to unacceptable authentication from GSM network.

Field	Description
3G-No PDP contexts activated	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as PDP context is not activated.
2G-No PDP contexts activated	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as PDP context is not activated.
3G-Retry from new cell	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as UE retried the update from new cell.
2G-Retry from new cell	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as UE retried the update from new cell.
3G-Semantically Wrong Msg	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as attach request message is semantically wrong.
2G-Semantically Wrg Msg	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as attach request message is semantically wrong.
3G-Invalid Mandatory Info	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as mandatory information in message is invalid.
3G-MSG type Non Existent	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to non-existent type of message.
2G-MSG type Non Existent	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to non-existent type of message.
3G-MSG type not compatible with protocol state	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service as message type is not compatible with protocol state.
2G-MSG type not compatible with protocol state	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service as message type is not compatible with protocol state.
3G-IE Non Existent	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to inclusion of non-existent information element (IE) in message.
2G-IE Non Existent	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to inclusion of non-existent information element (IE) in message.
3G-Conditional IE Error	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to error in conditional informational element.
2G-Conditional IE Error	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to error in conditional informational element.
3G-Message not compatible with protocol state	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to incompatible protocol state in message.
2G-Message not compatible with protocol state	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to incompatible protocol state in message

Field	Description
3G-protocol Error	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to protocol error in message.
2G-protocol Error	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to protocol error in message
3G-Unknown cause	Total number of intra RAT combined (PS and CS) RAU requests rejected for 3G service due to reasons other than listed here in message.
2G-Unknown cause	Total number of intra RAT combined (PS and CS) RAU requests rejected for 2G service due to reasons other than listed here in message.
Inter SGSN PS Only Routing Area Update Reject Causes	This group displays the inter SGSN PS-only RAU request reject causes on SGSN.
3G-IMSI Unknown in HLR	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to unknown IMSI in HLR.
2G-IMSI Unknown in HLR	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to unknown IMSI in HLR.
3G-Illegal MS	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to illegal mobile subscriber.
3G-Illegal ME	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to illegal mobile equipment.
2G-Illegal ME	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to illegal mobile equipment.
3G-GPRS service not allowed	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to GPRS service not allowed for subscriber.
2G-GPRS service not allowed	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to GPRS service not allowed for subscriber.
3G-GPRS and Non-GPRS service not allowed	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber.
2G-GPRS and Non-GPRS service not allowed	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber.
3G-MsId not derived by Nw	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to network failed to derive MSID from attach message.
2G-MsId not derived by Nw	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to network failed to derive MSID from attach message.
3G-Implicitly Detached	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to implicitly detach.

Field	Description
2G-Implicitly Detached	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to implicitly detach.
3G-PLMN not allowed	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to specific PLMN not allowed.
2G-PLMN not allowed	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to specific PLMN not allowed.
3G-Location Area not allowed	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to specific location area not allowed.
2G-Location Area not allowed	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to specific location area not allowed.
3G-Roaming not allowed in this Location Area	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to roaming not allowed in specific location area.
2G-Roaming not allowed in this Location Area	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to roaming not allowed in specific location area.
3G-GPRS service not allowed in this PLMN	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to GPRS service not allowed in specific PLMN.
2G-GPRS service not allowed in this PLMN	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to GPRS service not allowed in specific PLMN.
3G-No suitable cells in this Location Area	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to non availability of suitable cell in specific location area.
2G-No suitable cells in this Location Area	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to non availability of suitable cell in specific location area.
3G-MSC not reachable	Total number of inter SGSN PS-only RAU requests rejected for 3G service as MSC not reachable.
2G-MSC not reachable	Total number of inter SGSN PS-only RAU requests rejected for 2G service as MSC not reachable.
3G-Network Failure	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to network failure.
2G-Network Failure	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to network failure.
3G-MAC Failure	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to message authenticate code (MAC) failure.
2G-MAC Failure	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to MAC failure.
3G-SYNC Failure	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to context synchronization failure.

Field	Description
2G-SYNC Failure	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to context synchronization failure.
3G-Congestion	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to network congestion.
2G-Congestion	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to network congestion.
3G-GSM Auth Unacceptable	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to unacceptable authentication from GSM network.
2G-GSM Auth Unacceptable	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to unacceptable authentication from GSM network.
3G-No PDP contexts activated	Total number of inter SGSN PS-only RAU requests rejected for 3G service as PDP context is not activated.
2G-No PDP contexts activated	Total number of inter SGSN PS-only RAU requests rejected for 2G service as PDP context is not activated.
3G-Retry from new cell	Total number of inter SGSN PS-only RAU requests rejected for 3G service as UE retried the update from new cell.
2G-Retry from new cell	Total number of inter SGSN PS-only RAU requests rejected for 2G service as UE retried the update from new cell.
3G-Semantically Wrong Msg	Total number of inter SGSN PS-only RAU requests rejected for 3G service as attach request message is semantically wrong.
2G-Semantically Wrg Msg	Total number of inter SGSN PS-only RAU requests rejected for 2G service as attach request message is semantically wrong.
3G-Invalid Mandatory Info	Total number of inter SGSN PS-only RAU requests rejected for 3G service as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of inter SGSN PS-only RAU requests rejected for 2G service as mandatory information in message is invalid.
3G-MSG type Non Existent	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to non-existent type of message.
2G-MSG type Non Existent	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to non-existent type of message.
3G-MSG type not compatible with protocol state	Total number of inter SGSN PS-only RAU requests rejected for 3G service as message type is not compatible with protocol state.
2G-MSG type not compatible with protocol state	Total number of inter SGSN PS-only RAU requests rejected for 2G service as message type is not compatible with protocol state.
3G-IE Non Existent	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to inclusion of non-existent information element (IE) in message.

Field	Description
2G-IE Non Existent	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to inclusion of non-existent information element (IE) in message.
3G-Conditional IE Error	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to error in conditional informational element.
2G-Conditional IE Error	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to error in conditional informational element.
3G-Message not compatible with protocol state	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to incompatible protocol state in message.
2G-Message not compatible with protocol state	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to incompatible protocol state in message
3G-Protocol Error	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to protocol error in message.
2G-Protocol Error	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to protocol error in message
3G-Unknown cause	Total number of inter SGSN PS-only RAU requests rejected for 3G service due to reasons other than listed here in message.
2G-Unknown cause	Total number of inter SGSN PS-only RAU requests rejected for 2G service due to reasons other than listed here in message.
Inter SGSN Comb. Routing Area Update Reject Causes	This group displays the combined (PS and CS) inter-SGSN RAU request reject causes on SGSN.
3G-IMSI Unknown in HLR	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to unknown IMSI in HLR.
2G-IMSI Unknown in HLR	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to unknown IMSI in HLR.
3G-Illegal MS	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to illegal mobile subscriber.
3G-Illegal ME	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to illegal mobile equipment.
2G-Illegal ME	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to illegal mobile equipment.
3G-GPRS service not allowed	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to GPRS service not allowed for subscriber.
2G-GPRS service not allowed	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to GPRS service not allowed for subscriber.

Field	Description
3G-GPRS and Non-GPRS service not allowed	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to GPRS and non-GPRS service not allowed for subscriber.
2G-GPRS and Non-GPRS service not allowed	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to GPRS and non-GPRS service not allowed for subscriber.
3G-MsId not derived by Nw	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to network failed to derive MSID from attach message.
2G-MsId not derived by Nw	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to network failed to derive MSID from attach message.
3G-Implicitly detached	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to implicitly detach.
2G-Implicitly detached	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to implicitly detach.
3G-PLMN not allowed	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to specific PLMN not allowed.
2G-PLMN not allowed	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to specific PLMN not allowed.
3G-Location Area not allowed	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to specific location area not allowed.
2G-Location Area not allowed	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to specific location area not allowed.
3G-Roaming not allowed in this location area	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to roaming not allowed in specific location area.
2G-Roaming not allowed in this location area	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to roaming not allowed in specific location area.
3G-GPRS service not allowed in this PLMN	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to GPRS service not allowed in specific PLMN.
2G-GPRS service not allowed in this PLMN	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to GPRS service not allowed in specific PLMN.
3G-No suitable cells in this Location Area	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to non availability of suitable cell in specific location area.
2G-No suitable cells in this Location Area	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to non availability of suitable cell in specific location area.
3G-MSC not reachable	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as MSC not reachable.
2G-MSC not reachable	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as MSC not reachable.

Field	Description
3G-Network Failure	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to network failure.
2G-Network Failure	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to network failure.
3G-MAC Failure	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to message authenticate code (MAC) failure.
2G-MAC Failure	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to MAC failure.
3G-SYNC Failure	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to context synchronization failure.
2G-SYNC Failure	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to context synchronization failure.
3G-Congestion	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to network congestion.
2G-Congestion	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to network congestion.
3G-GSM Auth Unacceptable	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to unacceptable authentication from GSM network.
2G-GSM Auth Unacceptable	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to unacceptable authentication from GSM network.
3G-No PDP contexts activated	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as PDP context is not activated.
2G-No PDP contexts activated	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as PDP context is not activated.
3G-Retry from new cell	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as update was retried from different cell than original RAU request by MS.
2G-Retry from new cell	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as update was retried from different cell than original RAU request by MS.
3G-Semantically Wrong Msg	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as attach request message is semantically wrong.
2G-Semantically Wrg Msg	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as attach request message is semantically wrong.
3G-Invalid Mandatory Info	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as mandatory information in message is invalid.

Field	Description
2G-Invalid Mandatory Info	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as mandatory information in message is invalid.
3G-MSG type Non Existent	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to non-existent type of message.
2G-MSG type Non Existent	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to non-existent type of message.
3G-MSG type not compatible with protocol state	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as message type is not compatible with protocol state.
2G-MSG type not compatible with protocol state	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as message type is not compatible with protocol state.
3G-IE Non Existent	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to inclusion of non-existent information element (IE) in message.
2G-IE Non Existent	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to inclusion of non-existent information element (IE) in message.
3G-Conditional IE Error	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to error in conditional information element.
2G-Conditional IE Error	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service due to error in conditional information element.
3G-Message not compatible with protocol state	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service as message is not compatible with protocol state.
2G-Message not compatible with protocol state	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 2G service as message is not compatible with protocol state.
3G-protocol Error	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to protocol error in message.
2G-protocol Error	Total number of combined (PS and CS) inter-SGSN routing area update requests rejected for 3G service due to protocol error in message.
3G-Unknown cause	Total number of combined (PS and CS) inter-SGSN attach rejected for 3G service where cause is unknown or not specified here.
2G-Unknown cause	Total number of combined (PS and CS) inter-SGSN attach rejected for 2G service where cause is unknown or not specified here.
Inter RAT PS Only Routing Area Update Reject Causes	

Field	Description
3G-IMSI Unknown in HLR	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "IMSI unknown at HLR". **Triggers**: • On HLR sending a bad response to SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-IMSI Unknown in HLR	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "IMSI unknown at HLR". **Triggers**: • On HLR sending a bad response to SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Illegal MS	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Illegal MS". **Triggers**: • On HLR sending a bad response to SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Illegal MS	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Illegal MS". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service

Field	Description
3G-Illegal ME	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Illegal ME". **Triggers**: • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Illegal ME	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Illegal ME". **Triggers**: • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GPRS service not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service. **Triggers**: • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-GPRS service not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 2G service. **Triggers**: • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GPRS and Non-GPRS service not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 3G service. **Triggers**: • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-GPRS and Non-GPRS service not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 2G service. **Triggers**: • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-MsId not derived by Nw	**Description**: Total number of GPRS only inter-service routing area update request rejects sent with cause "MSID not derived by network" against Inter-Service-RAU requests in 3G service. **Triggers**: • On getting periodic RAU with old RAI as a non-local RAI • When PTMSI-IE is missing in RAU • When old RAI has invalid location area values (0x0000 or 0xfffe) for PTMSI-attaches/RAUs • When getting a RAU with old RAI in 2G and PTMSI is unknown • When getting PTMSI-SIG-MISMATCH for a SGSN Context Request sent with IMSI Validated • When getting a RAU Request while an attach with the same peer-SGSN-PTMSI is in progress • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-MsId not derived by Nw	**Description**: Total number of GPRS only inter-service routing area update request rejects sent with cause "MSID not derived by network" against Inter-Service-RAU requests in 3G service. **Triggers**: • When SGSN-Context-Resp arrives with any cause other than "accepted" • When GMM-Identity-Req with MS fails • When GTP-Identity-Req with MS fails • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-Implicitly Detached	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Implicitly detached". **Triggers**: • RAU at 3G when subscriber was detached from 2G • When we get a different IMSI in SGSN Context Response for an SGSN Context Request sent with IMSI validated • When we get RAU while awaiting a Detach Accept • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Implicitly Detached	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Implicitly detached". **Triggers**: • When we get an RAU from an unknown MS • On T3350 expiry for the Attach-accept • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-PLMN not allowed	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "PLMN not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-PLMN not allowed	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "PLMN not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Location Area not allowed	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Location area not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Location Area not allowed	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Location area not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Roaming not allowed in this Location Area	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Roaming area not allowed in the given location area". **Triggers**: • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Roaming not allowed in this Location Area	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Roaming area not allowed in the given location area". **Triggers**: • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GPRS service not allowed in this PLMN	**Description**: Total number of GPRS only RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 3G service. **Triggers**: • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-GPRS service not allowed in this PLMN	**Description**: Total number of GPRS only RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 2G service. **Triggers**: • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-No suitable cells in this Location Area	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "No cells in location area". **Triggers**: • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-No suitable cells in this Location Area	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "No cells in location area". **Triggers**: • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

3G-MSC not reachable	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "MSC not reachable".
	Triggers:
	• On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because:
	  • the request is timed out
	  • inability to send to VLR
	• When operator policy is configured with this value as the reject cause for attaches/RAUs
	Availability: per RA, per RNC, per SGSN service

Field	Description

2G-MSC not reachable	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "MSC not reachable".
	Triggers:
	• On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because:
	  • the request is timed out
	  • inability to send to VLR
	• When operator policy is configured with this value as the reject cause for attaches/RAUs
	Availability: per RA, per GPRS service

3G-Network Failure	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Network Failure". **Triggers**: • RNC is overloaded • Not enough credits at session manager • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • Too many IUs for the same IMSI • On getting a RAU with a peer SGSN PTMSI when another Attach is ongoing with the same PTMSI • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Network Failure	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Network Failure". **Triggers**: • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • On XID failure for RAU • Inability to send an SGSN-Ctx-Req out for an RAU. • Inability to send a Check-IMEI Request out • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MAC Failure	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Message Authenticate Code (MAC) Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-MAC Failure	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Message Authenticate Code (MAC) Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-SYNC Failure	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Context Synchronization Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-SYNC Failure	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Context Synchronization Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service

Field	Description
3G-Congestion	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Network Congestion". **Triggers**: • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Congestion	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Network Congestion". **Triggers**: • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GSM Auth Unacceptable	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "GSM Authentication unacceptable". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-GSM Auth Unacceptable	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "GSM Authentication unacceptable". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-No PDP contexts activated	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "PDP context not activated". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-No PDP contexts activated	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "PDP context not activated". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service

Field	Description
3G-Retry from new cell	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Subscriber retried from a new cell". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-Retry from new cell	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Subscriber retried from a new cell". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Semantically Wrong Msg	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Semantically wrong message". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Semantically Wrong Msg	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Semantically wrong message". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Invalid Mandatory Info	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Invalid Mandatory Info". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Invalid Mandatory Info	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Invalid Mandatory Info". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MSG type Non Existent	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Message type does not exist". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-MSG type Non Existent	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Message type does not exist". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MSG type not compatible with protocol state	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Message type not compatible with protocol state". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-MSG type not compatible with protocol state	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Message type not compatible with protocol state". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-IE Non Existent	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "Information element not existent". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-IE Non Existent	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "Information element not existent". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Conditional IE Error	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "error in conditional informational element". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Conditional IE Error	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "error in conditional informational element". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Message not compatible with protocol state	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "message not compatible with protocol state". **Triggers**: • When getting an Attach Request before getting Relocation-complete during SRNS • When getting periodic RAU in a direct transfer message • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Message not compatible with protocol state	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "message not compatible with protocol state". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Protocol Error	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "protocol error". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-Protocol Error	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "protocol error". **Triggers**: • When the PLMN ID in BSSGP message does not match the configured PLMN at GPRS service • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-Unknown cause	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 3G service with cause "unknown error". **Availability**: per RA, per RNC, per SGSN service
2G-Unknown cause	**Description**: Total number of GPRS only Inter RAT RAU Rejects in 2G service with cause "unknown error". **Availability**: per RA, per GPRS service
Inter RAT Comb. Routing Area Update Reject Causes	
3G-IMSI Unknown in HLR	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "IMSI unknown at HLR". **Triggers**: • On HLR sending a bad response to a SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-IMSI Unknown in HLR	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "IMSI unknown at HLR". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Illegal MS	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Illegal MS". **Triggers**: • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Illegal MS	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Illegal MS". **Triggers**: • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Illegal ME	**Description**: Total number of Combined Inter RAT RAU rejects in 3G service with cause "Illegal ME". **Triggers**: • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Illegal ME	**Description**: Total number of Combined Inter RAT RAU rejects in 3G service with cause "Illegal ME". **Triggers**: • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-GPRS service not allowed	**Description**: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service. **Triggers**: • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-GPRS service not allowed	**Description**: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service. **Triggers**: • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GPRS and Non-GPRS service not allowed	**Description**: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 3G service. **Triggers**: • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-GPRS and Non-GPRS service not allowed	**Description**: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 2G service. **Triggers**: • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MsId not derived by Nw	**Description**: Total number of Combined Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 3G service. **Triggers**: • On getting periodic RAU with old RAI as a non-local RAI • When PTMSI-IE is missing in RAU • When old RAI has invalid location area values (0x0000 or 0xfffe) for PTMSI-attaches/RAUs • When getting a RAU with old RAI in 2G and PTMSI is unknown • When getting PTMSI-SIG-MISMATCH for a SGSN Context Request sent with IMSI Validated • When getting a RAU Request while an attach with the same peer-SGSN-PTMSI is in progress • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-MsId not derived by Nw	**Description**: Total number of Combined Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 2G service. **Triggers**: • When SGSN-Context-Resp arrives with any cause other than "accepted" • When GMM-Identity-Req with MS fails • When GTP-Identity-Req with MS fails • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-Implicitly Detached	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Implicitly detached". **Triggers**: • RAU at 3G when subscriber was detached from 2G • When we get a different IMSI in SGSN Context Response for an SGSN Context Request sent with IMSI validated • When we get RAU while awaiting a Detach Accept • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Implicitly Detached	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Implicitly detached". **Triggers**: • When we get an RAU from an unknown MS • On T3350 expiry for the attach-accept • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-PLMN not allowed	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "PLMN not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-PLMN not allowed	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "PLMN not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Location Area not allowed	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Location area not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Location Area not allowed	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Location area not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Roaming not allowed in this Location Area	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Roaming area not allowed in the given location area". **Triggers**: • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Roaming not allowed in this Location Area	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Roaming area not allowed in the given location area". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-GPRS service not allowed in this PLMN	**Description**: Total number of Combined RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 3G service. **Triggers**: • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-GPRS service not allowed in this PLMN	**Description**: Total number of Combined RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 2G service. **Triggers**: • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-No suitable cells in this Location Area	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "No cells in location area". **Triggers**: • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-No suitable cells in this Location Area	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "No cells in location area". **Triggers**: • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

3G-MSC not reachable	**Description**: Total number of Combined Inter RAT RAU rejects in 3G service with cause "MSC not reachable".
	Triggers:
	• On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because:
	  • the request is timed out
	  • inability to send to VLR
	• When operator policy is configured with this value as the reject cause for attaches/RAUs
	Availability: per RA, per RNC, per SGSN service

Field	Description

2G-MSC not reachable	**Description**: Total number of Combined Inter RAT RAU rejects in 2G service with cause "MSC not reachable".
	Triggers:
	• On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because:
	  • the request is timed out
	  • inability to send to VLR
	• When operator policy is configured with this value as the reject cause for attaches/RAUs
	Availability: per RA, per GPRS service

3G-Network Failure	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Network Failure". **Triggers**: • RNC is overloaded • Not enough credits at session manager • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • Too many IUs for the same IMSI • On getting a RAU with a peer SGSN PTMSI when another Attach is ongoing with the same PTMSI • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Network Failure	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Network Failure". **Triggers**: • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • On XID failure for RAU • Inability to send an SGSN-Ctx-Req out for an RAU • Inability to send a Check-IMEI Request out • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MAC Failure	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Message Authenticate Code (MAC) Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-MAC Failure	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Message Authenticate Code (MAC) Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-SYNC Failure	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Context Synchronization Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-SYNC Failure	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Context Synchronization Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service

Field	Description
3G-Congestion	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Network Congestion". **Triggers**: • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Congestion	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Network Congestion". **Triggers**: • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GSM Auth Unacceptable	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "GSM Authentication unacceptable". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-GSM Auth Unacceptable	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "GSM Authentication unacceptable". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-No PDP contexts activated	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "PDP context not activated". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-No PDP contexts activated	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "PDP context not activated". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service

Field	Description
3G-Retry from new cell	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Subscriber retried from a new cell". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-Retry from new cell	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Subscriber retried from a new cell". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Semantically Wrong Msg	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Semantically wrong message". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Semantically Wrong Msg	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Semantically wrong message". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Invalid Mandatory Info	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Invalid Mandatory Info". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Invalid Mandatory Info	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Invalid Mandatory Info". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MSG type Non Existent	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Message type does not exist". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-MSG type Non Existent	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Message type does not exist". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MSG type not compatible with protocol state	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Message type not compatible with protocol state". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-MSG type not compatible with protocol state	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Message type not compatible with protocol state". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-IE Non Existent	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "Information element not existent". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-IE Non Existent	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "Information element not existent". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Conditional IE Error	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "error in conditional informational element". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Conditional IE Error	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "error in conditional informational element". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Message not compatible with protocol state	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "message not compatible with protocol state". **Triggers**: • When getting an Attach Request before getting Relocation-complete during SRNS • When getting periodic RAU in a direct transfer message • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Message not compatible with protocol state	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "message not compatible with protocol state". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Protocol Error	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "protocol error". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-Protocol Error	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "protocol error". **Triggers**: • When the PLMN ID in BSSGP message does not match the configured PLMN at GPRS service • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-Unknown cause	**Description**: Total number of Combined Inter RAT RAU Rejects in 3G service with cause "unknown error". **Availability**: per RA, per RNC, per SGSN service
2G-Unknown cause	**Description**: Total number of Combined Inter RAT RAU Rejects in 2G service with cause "unknown error". **Availability**: per RA, per GPRS service
Inter Service PS Only Routing Area Update Reject Causes	
3G-IMSI Unknown in HLR	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "IMSI unknown at HLR". **Triggers**: • On HLR sending a bad response to a SAI-Req or GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-IMSI Unknown in HLR	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "IMSI unknown at HLR". **Triggers**: • On HLR sending a bad response to a SAI-Req or GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Illegal MS	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Illegal M". **Triggers**: • On HLR sending a bad response to a SAI-Req or GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Illegal MS	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Illegal MS". • **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Illegal ME	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Illegal ME". **Triggers**: • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Illegal ME	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Illegal ME". **Triggers**: • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GPRS service not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service. **Triggers**: • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-GPRS service not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 2G service. **Triggers**: • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GPRS and Non-GPRS service not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 3G service. **Triggers**: • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-GPRS and Non-GPRS service not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 2G service. **Triggers**: • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-MsId not derived by Nw	**Description**: Total number of GPRS only Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 3G service. **Triggers**: • On getting periodic RAU with old RAI as a non-local RAI • When PTMSI-IE is missing in RAU • When old RAI has invalid location area values (0x0000 or 0xfffe) for PTMSI-attaches/RAUs • When getting a RAU with old RAI in 2G and PTMSI is unknown • When getting PTMSI-SIG-MISMATCH for a SGSN Context Request sent with IMSI Validated • When getting a RAU Request while an attach with the same peer-SGSN-PTMSI is in progress • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-MsId not derived by Nw	**Description**: Total number of GPRS only Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 2G service. **Triggers**: • When SGSN-Context-Resp arrives with any cause other than "accepted" • When GMM-Identity-Req with MS fails • When GTP-Identity-Req with MS fails • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-Implicitly Detached	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Implicitly detached". **Triggers**: • RAU at 3G when subscriber was detached from 2G • When we get a different IMSI in SGSN Context Response for an SGSN Context Request sent with IMSI validated • When we get RAU while awaiting a Detach Accept • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Implicitly Detached	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Implicitly detached". **Triggers**: • When we get an RAU from an unknown MS • On T3350 expiry for the attach-accept • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-PLMN not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "PLMN not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-PLMN not allowed	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "PLMN not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Location Area not allowed	**Description**: Total number of GPRS only Inter Service RAU rejects in 3G service with cause "Location area not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Location Area not allowed	**Description**: Total number of GPRS only Inter Service RAU rejects in 2G service with cause "Location area not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Roaming not allowed in this Location Area	**Description**: Total number of GPRS only Inter Service RAU rejects in 3G service with cause "Roaming area not allowed in the given location area". **Triggers**: • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Roaming not allowed in this Location Area	**Description**: Total number of GPRS only Inter Service RAU rejects in 2G service with cause "Roaming area not allowed in the given location area". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-GPRS service not allowed in this PLMN	**Description**: Total number of GPRS only RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 3G service. **Triggers**: • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-GPRS service not allowed in this PLMN	**Description**: Total number of GPRS only RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 2G service. **Triggers**: • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-No suitable cells in this Location Area	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "No cells in location area". **Triggers**: • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-No suitable cells in this Location Area	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "No cells in location area". **Triggers**: • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

3G-MSC not reachable	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "MSC not reachable".
	Triggers:
	• On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because:
	  • the request is timed out
	  • inability to send to VLR
	• When operator policy is configured with this value as the reject cause for attaches/RAUs
	Availability: per RA, per RNC, per SGSN service

Field	Description

2G-MSC not reachable	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "MSC not reachable".
	Triggers:
	• On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because:
	  • the request is timed out
	  • inability to send to VLR
	• When operator policy is configured with this value as the reject cause for attaches/RAUs
	Availability: per RA, per GPRS service

3G-Network Failure	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Network Failure". **Triggers**: • RNC is overloaded • Not enough credits at session manager • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • Too many IUs for the same IMSI • On getting a RAU with a peer SGSN PTMSI when another Attach is ongoing with the same PTMSI • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Network Failure	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Network Failure". **Triggers**: • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • On XID failure for RAU • Inability to send an SGSN-Ctx-Req out for an RAU. • Inability to send a Check-IMEI Request out • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MAC Failure	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Message Authenticate Code (MAC) Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-MAC Failure	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Message Authenticate Code (MAC) Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-SYNC Failure	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Context Synchronization Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-SYNC Failure	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Context Synchronization Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service

Field	Description
3G-Congestion	**Description**: Total number of GPRS Only Inter Service RAU Rejects in 3G service with cause "Network Congestion". **Triggers**: • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Congestion	**Description**: Total number of GPRS Only Inter Service RAU Rejects in 2G service with cause "Network Congestion". **Triggers**: • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GSM Auth Unacceptable	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "GSM Authentication unacceptable". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-GSM Auth Unacceptable	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "GSM Authentication unacceptable". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-No PDP contexts activated	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "PDP context not activated". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-No PDP contexts activated	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "PDP context not activated". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service

Field	Description
3G-Retry from new cell	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Subscriber retried from a new cell". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-Retry from new cell	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Subscriber retried from a new cell". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Semantically Wrong Msg	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Semantically wrong message". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Semantically Wrong Msg	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Semantically wrong message". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Invalid Mandatory Info	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Invalid Mandatory Info". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Invalid Mandatory Info	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Invalid Mandatory Info". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MSG type Non Existent	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Message type does not exist". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-MSG type Non Existent	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Message type does not exist". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MSG type not compatible with protocol state	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Message type not compatible with protocol state". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-MSG type not compatible with protocol state	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Message type not compatible with protocol state". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-IE Non Existent	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "Information element not existent". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-IE Non Existent	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "Information element not existent". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Conditional IE Error	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "error in conditional informational element". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Conditional IE Error	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "error in conditional informational element". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Message not compatible with protocol state	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "message not compatible with protocol state". **Triggers**: • When getting an Attach Request before getting Relocation-complete during SRNS • When getting periodic RAU in a direct transfer message • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Message not compatible with protocol state	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "message not compatible with protocol state". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Protocol Error	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "message not compatible with protocol state". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per GPRS service
2G-Protocol Error	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "protocol error". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per SGSN service
3G-Unknown cause	**Description**: Total number of GPRS only Inter Service RAU Rejects in 3G service with cause "unknown error". **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Unknown cause	**Description**: Total number of GPRS only Inter Service RAU Rejects in 2G service with cause "unknown error". **Availability**: per RA, per GPRS service
Inter Service Comb. Routing Area Update Reject Causes	
3G-IMSI Unknown in HLR	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "IMSI unknown at HLR". **Triggers**: • On HLR sending a bad response to a SAI-Req/GLU-Req • On getting zero auth vectors for HLR for a SAI-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-IMSI Unknown in HLR	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "IMSI unknown at HLR". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Illegal MS	**Description**: Total number of Combined Inter Service RAU rejects in 3G service with cause "Illegal MS". **Triggers**: • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Illegal MS	**Description**: Total number of Combined Inter Service RAU rejects in 2G service with cause "Illegal MS". **Triggers**: • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-Illegal ME	**Description**: Total number of Combined Inter Service RAU rejects in 3G service with cause "Illegal ME". **Triggers**: • Unable to retrieve IMEI/IMEISV from MS • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Illegal ME	**Description**: Total number of Combined Inter Service RAU rejects in 2G service with cause "Illegal ME". **Triggers**: • On IMEI verification failure with EIR • On getting unknown equipment failure from EIR/HLR • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GPRS service not allowed	**Description**: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 3G service. **Triggers**: • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-GPRS service not allowed	**Description**: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS services not allowed in this PLMN" against Inter-service-RAU Requests in 2G service. **Triggers**: • On getting a cl (subs-with) while an attach/RAU is in progress • On getting "Subscriber Unknown" failure from HLR for SAI-Req/GLU-Req • For rejecting attaches due to subscriber control inactivity • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GPRS and Non-GPRS service not allowed	**Description**: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 3G service. **Triggers**: • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-GPRS and Non-GPRS service not allowed	**Description**: Total number of Combined Inter Service RAU Rejects sent with cause "GPRS and non-GPRS service not allowed for subscriber" against Inter-service-RAU Requests in 2G service. **Triggers**: • On getting "IMSI unknown" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-MsId not derived by Nw	**Description**: Total number of Combined Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 3G service. **Triggers**: • On getting periodic RAU with old RAI as a non-local RAI • When PTMSI-IE is missing in RAU • When old RAI has invalid location area values (0x0000 or 0xfffe) for PTMSI-attaches/RAUs • When getting a RAU with old RAI in 2G and PTMSI is unknown • When getting PTMSI-SIG-MISMATCH for a SGSN Context Request sent with IMSI Validated • When getting a RAU Request while an attach with the same peer-SGSN-PTMSI is in progress • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-MsId not derived by Nw	**Description**: Total number of Combined Inter Service RAU Request Rejects sent with cause "MSID not derived by network" against Inter-Service-RAU Requests in 2G service. **Triggers**: • When SGSN-Context-Resp arrives with any cause other than "accepted" • When GMM-Identity-Req with MS fails • When GTP-Identity-Req with MS fails • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-Implicitly Detached	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Implicitly detached". **Triggers**: • RAU at 3G when subscriber was detached from 2G • When we get a different IMSI in SGSN Context Response for an SGSN Context Request sent with IMSI validated • When we get RAU while awaiting a Detach Accept • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Implicitly Detached	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Implicitly detached". **Triggers**: • When we get an RAU from an unknown MS • On T3350 expiry for the attach-accept • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-PLMN not allowed	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "PLMN not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-PLMN not allowed	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "PLMN not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Location Area not allowed	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Location area not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Location Area not allowed	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Location area not allowed". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Roaming not allowed in this Location Area	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Roaming area not allowed in the given location area". **Triggers**: • When rejecting as a shared SGSN due to no operator accepting the given IMSI • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Roaming not allowed in this Location Area	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Roaming area not allowed in the given location area". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-GPRS service not allowed in this PLMN	**Description**: Total number of Combined RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 3G service. **Triggers**: • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-GPRS service not allowed in this PLMN	**Description**: Total number of Combined RAU Rejects sent with cause "GPRS service not allowed in this PLMN" against Inter-Service-RAU Requests in 2G service. **Triggers**: • On getting "Roaming not allowed" from HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-No suitable cells in this Location Area	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "No cells in location area". **Triggers**: • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-No suitable cells in this Location Area	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "No cells in location area". **Triggers**: • On getting "UMTS access control" from Siemens HLR for SAI-Req/GLU-Req • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

3G-MSC not reachable	**Description**: Total number of Combined Inter Service RAU rejects in 3G service with cause "MSC not reachable".
	Triggers:
	• On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because:
	  • the request is timed out
	  • inability to send to VLR
	• When operator policy is configured with this value as the reject cause for attaches/RAUs
	Availability: per RA, per RNC, per SGSN service

Field	Description

2G-MSC not reachable	**Description**: Total number of Combined Inter Service RAU rejects in 2G service with cause "MSC not reachable".
	Triggers:
	• On sending an attach/RAU Accept with cause "GPRS only attached" or "RA updated" for a combined CS/PS request either because:
	  • the request is timed out
	  • inability to send to VLR
	• When operator policy is configured with this value as the reject cause for attaches/RAUs
	Availability: per RA, per GPRS service

3G-Network Failure	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Network Failure". **Triggers**: • RNC is overloaded • Not enough credits at session manager • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • Too many IUs for the same IMSI • On getting a RAU with a peer SGSN PTMSI when another Attach is ongoing with the same PTMSI • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Network Failure	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Network Failure". **Triggers**: • On getting cause "data missing from HLR" in SAI-Req/GLU-Req • On XID failure for RAU • Inability to send an SGSN-Ctx-Req out for an RAU • Inability to send a Check-IMEI Request out • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MAC Failure	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Message Authenticate Code (MAC) Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-MAC Failure	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Message Authenticate Code (MAC) Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-SYNC Failure	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Context Synchronization Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-SYNC Failure	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Context Synchronization Failure". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service

Field	Description
3G-Congestion	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Network Congestion". **Triggers**: • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Congestion	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Network Congestion". **Triggers**: • On congestion, if configured for attach-throttling • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-GSM Auth Unacceptable	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "GSM Authentication unacceptable". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-GSM Auth Unacceptable	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "GSM Authentication unacceptable". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-No PDP contexts activated	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "PDP context not activated". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-No PDP contexts activated	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "PDP context not activated". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service

Field	Description
3G-Retry from new cell	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Subscriber retried from a new cell". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-Retry from new cell	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Subscriber retried from a new cell". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Semantically Wrong Msg	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Semantically wrong message". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Semantically Wrong Msg	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Semantically wrong message". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Invalid Mandatory Info	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Invalid Mandatory Info". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Invalid Mandatory Info	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Invalid Mandatory Info". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MSG type Non Existent	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Message type does not exist". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-MSG type Non Existent	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Message type does not exist". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-MSG type not compatible with protocol state	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Message type not compatible with protocol state". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-MSG type not compatible with protocol state	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Message type not compatible with protocol state". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-IE Non Existent	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "Information element not existent". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-IE Non Existent	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "Information element not existent". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Conditional IE Error	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "error in conditional informational element". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Conditional IE Error	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "error in conditional informational element". **Triggers**: • On decode failure of messages • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service
3G-Message not compatible with protocol state	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "message not compatible with protocol state". **Triggers**: • When getting an Attach Request before getting Relocation-complete during SRNS • When getting periodic RAU in a direct transfer message • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per RNC, per SGSN service
2G-Message not compatible with protocol state	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "message not compatible with protocol state". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per GPRS service
3G-Protocol Error	**Description**: Total number of Combined Inter Service RAU rejects in 3G service with cause "protocol error". **Triggers**: Increments when operator policy is configured with this value as the reject cause for attaches/RAUs. **Availability**: per RA, per RNC, per SGSN service
2G-Protocol Error	**Description**: Total number of Combined Inter Service RAU rejects in 2G service with cause "protocol error". **Triggers**: • When the PLMN ID in BSSGP message does not match the configured PLMN at GPRS service • When operator policy is configured with this value as the reject cause for attaches/RAUs **Availability**: per RA, per GPRS service

Field	Description
3G-Unknown cause	**Description**: Total number of Combined Inter Service RAU Rejects in 3G service with cause "unknown error". **Availability**: per RA, per RNC, per SGSN service
2G-Unknown cause	**Description**: Total number of Combined Inter Service RAU Rejects in 2G service with cause "unknown error". **Availability**: per RA, per GPRS service
Routing Area Update Failure	This group displays the statistics of total RAU failures on SGSN.
Total-RAU-Failure	This subgroup indicates all type of Routing Area Update message failures including 2G and 3G occurred on SGSN.
Total-Intra-RAU-Failure	Total all type of intra-routing area RAU failures including 2G and 3G occurred on SGSN.
Total-Ra-Up-Intra-RAU-Fail	Total intra-routing area RAU failures including 2G and 3G occurred on SGSN.
3G-Ra-Up-Intra-RAU-Failure	Total intra-routing area RAU failures occurred on SGSN for 3G service.
2G-Ra-Up-Intra-RAU-Failure	Total intra-routing area RAU failures occurred on SGSN for 2G service.
Total-Periodic-RAU-Failure	Total periodic RAU failures including 2G and 3G occurred on SGSN.
3G-Periodic-RAU-Failure	Total periodic RAU failures occurred on SGSN for 3G service.
2G-Periodic-RAU-Failure	Total periodic RAU failures occurred on SGSN for 2G service.
Total-Comb-Intra-RAU-Fail	Total combined (PS and CS) RAU failures including 2G and 3G occurred on SGSN.
3G-Comb-Intra-RAU-Failure	Total combined (PS and CS) RAU failures occurred on SGSN for 3G service.
2G-Comb-Intra-RAU-Failure	Total combined (PS and CS) RAU failures occurred on SGSN for 2G service.
Total-Inter-SGSN-RAU-Fail	Total all type of inter-SGSN RAU failures including 2G and 3G occurred on SGSN.
Total-PS-Inter-RAU-Failure	Total inter-SGSN RAU failures including 2G and 3G occurred on SGSN for PS-only service.
3G-PS-Inter-RAU-Failure	Total inter-SGSN RAU failures for 3G occurred on SGSN for PS-only service.
2G-PS-Inter-RAU-Failure	Total inter-SGSN RAU failures for 2G occurred on SGSN for PS-only service.
Total-Comb-Inter-RAU-Fail	Total inter-SGSN RAU failures including 2G and 3G occurred on SGSN for combined (PS and CS) service.
3G-Comb-Inter-RAU-Failure	Total inter-SGSN RAU failures for 3G occurred on SGSN for combined (PS and CS) service.
2G-Comb-Inter-RAU-Failure	Total inter-SGSN RAU failures for 2G occurred on SGSN for combined (PS and CS) service.

Field	Description
Total-Ps-Inter-Rat-RAU-Fail	Total PS-only inter-RAT RAU failures including 2G and 3G services occurred on SGSN.
3G-Ps-Inter-Rat-RAU-Fail	Total PS-only inter-RAT RAU failures for 3G service occurred on SGSN.
2G-Ps-Inter-Rat-Fail	Total PS-only inter-RAT RAU failures for 2G service occurred on SGSN.
Total-Comb-Inter-Rat-RAU-Fai	Total combined (PS and CS) inter-RAT RAU failures including 2G and 3G services occurred on SGSN.
3G-Comb-Inter-Rat-RAU-Fail	Total combined (PS and CS) inter-RAT RAU failures for 3G service occurred on SGSN.
2G-Comb-Inter-Rat-Fail	Total combined (PS and CS) inter-RAT RAU failures for 2G service occurred on SGSN.
Total-Ps-Inter-Serv-RAU-Fail	Total PS-only inter-service RAU failures including 2G and 3G services occurred on SGSN.
3G-Ps-Inter-Serv-RAU-Fail	Total PS-only inter-service RAU failures for 3G service occurred on SGSN.
2G-Ps-Inter-Serv-RAU-Fail	Total PS-only inter-service RAU failures for 2G service occurred on SGSN.
Total-Comb-Inter-Ser-RAU-Fai	Total combined (PS and CS) inter-service RAU failures including 2G and 3G services occurred on SGSN.
3G-Comb-Inter-Ser-RAU-Fai	Total combined (PS and CS) inter-service RAU failures for 3G service occurred on SGSN.
2G-Comb-Inter-Ser-RAU-Fai	Total combined (PS and CS) inter-service RAU failures for 2G service occurred on SGSN.
Intra Ra-Upd Routing Area Update Failure Causes	This group displays the failure causes for intra-routing area RAU request failures on SGSN.
3G-Iu release before RAU over	Total number of intra-routing area RAU request failures occurred due to 3G Iu released before RAU procedure was over.
3G-Failure due to Other Ongoing Procedure	Total number of intra-routing area RAU request failures occurred as another procedure was ongoing in 3G service.
2G-Failure due to Other Ongoing Procedure	Total number of intra-routing area RAU request failures occurred as another procedure was ongoing in 2G service.
Intra Periodic Routing Area Update Failure Causes	This group displays the failure causes for periodic area RAU request failures on SGSN.
3G-Iu release before RAU over	Total number of periodic RAU request failures occurred due to 3G Iu released before RAU procedure was over.
3G-Failure due to Other Ongoing Procedure	Total number of periodic RAU request failures occurred as another procedure was ongoing in 3G service.

Field	Description
2G-Failure due to Other Ongoing Procedure	Total number of periodic RAU request failures occurred as another procedure was ongoing in 2G service.
Intra Combo. Routing Area Update Failure Causes	This group displays the failure causes for combined (PS and CS) RAU request failures on SGSN.
3G-Iu release before RAU over	Total number of combined (PS and CS) RAU request failures occurred due to 3G Iu released before RAU procedure was over.
3G-Failure due to Other Ongoing Procedure	Total number of combined (PS and CS) RAU request failures occurred as another procedure was ongoing in 3G service.
2G-Failure due to Other Ongoing Procedure	Total number of combined (PS and CS) RAU request failures occurred as another procedure was ongoing in 2G service.
Inter SGSN PS Only Routing Area Update Failure Causes	This group displays the failure causes for PS-only RAU request failures on SGSN.
3G-Iu release before RAU over	Total number of PS-only RAU request failures occurred due to 3G Iu released before RAU procedure was over.
3G-Failure due to Other Ongoing Procedure	Total number of PS-only RAU request failures occurred as another procedure was ongoing in 3G service.
2G-Failure due to Other Ongoing Procedure	Total number of PS-only RAU request failures occurred as another procedure was ongoing in 2G service.
Inter SGSN Comb. Routing Area Update Failure Causes	This group displays the failure causes for inter-SGSN combined (PS and CS) RAU request failures on SGSN.
3G-Iu release before RAU over	Total number of inter-SGSN combined (PS and CS) RAU request failures occurred due to 3G Iu released before RAU procedure was over.
3G-Failure due to Other Ongoing Procedure	Total number of inter-SGSN combined (PS and CS) RAU request failures occurred as another procedure was ongoing in 3G service.
2G-Failure due to Other Ongoing Procedure	Total number of inter-SGSN combined (PS and CS) RAU request failures occurred as another procedure was ongoing in 2G service.
Detach Request	Indicates the statistics of detach request messages.
Total-Detach-Req	Total number of detach request messages.
Total-MS-Init-Detach-Req	Total number of MS initiated detach request.
3G-MS-Init-GPRS-Detach-Req	Total number of MS initiated GPRS (PS) detach request for 3G service.
2G-MS-Init-GPRS-Detach-Req	Total number of MS initiated GPRS detach request for 2G service.
3G-MS-Init-IMSI-Detach-Req	Total number of MS initiated IMSI (CS) detach request for 3G service.
2G-MS-Init-IMSI-Detach-Req	Total number of MS initiated IMSI detach request for 2G service.

Field	Description
3G-MS-Init-Comb-Detach-Req	Total number of MS initiated combined (IMSI and GPRS) detach request for 3G service.
2G-MS-Init-Comb-Detach-Req	Total number of MS initiated combined (PS and CS) detach request for 2G service.
Total-Nw-Init-Detach-Req	Total number of network initiated detach request.
3G-Nw-Init-Reatch-Req	**Description**: During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach required" when it wants the MS to attach again for GPRS services. **Triggers**: Increments when a clear subscriber is performed. **Availability**: per RA, per RNC, per SGSN service
2G-Nw-Init-Reatch-Req	**Description**: During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach required" when it wants the MS to attach again for GPRS services. **Triggers**: Increments when a clear subscriber is performed. **Availability**: per RA, per RNC, per GPRS service
3G-Nw-Init-Reatch-Not-Req	**Description**: During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach not required" when it does not expect the MS to attach again for GPRS services. **Triggers**: Increments upon reception of a Cancel-Location (subscription-withdrawn) or a DSD (all-gprs-subscription withdrawn). **Availability**: per RA, per RNC, per SGSN service
2G-Nw-Init-Reatch-Not-Req	**Description**: During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach not required" when it does not expect the MS to attach again for GPRS services. **Triggers**: Increments upon reception of a Cancel-Location (subscription-withdrawn) or a DSD (all-gprs-subscription withdrawn). **Availability**: per RA, per RNC, per GPRS service
3G-Nw-Init-IMSI-Detach	**Description**: When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS. **Triggers**: Increments upon VLR-reset indication and a next uplink activity from MS. **Availability**: per RA, per RNC, per SGSN service

Field	Description
2G-Nw-Init-IMSI-Detach	**Description**: When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS. **Triggers**: Increments upon VLR-reset indication and a next uplink activity from MS. **Availability**: per RA, per RNC, per GPRS service
Retransmission	Indicates the statistics of detach request messages retransmitted.
Ret-Total-Detach-Req	Total number of detach request messages retransmitted.
Ret-Total-MS-Init-Det-Req	Total number of MS initiated detach request messages retransmitted.
Ret-3G-MS-Init-GPRS-Det-Re	Total number of MS initiated GPRS (PS) detach request messages retransmitted for 3G service.
Ret-3G-MS-Init-IMSI-Det-Re	Total number of MS initiated IMSI (CS) detach request messages retransmitted for 3G service.
Ret-3G-MS-Init-Comb-Det-Re	Total number of MS initiated combined (IMSI and GPRS) detach request messages retransmitted for 3G service.
Ret-2G-MS-Init-GPRS-Det-Re	Total number of MS initiated GPRS detach request messages retransmitted for 2G service.
Ret-2G-MS-Init-IMSI-Det-Re	Total number of MS initiated IMSI detach request messages retransmitted for 2G service.
Ret-2G-MS-Init-Comb-Det-Re	Total number of MS initiated combined (PS and CS) detach request messages retransmitted for 2G service.
Ret-Total-Nw-Init-Det-Req	Total number of network initiated detach request messages retransmitted.
Ret-3G-Nw-Init-Reatch-Req	**Description**: During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach required" when it wants the MS to attach again for GPRS services. **Triggers**: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "Reattach Required". **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Nw-Init-Reatch-Req	**Description**: During the network initiated detach for 2G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach required" when it wants the MS to attach again for GPRS services. **Triggers**: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "Reattach Required". **Availability**: per RA, per RNC, per GPRS service

Field	Description
Ret-3G-Nw-Init-Reatch-Not	**Description**: During the network initiated detach for 3G service, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach not required" when it does not expect the MS to attach again for GPRS services. **Triggers**: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "Reattach Not Required". **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Nw-Init-Reatch-Not	**Description**: During the network initiated detach, the SGSN informs the MS that it has been detached by sending a detach request. The Detach Request has a detach type - "Reattach not required" when it does not expect the MS to attach again for GPRS services. **Triggers**: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "Reattach Not Required". **Availability**: per RA, per RNC, per GPRS service
Ret-3G-Nw-Init-IMSI-Detach	**Description**: When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS in a 3G service. **Triggers**: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "IMSI Detach". **Availability**: per RA, per RNC, per SGSN service
Ret-2G-Nw-Init-IMSI-Detach	**Description**: When the SGSN loses the GS-context for the MS due to a VLR-reset indication, it notifies the MS by sending an IMSI-detach on the next signalling activity by the MS in a 2G service. **Triggers**: Increments upon the 1st, 2nd, 3rd and 4th expiry of T3322 for a detach of type "IMSI Detach". **Availability**: per RA, per RNC, per GPRS service
Detach Accept	Indicates the statistics of detach request accept messages.
Total-Detach-Acc	Total number of detach request accept messages.
Total-MS-Init-Detach-Acc	Total number of MS initiated detach request accepted.
3G-MS-Init-Detach-Acc	Total number of MS initiated GPRS detach request accepted for 3G service.
2G-MS-Init-Detach-Acc	Total number of MS initiated IMSI detach request accepted for 2G service.
Total-Nw-Init-Detach-Acc	Total number of network initiated detach request accepted.
3G-Nw-Init-Detach-Acc	Total number of network initiated detach request for 3G service.
2G-Nw-Init-Detach-Acc	Total number of network initiated detach request for 2G service.
3G-Nw-Init-GPRS-Detach-Acc	Total number of network initiated GPRS (PS) detach request accepted for 3G service.

Field	Description
2G-Nw-Init-GPRS-Detach-Acc	Total number of network initiated GPRS (PS) detach request accepted for 2G service.
3G-Nw-Init-IMSI-Detach-Acc	Total number of network initiated IMSI (CS) detach request accepted for 3G service.
2G-Nw-Init-IMSI-Detach-Acc	Total number of network initiated IMSI (CS) detach request accepted for 2G service.
3G-Nw-Init-Comb-Detach-Acc	Total number of network initiated combined (PS and CS) detach request accepted for 3G service.
2G-Nw-Init-Comb-Detach-Acc	Total number of network initiated combined (PS and CS) detach request accepted for 2G service.
Service Request	Indicates the statistics of service request messages.
Total-Serv-Req	Indicates the statistics of total service request messages.
Total-Signalling-Serv-Req	Total signalling service requests messages.
3G-Signalling-Serv-Req	Total signalling service requests messages for 3G service.
2G-Signalling-Serv-Req	Total signalling service requests messages for 2G service.
Total-Page-Rsp-Serv-Req	Total paging response for service requests messages.
3G-Page-Rsp-Serv-Req	Total paging response for service requests messages for 3G service.
2G-Page-Rsp-Serv-Req	Total paging response for service requests messages for 2G service.
Total-Data-Serv-Req	Total data service requests messages.
3G-Data-Serv-Req	Total data service requests messages for 3G service.
2G-Data-Serv-Req	Total data service requests messages for 2G service.
Retransmission	Indicates the statistics of service request messages retransmitted.
Ret-Total-Serv-Req	Indicates the statistics of total service request messages retransmitted.
Ret-Total-Sig-Serv-Req	Total signalling service requests messages retransmitted.
Ret-3G-Sig-Serv-Req	Total signalling service requests messages retransmitted for 3G service.
Ret-2G-Signalling-Serv-Req	Total signalling service requests messages retransmitted for 2G service.
Ret-Total-PageRsp-Serv-Req	Total paging response for service requests messages retransmitted.
Ret-3G-PageRsp-Serv-Req	Total paging response for service requests messages retransmitted for 3G service.
Ret-2G-Page-Rsp-Serv-Req	Total paging response for service requests messages retransmitted for 2G service.
Ret-Total-Data-Serv-Req	Total data service requests messages retransmitted.
Ret-3G-Data-Serv-Req	Total data service requests messages retransmitted for 3G service.
Ret-2G-Data-Serv-Req	Total data service requests messages retransmitted for 2G service.

Field	Description
Service Accept	Indicates the statistics of service request messages.
Total-Serv-Resp	Total service response messages.
3G-Service-Resp	Total service response messages for 3G service.
2G-Service-Resp	Total service response messages for 2G service.
Service Reject	Total paging response for service requests messages.
Total-Serv-Rej	Total service reject messages.
3G-Service-Rej	Total service reject messages for 3G service.
2G-Service-Rej	Total service reject messages for 2G service.
Service Reject Causes	Indicates the statistics of causes for service request reject for 2G and 3G service.
3G-Network Failure	Total number of service request rejected for 3G service due to network failure.
2G-Network Failure	Total number of service request rejected for 2G service due to network failure.
3G-IMSI Unknown in HLR	Total number of service request rejected for 3G service due to unknown IMSI in HLR.
2G-IMSI Unknown in HLR	Total number of service request rejected for 2G service due to unknown IMSI in HLR.
3G-MsId can not derived by Nw	Total number of service request rejected for 3G service as MSID can not derived by network from message.
2G-MsId can not derived by Nw	Total number of service request rejected for 3G service as MSID can not derived by network from message.
3G-Implicitly detached	Total number of service request rejected for 3G service due to implicitly detach.
2G-Implicitly detached	Total number of service request rejected for 2G service due to implicitly detach.
3G-Illegal MS	Total number of service request rejected for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of service request rejected for 2G service due to illegal mobile subscriber.
3G-Message not compatible with protocol state	Total number of service request rejected for 3G service as message is not compatible with protocol state.
2G-Message not compatible with protocol state	Total number of service request rejected for 2G service as message is not compatible with protocol state.
3G-No PDP contexts activated	Total number of service request rejected for 3G service as no PDP context is activated.
2G-No PDP contexts activated	Total number of service request rejected for 2G service as no PDP context is activated.
3G-Semantically Wrong Msg	Total number of service request rejected for 3G service as request message is semantically wrong.

Field	Description
2G-Semantically Wrong Msg	Total number of service request rejected for 2G service as request message is semantically wrong.
3G-Unknown cause	Total number of service request rejected for 3G service due to unknown cause or reason not specified here.
2G-Unknown cause	Total number of service request rejected for 3G service due to unknown cause or reason not specified here.
Paging Initiated	Indicates the statistics of paging initiated procedure.
Total-Page-Requests	Total paging request messages.
3G-PS-Page-Requests	Total paging request messages in packet switching (PS) domain for 3G service.
3G-CS-Page-Requests	Total paging request messages in circuit switching (CS) domain for 3G service.
2G-PS-Page-Requests	Total paging request messages in packet switching (PS) domain for 2G service.
2G-CS-Page-Requests	Total paging request messages in circuit switching (CS) domain for 2G service.
Total-Page-Responses	Total paging request response messages.
3G-PS-Page-Responses	Total paging request response messages in packet switching (PS) domain for 3G service.
3G-CS-Page-Responses	Total paging request response messages in circuit switching (CS) domain for 3G service.
2G-PS-Page-Responses	Total paging request response messages in packet switching (PS) domain for 2G service.
2G-CS-Page-Responses	Total paging request response messages in circuit switching (CS) domain for 2G service.
Retransmission	Indicates the statistics of paging initiated procedure retransmitted.
Ret-Total-Page-Requests	Total paging request messages.
Ret-3G-Page-Requests	Total paging request messages retransmitted in for 3G service.
Ret-2G-Page-Requests	Total paging request messages retransmitted in for 2G service.
Gmm Status Message	Indicates the statistics of GPRS mobility management procedure status messages.
Total-Gmm-Status-Sent	Total GPRS mobility management procedure status messages sent.
3G-Gmm-Status-Sent	Total GPRS mobility management procedure status messages sent for 3G service.
2G-Gmm-Status-Sent	Total GPRS mobility management procedure status messages sent for 2G service.
Total-Gmm-Status-Rcvd	Total GPRS mobility management procedure status messages received.
3G-Gmm-Status-Rcvd	Total GPRS mobility management procedure status messages received for 3G service.

Field	Description
2G-Gmm-Status-Rcvd	Total GPRS mobility management procedure status messages received for 2G service.
GMM Status Sent Causes	Indicates the statistics of causes for GPRS mobility management status messages sent for 2G and 3G service.
3G-IMSI Unknown in HLR	Total number of GMM status messages sent for 3G service due to unknown IMSI in HLR.
2G-IMSI Unknown in HLR	Total number of GMM status messages sent for 2G service due to unknown IMSI in HLR.
3G-Illegal MS	Total number of GMM status messages sent for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of GMM status messages sent for 2G service due to illegal mobile subscriber.
3G-Illegal ME	Total number of GMM status messages sent for 3G service due to illegal mobile equipment.
2G-Illegal ME	Total number of GMM status messages sent for 2G service due to illegal mobile equipment.
3G-GPRS service not allowed	Total number of GMM status messages sent for 3G service due to GPRS service not allowed for subscriber.
2G-GPRS service not allowed	Total number of GMM status messages sent for 2G service due to GPRS service not allowed for subscriber.
3G-GPRS & Non-GPRS services not allowed	Total number of GMM status messages sent for 3G service due to GPRS and non-GPRS service not allowed for subscriber.
2G-GPRS & Non-GPRS services not allowed	Total number of GMM status messages sent for 2G service due to GPRS and non-GPRS service not allowed for subscriber.
3G-MsId not derived by Nw	Total number of GMM status messages sent for 3G service due to network failed to derive MSID from attach message.
2G-MsId not derived by Nw	Total number of GMM status messages sent for 2G service due to network failed to derive MSID from attach message.
3G-Implicitly detached	Total number of GMM status messages sent for 3G service due to implicitly detach.
2G-Implicitly detached	Total number of GMM status messages sent for 2G service due to implicitly detach.
3G-PLMN not allowed	Total number of GMM status messages sent for 3G service due to specific PLMN not allowed.
2G-PLMN not allowed	Total number of GMM status messages sent for 2G service due to specific PLMN not allowed.
3G-Location Area not allowed	Total number of GMM status messages sent for 3G service due to specific location area not allowed.

Field	Description
2G-Location Area not allowed	Total number of GMM status messages sent for 2G service due to specific location area not allowed.
3G-Roaming not allowed in this Location Area	Total number of GMM status messages sent for 3G service due to roaming not allowed in specific location area.
2G-Roaming not allowed in this Location Area	Total number of GMM status messages sent for 2G service due to roaming not allowed in specific location area.
3G-GPRS service not allowed in this PLMN	Total number of GMM status messages sent for 3G service due to GPRS service not allowed in specific PLMN.
2G-GPRS service not allowed in this PLMN	Total number of GMM status messages sent for 2G service due to GPRS service not allowed in specific PLMN.
3G-No suitable cells in this Location Area	Total number of GMM status messages sent for 3G service due to non availability of suitable cell in specific location area.
2G-No suitable cells in this Location Area	Total number of GMM status messages sent for 2G service due to non availability of suitable cell in specific location area.
3G-MSC not reachable	Total number of GMM status messages sent for 3G service as MSC not reachable.
2G-MSC not reachable	Total number of GMM status messages sent for 2G service as MSC not reachable.
3G-Network Failure	Total number of GMM status messages sent for 3G service due to network failure.
2G-Network Failure	Total number of GMM status messages sent for 2G service due to network failure.
3G-MAC Failure	Total number of GMM status messages sent for 3G service due to message authenticate code (MAC) failure.
2G-MAC Failure	Total number of GMM status messages sent for 2G service due to MAC failure.
3G-SYNC Failure	Total number of GMM status messages sent for 3G service due to context synchronization failure.
2G-SYNC Failure	Total number of GMM status messages sent for 2G service due to context synchronization failure.
3G-Congestion	Total number of GMM status messages sent for 3G service due to network congestion.
2G-Congestion	Total number of GMM status messages sent for 2G service due to network congestion.
3G-GSM Auth Unacceptable	Total number of GMM status messages sent for 3G service due to unacceptable authentication from GSM network.
2G-GSM Auth Unacceptable	Total number of GMM status messages sent for 2G service due to unacceptable authentication from GSM network.
3G-No PDP contexts activated	Total number of GMM status messages sent for 3G service as PDP context is not activated.

Field	Description
2G-No PDP contexts activated	Total number of GMM status messages sent for 2G service as PDP context is not activated.
3G-Semantically Wrong Msg	Total number of GMM status messages sent for 3G service as attach request message is semantically wrong.
2G-Semantically Wrg Msg	Total number of GMM status messages sent for 2G service as attach request message is semantically wrong.
3G-Invalid Mandatory Info	Total number of GMM status messages sent for 3G service as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of GMM status messages sent for 2G service as mandatory information in message is invalid.
3G-MSG type Non Existent	Total number of GMM status messages sent for 3G service due to non-existent type of message.
2G-MSG type Non Existent	Total number of GMM status messages sent for 2G service due to non-existent type of message.
3G-MSG type not compatible with protocol state	Total number of GMM status messages sent for 3G service as message type is not compatible with protocol state.
2G-MSG type not compatible with protocol state	Total number of GMM status messages sent for 2G service as message type is not compatible with protocol state.
3G-Conditional IE Error	Total number of GMM status messages sent for 3G service due to error in conditional information element.
2G-conditional IE Error	Total number of GMM status messages sent for 2G service due to error in conditional information element.
3G-Message not compatible with protocol state	Total number of GMM status messages sent for 3G service as message is not compatible with protocol state.
2G-Message not compatible with protocol state	Total number of GMM status messages sent for 2G service as message is not compatible with protocol state.
3G-protocol Error	Total number of GMM status messages sent for 3G service due to protocol error in message.
2G-protocol Error	Total number of GMM status messages sent for 2G service due to protocol error in message.
GMM Status Rcvd Causes	Indicates the statistics of causes for GPRS mobility management status messages received for 2G and 3G service.
3G-IMSI Unknown in HLR	Total number of GMM status messages received for 3G service due to unknown IMSI in HLR.
2G-IMSI Unknown in HLR	Total number of GMM status messages received for 2G service due to unknown IMSI in HLR.

Field	Description
3G-Illegal MS	Total number of GMM status messages received for 3G service due to illegal mobile subscriber.
2G-Illegal MS	Total number of GMM status messages received for 2G service due to illegal mobile subscriber.
3G-Illegal ME	Total number of GMM status messages received for 3G service due to illegal mobile equipment.
2G-Illegal ME	Total number of GMM status messages received for 2G service due to illegal mobile equipment.
3G-GPRS service not allowed	Total number of GMM status messages received for 3G service due to GPRS service not allowed for subscriber.
2G-GPRS service not allowed	Total number of GMM status messages received for 2G service due to GPRS service not allowed for subscriber.
3G-GPRS & Non-GPRS services not allowed	Total number of GMM status messages received for 3G service due to GPRS and non-GPRS service not allowed for subscriber.
2G-GPRS & Non-GPRS services not allowed	Total number of GMM status messages received for 2G service due to GPRS and non-GPRS service not allowed for subscriber.
3G-MsId not derived by Nw	Total number of GMM status messages received for 3G service due to network failed to derive MSID from attach message.
2G-MsId not derived by Nw	Total number of GMM status messages received for 2G service due to network failed to derive MSID from attach message.
3G-Implicitly detached	Total number of GMM status messages received for 3G service due to implicitly detach.
2G-Implicitly detached	Total number of GMM status messages received for 2G service due to implicitly detach.
3G-PLMN not allowed	Total number of GMM status messages received for 3G service due to specific PLMN not allowed.
2G-PLMN not allowed	Total number of GMM status messages received for 2G service due to specific PLMN not allowed.
3G-Location Area not allowed	Total number of GMM status messages received for 3G service due to specific location area not allowed.
2G-Location Area not allowed	Total number of GMM status messages received for 2G service due to specific location area not allowed.
3G-Roaming not allowed in this Location Area	Total number of GMM status messages received for 3G service due to roaming not allowed in specific location area.
2G-Roaming not allowed in this Location Area	Total number of GMM status messages received for 2G service due to roaming not allowed in specific location area.

Field	Description
3G-GPRS service not allowed in this PLMN	Total number of GMM status messages received for 3G service due to GPRS service not allowed in specific PLMN.
2G-GPRS service not allowed in this PLMN	Total number of GMM status messages received for 2G service due to GPRS service not allowed in specific PLMN.
3G-No suitable cells in this Location Area	Total number of GMM status messages received for 3G service due to non availability of suitable cell in specific location area.
2G-No suitable cells in this Location Area	Total number of GMM status messages received for 2G service due to non availability of suitable cell in specific location area.
3G-MSC not reachable	Total number of GMM status messages received for 3G service as MSC not reachable.
2G-MSC not reachable	Total number of GMM status messages received for 2G service as MSC not reachable.
3G-Network Failure	Total number of GMM status messages received for 3G service due to network failure.
2G-Network Failure	Total number of GMM status messages received for 2G service due to network failure.
3G-MAC Failure	Total number of GMM status messages received for 3G service due to message authenticate code (MAC) failure.
2G-MAC Failure	Total number of GMM status messages received for 2G service due to MAC failure.
3G-SYNC Failure	Total number of GMM status messages received for 3G service due to context synchronization failure.
2G-SYNC Failure	Total number of GMM status messages received for 2G service due to context synchronization failure.
3G-Congestion	Total number of GMM status messages received for 3G service due to network congestion.
2G-Congestion	Total number of GMM status messages received for 2G service due to network congestion.
3G-GSM Auth Unacceptable	Total number of GMM status messages received for 3G service due to unacceptable authentication from GSM network.
2G-GSM Auth Unacceptable	Total number of GMM status messages received for 2G service due to unacceptable authentication from GSM network.
3G-No PDP contexts activated	Total number of GMM status messages received for 3G service as PDP context is not activated.
2G-No PDP contexts activated	Total number of GMM status messages received for 2G service as PDP context is not activated.
3G-Semantically Wrong Msg	Total number of GMM status messages received for 3G service as attach request message is semantically wrong.

Field	Description
2G-Semantically Wrong Msg	Total number of GMM status messages received for 2G service as attach request message is semantically wrong.
3G-Invalid Mandatory Info	Total number of GMM status messages received for 3G service as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of GMM status messages received for 2G service as mandatory information in message is invalid.
3G-MSG type Non Existent	Total number of GMM status messages received for 3G service due to non-existent type of message.
2G-MSG type Non Existent	Total number of GMM status messages received for 2G service due to non-existent type of message.
3G-MSG type not compatible with protocol state	Total number of GMM status messages received for 3G service as message type is not compatible with protocol state.
2G-MSG type not compatible with protocol state	Total number of GMM status messages received for 2G service as message type is not compatible with protocol state.
3G-Conditional IE Error	Total number of GMM status messages received for 3G service due to error in conditional information element.
2G-conditional IE Error	Total number of GMM status messages received for 2G service due to error in conditional information element.
3G-Message not compatible with protocol state	Total number of GMM status messages received for 3G service as message is not compatible with protocol state.
2G-Message not compatible with protocol state	Total number of GMM status messages received for 2G service as message is not compatible with protocol state.
3G-protocol Error	Total number of GMM status messages received for 3G service due to protocol error in message.
2G-protocol Error	Total number of GMM status messages received for 2G service due to protocol error in message.
Gmm Information Sent	Indicates the statistics of messages sent with GPRS mobility management information.
Total-Gmm-Information-Sent	Total messages sent with GPRS mobility management information.
3G-Gmm-Information-Sent	Total messages sent with GPRS mobility management information for 3G service.
2G-Gmm-Information-Sent	Total messages sent with GPRS mobility management information for 2G service.
Inter-System Procedures	This group displays the statistics of inter-system procedures.
3G-Ra-Up-RAU	Total numbers of RAU messages (Accept+Reject) sent for 3G routing area update procedure.

Field	Description
2G-Ra-Up-RAU	Total numbers of RAU messages (Accept+Reject) sent for 2G routing area update procedure.
3G-Comb-RAU	Total numbers of combined (PS and CS) RAU messages (Accept+Reject) sent for 3G routing area update procedure.
2G-Comb-RAU	Total numbers of combined (PS and CS) RAU messages (Accept+Reject) sent for 2G routing area update procedure.
3G-Ra-Up-RAU-Rej	Total numbers of RAU Reject messages sent for 3G routing area update procedure.
2G-Ra-Up-RAU-Rej	Total numbers of RAU Reject messages sent for 2G routing area update procedure.
3G-Comb-RAU-Rej	Total numbers of combined (PS and CS) RAU Reject messages sent for 3G routing area update procedure.
2G-Comb-RAU-Rej	Total numbers of combined (PS and CS) RAU Reject messages sent for 2G routing area update procedure.
3G-Ra-Up-RAU-Acc	Total numbers of RAU Accept messages sent for 3G routing area update procedure.
2G-Ra-Up-RAU-Acc	Total numbers of RAU Accept messages sent for 2G routing area update procedure.
3G-Comb-RAU-Acc	Total numbers of combined (PS and CS) RAU Accept messages sent for 3G routing area update procedure.
2G-Comb-RAU-Acc	Total numbers of combined (PS and CS) RAU Accept messages sent for 2G routing area update procedure.
3G-Attach	Total numbers of Attach messages (Accept+Reject) sent for 3G subscriber attach procedure.
2G-Attach	Total numbers of Attach messages (Accept+Reject) sent for 2G subscriber attach procedure.
3G-Comb-Attach	Total numbers of combined (PS and CS) Attach messages (Accept+Reject) sent for 3G subscriber attach procedure.
2G-Comb-Attach	Total numbers of combined (PS and CS) Attach messages (Accept+Reject) sent for 3G subscriber attach procedure.
3G-Attach-Rej	Total numbers of Attach Reject messages sent for 3G subscriber attach procedure.
2G-Attach-Rej	Total numbers of Attach Reject messages sent for 2G subscriber attach procedure.
3G-Comb-Attach-Rej	Total numbers of combined (PS and CS) Attach Reject messages sent for 3G subscriber attach procedure.
2G-Comb-Attach-Rej	Total numbers of combined (PS and CS) Attach Reject messages sent for 2G subscriber attach procedure.
3G-Attach-Acc	Total numbers of Attach Accept messages sent for 3G subscriber attach procedure.
2G-Attach-Acc	Total numbers of Attach Accept messages sent for 2G subscriber attach procedure.

Field	Description
3G-Comb-Attach-Acc	Total numbers of combined (PS and CS) Attach Accept messages sent for 3G subscriber attach procedure.
2G-Comb-Attach-Acc	Total numbers of combined (PS and CS) Attach Accept messages sent for 2G subscriber attach procedure.
Common Procedures	Indicates the statistics of common procedures in GPRS mobility management procedure.
Authentication And Ciphering Request	Indicates the statistics of authentication and ciphering request messages.
Total-Auth-Cipher-Req	Total authentication and ciphering request messages.
3G-Auth-Cipher-Req	Total authentication and ciphering request messages for 3G service.
2G-Auth-Cipher-Req	Total authentication and ciphering request messages for 2G service.
Retransmission	Indicates the statistics of authentication and ciphering request messages retransmitted.
Ret-Total-Auth-Cipher-Req	Total authentication and ciphering request messages retransmitted.
Ret-3G-Auth-Cipher-Req	Total authentication and ciphering request messages retransmitted for 3G service.
Ret-2G-Auth-Cipher-Req	Total authentication and ciphering request messages retransmitted for 2G service.
Authentication And Ciphering Response	Indicates the statistics of authentication and ciphering request response messages.
Total-Auth-Cipher-Resp	Total authentication and ciphering request response messages.
3G-Auth-Cipher-Resp	Total authentication and ciphering request response messages for 3G service.
2G-Auth-Cipher-Resp	Total authentication and ciphering request response messages for 2G service.
Authentication And Ciphering Response With SRES Mistmatch	Indicates the statistics of authentication and ciphering request response messages having Signed RESponse (SRES) mismatch.
Total-Auth-Cipher-Resp with Sres Mismatch	Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch.
3G-Auth-Cipher-Resp with Sres Mismatch	Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch for 3G service.
2G-Auth-Cipher-Resp with Sres Mismatch	Total authentication and ciphering request response messages having Signed RESponse (SRES) mismatch for 2G service.
Authentication And Ciphering Reject	Indicates the statistics of authentication and ciphering request reject messages.
Total-Auth-Cipher-Rej	Total authentication and ciphering request reject messages.
3G-Auth-Cipher-Rej	Total authentication and ciphering request reject messages for 3G service.
2G-Auth-Cipher-Rej	Total authentication and ciphering request reject messages for 2G service.

Field	Description
Authentication And Ciphering Reject Reasons	Indicates the statistics of reasons for authentication and ciphering request rejects.
3G-XRes Mismatch	Total authentication and ciphering requests rejected for 3G service due to mismatch in expected authentication response (XRES) from subscriber.
2G-XRes Mismatch	Total authentication and ciphering requests rejected for 2G service due to mismatch in expected authentication response (XRES) from subscriber
3G-SYNC does not have AUTS	Total authentication and ciphering requests rejected for 3G service where synchronization is missing Authentication Token for Re-synchronization (AUTS).
2G-SYNC does not have AUTS	Total authentication and ciphering requests rejected for 2G service where synchronization is missing Authentication Token for Re-synchronization (AUTS).
3G-Too many SYNC Failures	Total authentication and ciphering requests rejected for 3G service due to synchronization failure beyond allowed number of time.
2G-Too many SYNC Failures	Total authentication and ciphering requests rejected for 3G service due to synchronization failure beyond allowed number of time.
3G-Too many MAC Failures	Total authentication and ciphering requests rejected for 3G service due to message authentication code failure beyond allowed number of time.
2G-Too many MAC Failures	Total authentication and ciphering requests rejected for 2G service due to message authentication code failure beyond allowed number of time.
3G-Gsm Auth Unacc	Total GSM authentication and ciphering requests rejected for 3G service due to unacceptable GSM network failure in procedure.
2G-Gsm Auth Unacc	Total GSM authentication and ciphering requests rejected for 2G service due to unacceptable GSM network failure in procedure.
3G-Other cause	Total authentication and ciphering requests rejected for 3G service due reasons not already listed as "Authentication and Ciphering Reject Reasons".
2G-Other cause	Total authentication and ciphering requests rejected for 2G service due reasons not already listed as "Authentication and Ciphering Reject Reasons".
Authentication And Ciphering Failure	Indicates the statistics of authentication and ciphering request failures.
Total-Auth-Cipher-Failure	Total authentication and ciphering request failures.
3G-Auth-Cipher-Mac-Failure	Total authentication and ciphering failures due to message authentication code (MAC) for 3G service.
2G-Auth-Cipher-Mac-Failure	Total authentication and ciphering failures due to message authentication code (MAC) for 2G service.
3G-Auth-Cipher-Sync-Failure	Total authentication and ciphering failures due to synchronisation for 3G service.
2G-Auth-Cipher-Syn-Failure	Total authentication and ciphering failures due to synchronisation for 2G service.

Field	Description
3G-Auth-Unacceptable	Total authentication and ciphering failures due to unacceptable delay for 3G service.
2G-Auth-Unacceptable	Total authentication and ciphering failures due to unacceptable delay for 2G service.
P-TMSI Realloc	Indicates the statistics of Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedure.
Total-PTMSI Realloc	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedure.
3G-PTMSI Realloc	Total Packet-Temporary Mobile Subscriber Identity reallocation procedure for 3G service.
2G-PTMSI Realloc	Total Packet-Temporary Mobile Subscriber Identity reallocation procedure for 2G service.
Retransmission	Indicates the statistics of Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation messages retransmitted.
Ret-Total-PTMSI Realloc	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedure messages retransmitted.
Ret-3G-PTMSI Realloc	Total Packet-Temporary Mobile Subscriber Identity reallocation messages retransmitted for 3G service.
Ret-2G-PTMSI Realloc	Total Packet-Temporary Mobile Subscriber Identity reallocation procedure messages retransmitted for 2G service.
P-TMSI Realloc Complete	Statistics related to compelted Packet-Temporary Mobile Subscriber Identity (P-TMSI) reallocation procedures.
Total-PTMSI Realloc Complete	Total (P-TMSI) reallocation procedures completed.
3G-PTMSI Realloc Complete	Total (P-TMSI) reallocation procedures completed for 3G service.
2G-PTMSI Realloc Complete	Total (P-TMSI) reallocation procedures completed for 2G service.
Identity Request	Identity request messages statsitics.
Total-Identity-Req	Total identity request messages.
Total-IMSI-Identity-Req	Total International Mobile Subscriber Identity (IMSI) identity request messages
3G-IMSI-Identity-Req	Total IMSI identity request messages for 3G service.
2G-IMSI-Identity-Req	Total IMSI identity request messages for 2G service.
Total-IMEI-Identity-Req	Total International Mobile Equipment Identity (IMEI) request messages.
3G-IMEI-Identity-Req	Total IMEI identity request messages for 3G service.
2G-IMEI-Identity-Req	Total IMEI identity request messages for 2G service.
Total-IMEISV-Identity-Req	Total International Mobile Equipment Identity-Software Version (IMEI-SV) identity request messages.

Field	Description
3G-IMEISV-Identity-Req	Total IMEI-SV identity request messages for 3G service.
2G-IMEISV-Identity-Req	Total IMEI-SV identity request messages for 2G service.
Total-(P)TMSI-Identity-Req	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request messages.
3G-(P)TMSI-Identity-Req	Total P-TMSI identity request messages for 3G service.
2G-(P)TMSI-Identity-Req	Total P-TMSI identity request messages for 2G service.
Retransmission	Identity request messages rretransmission statistics.
Ret-Tot-Identity-Req	Total identity request messages.
Ret-Tot-IMSI-Identity-Req	Total international mobile subscriber identity (IMSI) identity request messages retransmitted.
Ret-3G-IMSI-Identity-Req	Total IMSI identity request messages retransmitted for 3G service.
Ret-2G-IMSI-Identity-Req	Total IMSI identity request messages retransmitted for 2G service.
Ret-Tot-IMEI-Identity-Req	Total international mobile equipment identity (IMEI) request messages retransmitted.
Ret-3G-IMEI-Identity-Req	Total IMEI identity request messages retransmitted for 3G service.
Ret-2G-IMEI-Identity-Req	Total IMEI identity request messages retransmitted for 2G service.
Ret-Tot-IMEISV-Identity-Req	Total international mobile equipment identity-software version (IMEI-SV) identity request messages retransmitted.
Ret-3G-IMEISV-Identity-Req	Total IMEI-SV identity request messages retransmitted for 3G service.
Ret-2G-IMEISV-Identity-Req	Total IMEI-SV identity request messages retransmitted for 2G service.
Ret-Tot-(P)TMSI-Ident-Req	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request messages retransmitted.
Ret-3G-(P)TMSI-Ident-Req	Total P-TMSI identity request messages retransmitted for 3G service.
Ret-2G-(P)TMSI-Ident-Req	Total P-TMSI identity request messages retransmitted for 2G service.
Identity Response	Indicates the statistics of identity request messages.
Total-Identity-Rsp	Total identity request response messages.
Total-IMSI-Identity-Rsp	Total international mobile subscriber identity (IMSI) identity request response messages.
3G-IMSI-Identity-Rsp	Total IMSI identity request response messages for 3G service.
2G-IMSI-Identity-Rsp	Total IMSI identity request response messages for 2G service.
Total-IMEI-Identity-Rsp	Total international mobile equipment identity (IMEI) request response messages.
3G-IMEI-Identity-Rsp	Total IMEI identity request response messages for 3G service.

Field	Description
2G-IMEI-Identity-Rsp	Total IMEI identity request response messages for 2G service.
Total-IMEISV-Identity-Rsp	Total international mobile equipment identity-software version (IMEI-SV) identity request response messages.
3G-IMEISV-Identity-Rsp	Total IMEI-SV identity request response messages for 3G service.
2G-IMEISV-Identity-Rsp	Total IMEI-SV identity request response messages for 2G service.
Total-(P)TMSI-Identity-Rsp	Total Packet-Temporary Mobile Subscriber Identity (P-TMSI) request response messages.
3G-(P)TMSI-Identity-Rsp	Total P-TMSI identity request response messages for 3G service.
2G-(P)TMSI-Identity-Rsp	Total P-TMSI identity request response messages for 2G service.
Total-Unknown-Identity-Rsp	Total identity response messages for unknown identity.
3G-Unknown-Identity-Rsp	Total identity response messages for unknown identity for 3G service.
2G-Unknown-Identity-Rsp	Total identity response messages for unknown identity for 2G service.
Timers	Indicates the statistics of different message and procedure timers.
Total-T3350-Expiry	Total number of times the T3350 timer timed-out.
3G-T3350-Expiry	Total number of times the T3350 timer timed-out for 3G service.
2G-T3350-Expiry	Total number of times the T3350 timer timed-out for 2G service.
Total-T3360-Expiry	Total number of times the T3360 timer timed-out.
3G-T3360-Expiry	Total number of times the T3360 timer timed-out for 3G service.
2G-T3360-Expiry	Total number of times the T3360 timer timed-out for 2G service.
Total-T3370-Expiry	Total number of times the T3370 timer timed-out.
3G-T3370-Expiry	Total number of times the T3370 timer timed-out for 3G service.
2G-T3370-Expiry	Total number of times the T3370 timer timed-out for 2G service.
Total-T3322-Expiry	Total number of times the T3322 timer timed-out.
3G-T3322-Expiry	Total number of times the T3322 timer timed-out for 3G service.
2G-T3322-Expiry	Total number of times the T3322 timer timed-out for 2G service.
Total-T3313-Expiry	Total number of times the T3313 timer timed-out.
3G-T3313-Expiry	Total number of times the T3313 timer timed-out for 3G service.
2G-T3313-Expiry	Total number of times the T3313 timer timed-out for 2G service.
2G Specific Timers	Indicates the statistics of 2G specific timers timeout events.

Field	Description
T3314-Expiry(Ready Timer)	Total number of times the 2G specific ready timer timed-out for 2G service.
Ranap Procedures	Indicates the statistics of Radio Access Network Application Part (RANAP) procedures.
Initial UE Rcvd	Total number of initial user equipment (UE) messages received.
Common Id sent	Total number of common identifier messages sent.
Direct Transfer Sent	Total number of direct transfer messages sent.
Direct Transfer Rcvd	Total number of direct transfer messages received.
Security Mode Command	Total number of security mode commands received.
Security Mode Complete	Total number of security mode completed.
Security Mode Reject	Total number of security mode commands rejected.
Iu Release Request	Total number of Iu interface release request received.
Iu Release Command	Total number of Iu interface release commands received.
Iu Release Complete	Total number of Iu interface release completed.
Reset Rcvd	Total number of reset requests received.
Retransmitted Reset Rcvd	Total number of retransmitted reset requests received.
Reset Ack Sent	Total number of reset request acknowledgement sent.
Reset Sent	Total number of reset requests sent.
Retransmitted Reset Sent	Total number of reset requests retransmitted.
Reset Ack Rcvd	Total number of reset request acknowledgement received.
Resource Reset Rcvd	Total number of resource reset requests received.
Resource Reset Dropped	Total number of resource reset requests dropped as a result of throttling mechanism which handles flurries of such messages to the MMgr.
Resource Reset Ack Sent	Total number of resource reset request acknowledgement sent.
Resource Reset Sent	Total number of resource reset request sent.
Resource Reset Ack Rcvd	Total number of resource reset request acknowledgement received.
Overload ctrl Rcvd	Total number of resource overload control message received.
PC Congested Received	Total number of point code (PC) congested message received.
Error Indication Rcvd	Total number of error indication message received.
Error Indication Sent	Total number of error indication message sent.

Field	Description
Location Reporting Control	Total umber of Location Reporting Control procedure messages sent from SGSN.
Location Report	Total umber of messages sent with Location Report from SGSN.
Relocation Required	Total number of message received for Serving Radio Network Subsystem (SRNS) relocation required.
Relocation Command	Total number of message received with SRNS relocation command.
Relocation Request	Total number of SRNS relocation requests received.
Relocation Request Ack	Total number of SRNS relocation requests Ack sent.
Relocation Failure	Total number of SRNS relocation failure messages received.
Relocation Prep Failure	Total number of SRNS relocation preparation failure messages received.
Relocation Cancel	Total number of SRNS relocation cancel messages received.
Relocation Cancel Ack	Total number of SRNS relocation cancel acknowledge messages sent.
Relocation Detect	Total number of SRNS relocation detected.
Relocation Complete	Total number of SRNS relocation completed.
Forward SRNS Context Rcvd	Total number of SRNS contexts forward messages received.
Forward SRNS Context Sent	Total number of SRNS contexts forward messages sent.
NAS-PDU Stats	Indicates the statistics of PDUs for Non-Access Stratum (NAS) signalling procedure.
Received	Indicates the total all type of protocol data units received for NAS procedure.
Sent	Indicates the total all type of protocol data units sent for NAS procedure.
Total-Received-NAS-Pdu	Total all type of protocol data units received for NAS procedure.
Total-Sent-NAS-Pdu	Total all type of protocol data units sent for NAS signalling procedure.
GMM-Received-NAS-Pdu	Total protocol data units received by GPRS mobility management (GMM) service through NAS signalling procedure.
GMM-Sent-NAS-Pdu	Total protocol data units sent by GMM service through NAS signalling procedure.
SM-Recieved-NAS-Pdu	Total protocol data units received by Service Management (SM) service through NAS procedure.
SM-Sent-NAS-Pdu	Total protocol data units sent by SM service for NAS procedure.
SMS-Recieved-NAS-Pdu	Total number of SMS messages received by SGSN with NAS packet data unit (PDU).
SMS-Sent-NAS-Pdu	Total number of SMS messages sent by SGSN with NAS packet data unit (PDU).
UnIdentified-NAS-Pdu	Total number of unknown type PDUs received for NAS procedure.

Field	Description
Dropped NAS-PDUS	Indicates the statistics of protocol data units dropped for NAS procedure.
Total-Dropped-NAS-Pdu	Total number of PDUs dropped for NAS procedure.
Redirection Indication	This group indicates the statistics of counters related to Redirection indication reasons.
PLMN not allowed	Total number of redirections occurred due to requested PLMN not allowed for specific session.
Location area not allowed	Total number of redirections occurred due to requested Location Area not allowed for specific session.
Roaming not allowed in LA	Total number of redirections occurred due to roaming was not allowed in a location area for specific session.
No GPRS services in PLMN	Total number of redirections occurred due to non-availability of GPRS service in PLMN for specific session.
CS/PS co-ord required	Total number of redirections occurred as co-ordination between CS and PS service was missing for specific session.
Unknown Reasons	Total number of redirections occurred for specific session due to reasons other than listed in this table.
Drop Reason	Indicates the statistics of NAS protocol data unit drop reasons.
Nas-Un-identified type	Total number of NAS-PDUs dropped due to unidentified type of PDU.
Nas-Invalid Remote Address	Total number of NAS-PDUs dropped due to invalid remote address in PDU.
Nas-NAS-PDU not present	Total number of NAS-PDUs dropped due to missing NAS information.
Nas-Invalid Local Address	Total number of NAS-PDUs dropped due to invalid local address in PDU.
Nas-From unknown RNC	Total number of NAS-PDUs dropped as PDU from unknown RNC.
Nas-From unknown RA	Total number of NAS-PDUs dropped as PDU from unknown routing area.
Nas-From unknown Subscriber	Total number of NAS-PDUs dropped as PDU from unknown subscriber.
Duplicate-iu-con-id	Total number of NAS-PDUs dropped as PDU contains duplicate Iu control identifier.
Iu-Con-id processing failed	The total number of PDUs dropped for NAS procedure as Iu connection id processing failed in procedure.
Nas-From unknown PLMN	The total number of PDUs dropped for NAS procedures as NAS signalling was requested from unknown PLMN.
Another iu or 2g available	The total number of PDUs dropped for NAS procedures as another Iu interface of 2G session was available for specific NAS signalling procedure.
Internal Errors	Indicates the statistics of NAS protocol data unit dropped due to internal errors.
Total-Internal-Errors	Total number of NAS PDU dropped due to internal errors.

Field	Description
Attach Requests Drops	Indicates the statistics of NAS PDU dropped due to attach request errors.
Memory Failures	Total number of NAS PDU dropped due to memory failures.
Decode Failures	Total number of NAS PDU dropped due to decoding failures.
Msg in Invalid state	Total number of NAS PDU dropped due to invalid state of message.
Another Proc in Progress	Total number of NAS PDU dropped as another procedure is in progress.
Sent Msg Unavailable	Total number of NAS PDU dropped due to unavailability of sent messages.
Other Failures	Total number of NAS PDU dropped due to failures other than listed in this table.
Routing Area Update Requests Drops	Indicates the statistics of NAS PDU dropped due to routing area update request drops.
Memory Failures	Total number of NAS PDUs dropped due to routing area update request drops by memory failures.
Decode Failures	Total number of NAS PDUs dropped due to routing area update request drops by decoding failures.
Msg in Invalid state	Total number of NAS PDUs dropped due to routing area update request drops where message is not in valid state.
Another Proc in Progress	Total number of NAS PDUs dropped due to routing area update request drops where another procedure is in progress.
Sent Msg Unavailable	Total number of NAS PDUs dropped due to routing area update request drops where sent messages are not available.
Other Failures	Total number of NAS PDUs dropped due to routing area update request drops where reasons are other than listed in this table.
Detach Requests Drops	Indicates the statistics of NAS PDU dropped due to detach request drops.
Memory Failures	Total number of NAS PDUs dropped due to detach request drops by memory failures.
Decode Failures	Total number of NAS PDUs dropped due to detach request drops by decoding failures.
Msg in Invalid state	Total number of NAS PDUs dropped due to detach request drops where message is not in valid state.
Another Proc in Progress	Total number of NAS PDUs dropped due to detach request drops where another procedure is in progress.
Sent Msg Unavailable	Total number of NAS PDUs dropped due to detach request drops where sent messages are not available.
Other Failures	Total number of NAS PDUs dropped due to detach request drops where reasons are other than listed in this table.
Service Requests Drops	Indicates the statistics of NAS PDU dropped due to service request drops.

Field	Description
Memory Failures	Total number of NAS PDUs dropped due to service request drops by memory failures.
Decode Failures	Total number of NAS PDUs dropped due to service request drops by decoding failures.
Msg in Invalid state	Total number of NAS PDUs dropped due to service request drops where message is not in valid state.
Another Proc in Progress	Total number of NAS PDUs dropped due to service request drops where another procedure is in progress.
Sent Msg Unavailable	Total number of NAS PDUs dropped due to service request drops where sent messages are not available.
Other Failures	Total number of NAS PDUs dropped due to service request drops where reasons are other than listed in this table.
SMS Message Drops	Indicates the statistics of NAS PDU dropped due to SMS Message drops.
Memory Failures	Total number of NAS PDUs dropped due to SMS Message drops by memory failures.
Decode Failures	Total number of NAS PDUs dropped due to SMS Message drops by decoding failures.
Msg in Invalid state	Total number of NAS PDUs dropped due to SMS Message drops where message is not in valid state.
Unexpected Message	Total number of NAS PDUs dropped due to SMS Message drops where reason as unexpected message arrived.
Other Drops	Indicates the statistics of NAS PDU dropped due to other drops.
Memory Failures	Total number of NAS PDUs dropped due to other drops by memory failures.
Decode Failures	Total number of NAS PDUs dropped due to other drops by decoding failures.
Msg in Invalid state	Total number of NAS PDUs dropped due to other drops where message is not in valid state.
Other Failures	Total number of NAS PDUs dropped due to other drops where reasons are other than listed in this table.
Iu cleared due to other failures	Indicates the statistics of causes for NAS PDU dropped due to Iu interface cleared by other failures.
Reset-received	Total number of NAS PDU dropped due to Iu interface cleared when reset message received.
Reset-resource-received	Total number of NAS PDU dropped due to Iu interface cleared when reset resource message received.
RNC-PC-Down	Total number of NAS PDU dropped due to Iu interface cleared by RNC and/or PC down.
Total Relocation Failure	This group displays the statistics of total relocation procedure failures.

Field	Description
Relocation Failure Causes	This group displays the statistics of relocation procedure failure causes.
RAB Preempted	Total number of relocation procedure failure occurred due to RAB Preempted cause.
Trelocoverall Expiry	Total number of relocation procedure failure occurred due to expiry of Relocation Overall timer.
Trelocprep Expiry	Total number of relocation procedure failure occurred due to expiry of Relocation Preparation timer.
Treloc complete Expiry	Total number of relocation procedure failure occurred due to expiry of Relocation Complete timer.
Tqueuing Expiry	Total number of relocation procedure failure occurred due to expiry of Relocation Queuing timer.
Relocation Triggered	Total number of relocation procedures failed due to triggering of another relocation procedure.
Unable to establ dur reloc	Total number of relocation procedures failed due to unable to establish the connection during relocation procedure.
Unknown Target RNC	Total number of relocation procedures failed due to unknown target RNC.
Relocation Cancelled	Total number of relocation procedures failed due to cancellation of relocation procedures.
Successful Relocation	Total number of relocation procedures failed due to successful completion of relocation procedure.
Req integ protec algo NS	Total number of relocation procedures failed due to required integrity protection algorithms in name server (NS) system.
Conflict with integ proc	Total number of relocation procedures failed due to conflict with integrity procedure.
Failure in Radio Intf Proc	Total number of relocation procedures failed due to failure in radio interface procedure.
Release due to UTRAN	Total number of relocation procedures failed due to RELEASE command from UTRAN.
User Inactivity	Total number of relocation procedures failed due to inactivity at user level.
Time Critical Relocation	Total number of relocation procedures failed due to time critical relocation procedure happened or triggered.
Requested Traffic Class NA	Total number of relocation procedures failed due to non-availability to requested traffic class for user session.
Invalid RAB Params value	Total number of relocation procedures failed due to invalid value in RAB parameters.
Requested Max Bit Rate NA	Total number of relocation procedures failed due to non-availability to requested MBR for user session in uplink and downlink direction.

Field	Description
Req Max Bit Rate NA for DL	Total number of relocation procedures failed due to non-availability to requested MBR for user session in downlink direction.
Req Max Bit Rate NA for UL	Total number of relocation procedures failed due to non-availability to requested MBR for user session in uplink direction.
Req Guaran Bit Rate NA	Total number of relocation procedures failed due to non-availability to requested GBR for user session in uplink and downlink direction.
Req Guaran Bit Rate NA DL	Total number of relocation procedures failed due to non-availability to requested GBR for user session in downlink direction.
Req Guaran Bit Rate NA UL	Total number of relocation procedures failed due to non-availability to requested GBR for user session in uplink direction.
Req Trans-delay not achiev	Total number of relocation procedures failed as requested transmission delay was not achieved.
Invalid RAB params comb	Total number of relocation procedures failed due to invalid combination in RAB parameters.
Cond violation for SDU	Total number of relocation procedures failed due to condition violation for service data unit (SDU).
Cond viol traff handling	Total number of relocation procedures failed due to condition violation in traffic handling.
Cond viol guaran bit rate	Total number of relocation procedures failed due to condition violation in GBR.
User plane vers no support	Total number of relocation procedures failed as user plan version is not supported.
Iu UP Failure	Total number of relocation procedures failed due to user plan failure in Iu interface.
TRELOCalloc Expiry	Total number of relocation procedures failed due to expiry to relocation timer.
Reloc Fail in Tgt system	Total number of relocation procedures failed due to relocation procedure failure in target system.
Invalid RAB ID	Total number of relocation procedures failed due to invalid RAB identifier.
No Remaining RAB	Total number of relocation procedures failed as no RAB was available for this procedure.
Interact with other proc	Total number of relocation procedures failed as system was interacting with other system procedures at the time of relocation trigger.
Repeated Integ Check Fail	Total number of relocation procedures failed due to repeated failure in integrity check.
Requested Req type not sup	Total number of relocation procedures failed as request type was not supported.
Request superseeded	Total number of relocation procedures failed as relocation procedure request was superseded by another request.

Field	Description
UE gen signal conn release	Total number of relocation procedures failed as signal connection was released by UE.
Resource opt relocation	Total number of relocation procedures failed due to optimization of resource during relocation procedure.
Requested info not avail	Total number of relocation procedures failed as requested information for this procedure was not available.
Relocation desirable for radio reasons	Total number of relocation procedures failed as relocation was desirable for radio reasons and now not required.
Relocation no sup in tgt	Total number of relocation procedures failed as relocation procedure was not supported in target system.
Directed Retry	Total number of relocation procedures failed because system directed the Retry command.
Radio conn with UE lost	Total number of relocation procedures failed due to radio connection lost with UE.
RNC unabl to establish RFC	Total number of relocation procedures failed as RNC couldn't establish all RAB subflow combinations indicated within the RAB Parameters IE.
Deciphering keys not avail	Total number of relocation procedures failed due to non-availability of de-ciphering keys.
Dedicated Assist data NA	Total number of relocation procedures failed because RNC is not able to successfully deliver the requested dedicated assistance data to the UE.
Relocation tgt not allow	Total number of relocation procedures failed as relocation is not allowed on the target system.
Location report congestion	Total number of relocation procedures failed due to congestion status in location report.
Reduce load in serving cel	Total number of relocation procedures failed as system was reducing load in service cell.
No radio res in tgt cell	Total number of relocation procedures failed due to no radio resource was available in target cell.
GERAN Iu-mode failure	Total number of relocation procedures failed as the GERAN cannot provide an appropriate RAB due to limited capabilities within GERAN.
Access restricted due to shared nws	Total number of relocation procedures failed as access to target system restricted due to shared networks.
Incoming relocation no support due to PUESBINE	Total number of relocation procedures failed as the incoming relocation cannot be accepted by the target RNC because of the Provision of UE Specific Behavior Information to Network Entities (PUESBINE) feature.
Load in tgt great than src	Total number of relocation procedures failed because the target cell's traffic load is higher than that in the source cell.

Field	Description
MBMS-No multicast for UE	Total number of relocation procedures failed because the UE does not have any active multicast service.
MBMS-Unknown UE ID	Total number of relocation procedures failed because the CN does not know the UE or unknown UE identifier.
MBMS session start success no data bearer necessary	Total number of relocation procedures failed because the MBMS Session Start procedure was successfully performed, but the RNC does not have any interested UE.
MBMS-supersede due to NNSF	Total number of relocation procedures failed as the MBMS Session Start procedure was rejected because NAS Node Selection Function (NNSF) towards another CN node.
MBMS-UE link already done	Total number of relocation procedures failed because the UE has already been linked to the given Multicast service
MBMS-UE delink failure	Total number of relocation procedures failed because the UE had not been linked to the given Multicast service.
TMGI Unknown	Total number of relocation procedures failed due to requested MBMS action failure because of the indicated Temporary Mobile Group Identity (TMGI) is unknown.
IP Multicast addr & APN invalid	Total number of relocation procedures failed due to requested MBMS registration failed as the IP Multicast Address and APN are not valid.
MBMS deregistration reject	Total number of relocation procedures failed as the MBMS De-registration was rejected because of implicit registration.
MBMS-Request superseded	Total number of relocation procedures failed as MBMS Registration or De-registration was superseded due to another ongoing procedure.
MBMS Dereg during sess nal	Total number of relocation procedures failed as MBMS De-registration is not allowed during the MBMS session.
MBMS-No data bearer necess	Total number of relocation procedures failed as the RNC no longer have any UEs interested in the MBMS data bearer.
Periodic Loc info no avail	Total number of relocation procedures failed as no UE position estimate or location information was available when the periodic report was triggered.
GTP resources unavailable	Total number of relocation procedures failed as the RNC initiates RAB Release Request procedure when GTP resource was not available and error cause value, if it received, with a GTP-U error indication.
TMGI in use and overlap MBMS srvc in area	Total number of relocation procedures failed as the RNC has an MBMS Session up and running with that Temporary Mobile Group Identity (TMGI) and a parallel MBMS session with the same TMGI in another overlapping MBMS Service Area is not allowed.
MBMS-no cell in MBMS area	Total number of relocation procedures failed as the RNC does not have any cell of the indicated MBMS Service Area.

Field	Description
No Iu CS UP relocation	Total number of relocation procedures failed as the relocation is triggered by CS call and the source RNC has no Iu CS user plane.
Successful MBMS sess start IP MC bearer established	Total number of relocation procedures failed because the MBMS Session Start procedure was successfully performed and IP multicast bearer already established.
CS Fallback triggered	Total number of relocation procedures failed as CS fallback to support earlier version of service triggered.
Unknown	Total number of relocation procedures failed due to reasons not listed in this table or unknown to system.
Miscellaneous Statistics	Indicates the miscellaneous statistics of causes for NAS PDU dropped.
Mismatching PTMSI signatures	Indicates the statistics of number of NAS PDU dropped due to mismatch in P-TMSI signatures.
Total-PTMSI-Sig-Mismtach	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures for attach and detach procedures.
Total-Att-PTMSI-Sig-Mismatch	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in attach procedures for 2G and 3G service.
3G-Att-PTMSI-Sig-Mismatch	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in attach procedures for 3G service.
2G-Att-PTMSI-Sig-Mismatch	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in attach procedures for 2G service.
Total-Det-PTMSI-Sig-Mismatch	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in detach procedures for 2G and 3G service.
3G-Det-PTMSI-Sig-Mismatch	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in detach procedures for 3G service.
2G-Det-PTMSI-Sig-Mismatch	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in detach procedures for 2G service.
Total-Rau-PTMSI-Sig-Mismatch	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in routing area update procedures for 2G and 3G service.
3G-Rau-PTMSI-Sig-Mismatch	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in routing area update procedures for 3G service.
2G-Rau-PTMSI-Sig-Mismatch	Total number of NAS PDU dropped due to mismatch in P-TMSI signatures in routing area update procedures for 2G service.

Field	Description
Auth Triplets Reuse Counter	**Description**: Total authentication triplet reuse by SGSN. SGSN tries to get authentication vectors from HLR; when it does not receive response/vectors from HLR, SGSN authenticates MS successfully using existing/locally stored vectors provided reuse of the triplet vector is enabled in configuration. **Triggers**: Increments when the SGSN sends Auth Request to MS with total triplet reuse of vectors (2G and 3G) for the above condition. **Availability**: per RA, per RNC, per GPRS/SGSN service
3G-Auth Triplets Reuse	**Description**: Total authentication triplet reuse for 3G service. SGSN tries to get authentication vectors from HLR; when it does not receive response/vectors from HLR, SGSN authenticates MS successfully using existing/locally stored vectors provided reuse of the triplet vector is enabled in configuration. **Triggers**: Increments when the SGSN sends Auth Request to MS with 3G triplet reuse of vector for the above condition. **Availability**: per RA, per RNC, per SGSN service
2G-Auth Triplets Reuse	**Description**: Total authentication triplet reuse for 2G service. SGSN tries to get authentication vectors from HLR; when it does not receive response/vectors from HLR, SGSN authenticates MS successfully using existing/locally stored vectors provided reuse of the triplet vector is enabled in configuration. **Triggers**: Increments when the SGSN sends Auth Request to MS with 2G triplet reuse of vector for the above condition. **Availability**: per RA, per RNC, per GPRS service
New Connection rejected due to overload	Total number of NAS PDU dropped as new connection rejected due to overload.
Rnc Overload Statistics	Indicates the RNC overload statistics.
Total Procedures Rejected due to overload	Total number of procedures rejected due to overload at RNC.
Dropped Attaches	Total number of attach procedures dropped due to overload at RNC.
Dropped Serv-req(data)	Total number of service request procedures dropped due to overload at RNC.
Skipped Ptmsi reallocations	Total number of P-TMSI reallocation requests skipped due to overload at RNC.
Skipped Authentication	Total number of authentication procedures skipped due to overload at RNC.
GPRS MOCN Attach Statistics	
Total Redirection Attempts Rcvd:	
Redirection attempts rcvd with bssgp imsi:	

Field	Description
Redirection attempts rcvd without bssgp imsi:	
Total Redirection Completes Sent	
Successful Redirection completes sent	
Failure Redirection completes sent	
Total Redirection Indications Sent	
Illegal LA	
No roamin	
No gprs PLMN	
No cell in LA	
CS/PS Coord Rqrd	
Others	
GPRS MOCN RAU Statistics	
Total Redirection Attempts Rcvd	
Redirection attempts rcvd with bssgp imsi:	
Redirection attempts rcvd without bssgp imsi:	
Total Redirection Completes Sent:	
Successful Redirection completes sent	
Failure Redirection completes sent	
Total Redirection Indications Sent	
Illegal PLMN	
Illegal LA	
No roaming	
No gprs PLMN	
No cell in LA	
CS/PS Coord Rqrd	
Others	

Field	Description
SMS Error Stats	
CP-ERROR (Tx)	Total number of control program errors sent (in upload direction) for short message service (SMS).
Congestion	Total number of control program errors sent (in upload direction) for short message service (SMS) due to congestion.
Invalid Mandatory Info	Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid information in mandatory field.
Invalid Message Type	Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid message type.
Invalid semantic	Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid semantic in message.
Invalid Protocol State	Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid state of protocol in message.
Invalid IE	Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid information element in message.
Protocol Error	Total number of control program errors sent (in upload direction) for short message service (SMS) due to invalid protocol error.
Network Overload Protection	
Attach requests queued in the pacing queue	Total number of attach requests queued in the pacing queue by network overload protection function.
Inter SGSN RAU requests queued in the pacing queue	Total number of Inter SGSN RAU requests queued in the pacing queue by network overload protection function.
Number of Inter SGSN RAU and Attach requests in the pacing queue	Total number of Inter SGSN RAU and attach requests queued in the pacing queue by network overload protection function.
Attach requests successfully dequeued from the pacing queue	Total number of attach requests successfully removed from the pacing queue by network overload protection function.
Inter SGSN RAU requests successfully dequeued from the pacing queue	Total number of Inter SGSN RAU requests successfully removed from the pacing queue by network overload protection function.
Attaches rejected	Total number of attach requests rejected by network overload protection function.
Inter SGSN RAUs rejected	Total number of Inter SGSN RAUs requests rejected by network overload protection function.
Attaches dropped	Total number of attach requests dropped by network overload protection function.
Inter SGSN RAUs dropped	Total number of Inter SGSN RAUs requests dropped by network overload protection function.

Field	Description
Attaches discarded due to excess wait time in the pacing queue	Total number of attach requests discarded by network overload protection function due to excess wait time in the pacing queue.
Inter SGSN RAUs discarded due to excess wait time in the pacing queue	Total number of Inter SGSN RAUs requests discarded by network overload protection function due to excess wait time in the pacing queue.
Session Management Messages Statistics	
Activate Context Request	Indicates the statistics of context activate request in session management service.
Total-Actv-Request	Total number of request messages received for 2G and 3G context activation including primary and secondary.
3G-Actv-Request	Total number of request messages received for 3G context activation including primary and secondary.
2G-Actv Request	Total number of request messages received for 2G context activation including primary and secondary.
Primary-Actv-Request	Total number of request messages received for 2G and 3G primary context activation.
3G-Primary-Actv-Request	Total number of request messages received for 3G primary context activation.
2G-Primary-Actv-Request	Total number of request messages received for 2G primary context activation.
Secondary-Actv-Request	Total number of request messages received for 2G and 3G secondary context activation.
3G-Secondary-Actv-Request	Total number of request messages received for 3G secondary context activation.
2G-Secondary-Actv-Request	Total number of request messages received for 2G secondary context activation.
Actv-Request-Nrpca	Total number of Network Requested PDP Context Activation request messages received from GGSN.
Active-Request-Nrspca	Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1.
3G-Actv-Request-Nrspca	Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1 (in UMTS access).
2G-Actv-Request-Nrspca:	Total number of "Secondary Activate PDP Context Request" from MS with Ti flag = 1 (in GPRS access).
Activate Context Request Retransmitted	These counters indicates the retransmitted (received message as same as previous) Activate Secondary PDP Context Requests received from MS with Ti flag = 1. Retransmitted messages are dropped by SGSN.
3G-Primary-Actv-drop	Total number of Activate Primary PDP Context Requests that were dropped (in UMTS access).
2G-Primary-Actv-Drop	Total number of Activate Primary PDP Context Requests that were dropped (in GPRS access).

Field	Description
3G-Secondary-Actv-Drop	Total number of Activate Secondary PDP Context Requests that were dropped (in UMTS access).
2G-Secondary-Actv-Drop	Total number of Activate Secondary PDP Context Requests that were dropped (in GPRS access).
3G-Secondary-Actv-Drop-Nrspca	Total number of Network Requested Secondary PDP Context Requests that were dropped (in UMTS access).
2G-Secondary-Actv-Drop-Nrspca	Total number of Network Requested Secondary PDP Context Requests that were dropped (in GPRS access)
Activate Context Accept	Indicates the statistics of context activate request accepted in session management service.
Total-Actv-Accept	Total number of request messages accepted for 2G and 3G context activation including primary and secondary type.
3G-Actv-Accept	Total number of request messages accepted for 3G context activation including primary and secondary type.
2G-Actv Accept	Total number of request messages accepted for 2G context activation including primary and secondary type.
Primary-Actv-Accept	Total number of request messages accepted for 2G and 3G primary context activation.
3G-Primary-Actv-Accept	Total number of request messages accepted for 3G primary context activation.
2G-Primary-Actv-Accept	Total number of request messages accepted for 2G primary context activation.
Secondary-Actv-Accept	Total number of request messages accepted for 2G and 3G secondary context activation.
3G-Secondary-Actv-Accept	Total number of request messages accepted for 3G secondary context activation.
2G-Secondary-Actv-Accept	Total number of request messages accepted for 2G secondary context activation.
Actv-Accept-Nrspca	Total number of Secondary Activate PDP Context Accept messages to MS with Ti flag = 1.
3G-Act-Accept-Nrspca	Total number of Secondary Activate PDP Context Accept messages sent to MS with Ti flag = 1 (in UMTS access)
2G-Actv-Accept-Nrspca	Total number of Secondary Activate PDP Context Accept messages sent to MS with Ti flag = 1 (in GPRS access)
Activate Context Reject	Indicates the statistics of request messages rejected for 2G and 3G context activation including primary and secondary type.
Total-Actv-Reject	Total number of request messages rejected for 2G and 3G context activation including primary and secondary type.

Field	Description
3G-Actv-Reject	Total number of request messages rejected for 3G context activation including primary and secondary type.
2G-Actv-Reject	Total number of request messages rejected for 2G context activation including primary and secondary type.
Primary-Actv-Reject	Total number of request messages rejected for 2G and 3G primary context activation.
3G-Primary-Actv-Reject	Total number of request messages rejected for 3G primary context activation.
2G-Primary-Actv-Reject	Total number of request messages rejected for 2G primary context activation.
Secondary-Actv-Reject	Total number of request messages rejected for 2G and 3G secondary context activation.
3G-Secondary-Actv-Reject	Total number of request messages rejected for 3G secondary context activation.
Actv-Reject-Nrspca	Total number of Secondary Activate PDP Context Reject messages sent to MS with Ti flag = 1.
3G-Actv-Reject-Nrspca	Total number of Secondary Activate PDP Context Reject messages sent to MS with Ti flag = 1 (in UMTS access)
2G-Actv-Reject-Nrspca	Total number of Secondary Activate PDP Context Reject messages sent to MS with Ti flag = 1 (in GPRS access)
2G-Secondary-Actv-Reject	Total number of request messages rejected for 2G secondary context activation.
Activate Context Failure	
Total-Actv-Failure	Total number of combined primary and secondary PDP context activation failures for 2G and 3G services.
3G-Actv-Failure	Total number of PDP context activation failures for 3G services.
2G-Actv Failure	Total number of PDP context activation failures for 2G services.
Internal Failure	Total number of PDP context activation failures for 2G services due to internal failures.
Ongoing Procedure	Total number of PDP context activation failures for 2G services due to ongoing procedure collisions.
Primary-Actv-Failure	Total number of primary PDP context activation failures for 2G and 3G services.
3G-Primary-Actv-Failure	Total number of primary PDP context activation failures for 3G services.
2G-Primary-Actv-Failure	Total number of primary PDP context activation failures for 2G services.
Internal Failure	Total number of primary PDP context activation failures for 2G services due to internal failures.
Ongoing Procedure	Total number of primary PDP context activation failures for 2G services due to ongoing procedure collisions.
Secondary-Actv-Failure	Total number of secondary PDP context activation failures for 2G and 3G services.

Field	Description
3G-Secondary-Actv-Failure	Total number of secondary PDP context activation for 3G service failed.
2G-Secondary-Actv-Failure	Total number of secondary PDP context activation failures for 2G services.
Internal Failure	Total number of secondary PDP context activation failures for 2G services due to internal failures.
Ongoing Procedure	Total number of secondary PDP context activation failures for 2G services due to ongoing procedure collisions.
2G-Activation-Internal-Failure-Causes	
Resource Alloc Fail	Total number of 2G context activation failures due to internal failures of cause type 'resource allocation failure'.
CPC Send Fail	Total number of 2G context activation failures due to internal failures of cause type 'CPC send failure'.
Secondary Pdp Context Activation Request Ignored	Total number of Secondary PDP Context Activation Requests that were ignored. (verbose mode only)
Total-Actv-Request-Nrspca-Ignored	Total number of Network Requesed Secondary PDP Context Activation Requests that were ignored.
3G-Actv-Request-Nrspca-Ignored	Total number of NRSPCA 3G context activation failures due to internal failures of cause type 'resource allocation failure'.
Activate Primary PDP Context Denied	
3G-Operator Determined Barring	Total number of requests to activate primary PDP context for 3G service rejected due to operator determined barring.
2G-Operator Determined Barring	Total number of requests to activate primary PDP context for 2G service rejected due to operator determined barring.
3G-Insufficient Resources	Total number of requests to activate primary PDP context for 3G service rejected due to insufficient resources.
2G-Insufficient Resources	Total number of requests to activate primary PDP context for 2G service rejected due to insufficient resources.
3G-Network Failure	Total number of requests to activate primary PDP context for 3G service rejected due to network failure.
2G-Network Failure	Total number of requests to activate primary PDP context for 2G service rejected due to network failure.
3G-Mising or Unknow APN	Total number of requests to activate primary PDP context for 3G service rejected due to missing or unknown APN in request message.
2G-Mising or Unknow APN	Total number of requests to activate primary PDP context for 2G service rejected due to missing or unknown APN in request message.

Field	Description
3G-Unknown PDP Addr/type	Total number of requests to activate primary PDP context for 3G service rejected due to unknown type/address in request.
2G-Unknown PDP Addr/type	Total number of requests to activate primary PDP context for 2G service rejected due to unknown type/address in request.
3G-User Auth Failed	Total number of requests to activate primary PDP context for 3G service rejected due to failure in user authentication.
2G-User Auth Failed	Total number of requests to activate primary PDP context for 2G service rejected due to failure in user authentication.
3G-Rejected By GGSN	Total number of requests to activate primary PDP context for 3G service rejected as request rejected by the GGSN.
2G-Rejected By GGSN	Total number of requests to activate primary PDP context for 2G service rejected as request rejected by the GGSN.
3G-Unspecified Error	Total number of requests to activate primary PDP context for 3G service rejected due to error which is not specified in this table or unknown.
2G-Unspecified Error	Total number of requests to activate primary PDP context for 2G service rejected due to error which is not specified in this table or unknown.
3G-Svc Option Not Supported	Total number of requests to activate primary PDP context for 3G service rejected as requested service is not supported.
2G-Svc Option Not Supported	Total number of requests to activate primary PDP context for 2G service rejected as requested service is not supported.
3G-Svc Opt Not Subscribed	Total number of requests to activate primary PDP context for 3G service rejected as subscriber is not subscriber to requested service.
2G-Svc Opt Not Subscribed	Total number of requests to activate primary PDP context for 2G service rejected as subscriber is not subscriber to requested service.
3G-Svc Opt Tmp Out of Order	Total number of requests to activate primary PDP context for 3G service rejected as requested service option is temporarily out of order.
2G-Svc Opt Tmp Out of Order	Total number of requests to activate primary PDP context for 2G service rejected as requested service option is temporarily out of order.
3G-APN-Restriction Incompatible	Total number of requests to activate primary PDP context for 3G service rejected due to restriction of aPN or incompatibility of APN for service.
2G-APN-Restriction Incompatible	Total number of requests to activate primary PDP context for 2G service rejected due to restriction of aPN or incompatibility of APN for service.
3G-Semantically Incorrect	Total number of requests to activate primary PDP context for 3G service rejected due to semantically incorrect message.
2G-Semantically Incorrect	Total number of requests to activate primary PDP context for 2G service rejected due to semantically incorrect message.

Field	Description
3G-Invalid Mandatory Info	Total number of requests to activate primary PDP context for 3G service rejected as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of requests to activate primary PDP context for 2G service rejected as mandatory information in message is invalid.
3G-Msg Non Existent	Total number of requests to activate primary PDP context for 3G service rejected due to non-existent type of message.
2G-Msg Non Existent	Total number of requests to activate primary PDP context for 2G service rejected due to non-existent type of message.
3G-IE Non Existent	Total number of requests to activate primary PDP context for 3G service rejected due to non-existence of information element.
2G-IE Non Existent	Total number of requests to activate primary PDP context for 2G service rejected due to non-existence of information element.
3G-Conditional IE Error	Total number of requests to activate primary PDP context for 3G service rejected due to error in conditional information element.
2G-Conditional IE Error	Total number of requests to activate primary PDP context for 2G service rejected due to error in conditional information element.
3G-Msg Not Compatible with State	Total number of requests to activate primary PDP context for 3G service rejected as message type is not compatible with protocol state.
2G-Msg Not Compatible with State	Total number of requests to activate primary PDP context for 2G service rejected as message type is not compatible with protocol state.
3G-Recovery on Timer Expiry	Total number of requests to activate primary PDP context for 3G service rejected as timer expired for recovery.
2G-Recovery on Timer Expiry	Total number of requests to activate primary PDP context for 2G service rejected as timer expired for recovery.
3G-Proto Err Unspecified	Total number of requests to activate primary PDP context for 3G service rejected due to unspecified protocol error.
2G-Proto Err Unspecified	Total number of requests to activate primary PDP context for 2G service rejected due to unspecified protocol error.
Activate Secondary PDP Context Denied	Indicates the statistics of reason to deny secondary PDP context activation for 2G and 3G service denied.
3G-Operator Determined Barring	Total number of requests to activate primary PDP context for 3G service rejected due to operator determined barring.
2G-Operator Determined Barring	Total number of requests to activate primary PDP context for 2G service rejected due to operator determined barring.
3G-Insufficient Resources	Total number of requests to activate secondary PDP context for 3G service rejected due to insufficient resources.

Field	Description
2G-Insufficient Resources	Total number of requests to activate secondary PDP context for 2G service rejected due to insufficient resources.
3G-Rej By Ggsn	Total number of requests to activate secondary PDP context for 3G service rejected as request rejected by the GGSN.
2G-Rej By Ggsn	Total number of requests to activate secondary PDP context for 2G service rejected as request rejected by the GGSN.
3G-Actv Rej Unspecified	Total number of requests to activate secondary PDP context for 3G service rejected due to error which is not specified in this table or unknown.
2G-Actv Rej Unspecified	Total number of requests to activate secondary PDP context for 2G service rejected due to error which is not specified in this table or unknown.
3G-Svc Opt Not Supported	Total number of requests to activate secondary PDP context for 3G service rejected as requested service option is not supported.
2G-Svc Opt Not Supported	Total number of requests to activate secondary PDP context for 2G service rejected as requested service option is not supported.
3G-Svc Opt Not Subscribed	Total number of requests to activate secondary PDP context for 3G service rejected as subscriber is not subscriber to requested service.
2G-Svc Opt Not Subscribed	Total number of requests to activate secondary PDP context for 2G service rejected as subscriber is not subscriber to requested service.
3G-Svc Option Tmp Out Of Order	Total number of requests to activate secondary PDP context for 3G service rejected as requested service option is temporarily out of order.
2G-Svc Option Tmp Out Of Order	Total number of requests to activate secondary PDP context for 2G service rejected as requested service option is temporarily out of order.
3G-Sem Error In TFT Op	Total number of requests to activate secondary PDP context for 3G service rejected due to semantic error in subscriber traffic flow template operation.
2G-Sem Error In TFT Op	Total number of requests to activate secondary PDP context for 2G service rejected due to semantic error in subscriber traffic flow template operation.
3G-Syn Error In TFT Op	Total number of requests to activate secondary PDP context for 3G service rejected due to syntax error in subscriber traffic flow template operation.
2G-Syn Error In TFT Op	Total number of requests to activate secondary PDP context for 2G service rejected due to syntax error in subscriber traffic flow template operation.
3G-Unknown Ctx	Total number of requests to activate secondary PDP context for 3G service rejected due to unknown PDP context name in request message.
2G-Unknown Ctx	Total number of requests to activate secondary PDP context for 2G service rejected due to unknown PDP context name in request message.
3G-Sem Error In Pkt Filter	Total number of requests to activate secondary PDP context for 3G service rejected due to semantic error in packet filter.

Field	Description
2G-Sem Error In Pkt Filter	Total number of requests to activate secondary PDP context for 2G service rejected due to semantic error in packet filter.
3G-Syn Errors In Pkt Filter	Total number of requests to activate secondary PDP context for 3G service rejected due to syntax error in packet filter.
2G-Syn Errors In Pkt Filter	Total number of requests to activate secondary PDP context for 2G service rejected due to syntax error in packet filter.
3G-Ctx No-TFT Already Actv	Total number of requests to activate secondary PDP context for 3G service rejected as no TFT is active for subscriber.
2G-Ctx No-TFT Already Actv	Total number of requests to activate secondary PDP context for 2G service rejected as no TFT is active for subscriber.
3G-Sem Incorrect Msg	Total number of requests to activate secondary PDP context for 3G service rejected due to semantically incorrect message.
2G-Sem Incorrect Msg	Total number of requests to activate secondary PDP context for 2G service rejected due to semantically incorrect message.
3G-Invalid Mandatory Info	Total number of requests to activate secondary PDP context for 3G service rejected as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of requests to activate secondary PDP context for 2G service rejected as mandatory information in message is invalid.
3G-Msg Non Existent	Total number of requests to activate secondary PDP context for 3G service rejected due to non-existent type of message.
2G-Msg Non Existent	Total number of requests to activate secondary PDP context for 2G service rejected due to non-existent type of message.
3G-IE Non Existent	Total number of requests to activate secondary PDP context for 3G service rejected due to non-existence of information element.
2G-IE Non Existent	Total number of requests to activate secondary PDP context for 2G service rejected due to non-existence of information element.
3G-Conditional IE error	Total number of requests to activate secondary PDP context for 3G service rejected due to error in conditional information element.
2G-Conditional IE error	Total number of requests to activate secondary PDP context for 2G service rejected due to error in conditional information element.
3G-Msg Not Compatible with State	Total number of requests to activate secondary PDP context for 3G service rejected as message type is not compatible with protocol state.
2G-Msg Not Compatible with State	Total number of requests to activate secondary PDP context for 2G service rejected as message type is not compatible with protocol state.
3G-Recovery on Timer Expiry	Total number of requests to activate secondary PDP context for 3G service rejected as timer expired for recovery.

Field	Description
2G-Recovery on Timer Expiry	Total number of requests to activate secondary PDP context for 2G service rejected as timer expired for recovery.
3G-Proto Err Unspecified	Total number of requests to activate secondary PDP context for 3G service rejected due to unspecified protocol error.
2G-Proto Err Unspecified	Total number of requests to activate secondary PDP context for 2G service rejected due to unspecified protocol error.
Activate Context Failure Causes	Indicates the statistics of reasons for context activation procedures for 2G and 3G service.
3G-Iu release before Activate over	Total number of context activation procedures rejected for 3G service due to Iu released before completion of activation procedure.
3G-Guard Timer Expiry	Total number of PDP context activation for 3G failed due to guard timer expiry.
2G-Guard Timer Expiry	Total number of PDP context activation for 2G failed due to guard timer expiry.
3G-Duplicate Activation	Total number of PDP context activation for 3G failed due to duplicate request for activation.
2G-Duplicate Activation	Total number of PDP context activation for 2G failed due to duplicate request for activation.
3G-Failure due to Other Ongoing Procedure	Total number of PDP context activation for 3G failed as other activation procedure for same request is in progress.
2G-Failure due to Other Ongoing Procedure	Total number of PDP context activation for 2G failed as other activation procedure for same request is in progress.
3G-Tunnel Deactivation	Total number of PDP context activation for 3G failed as session tunnel deactivated.
2G-Tunnel Deactivation	Total number of PDP context activation for 2G failed as session tunnel deactivated.
3G-HandOff before Activate over	Total number of PDP context activation for 3G failed as handoff happened before activation procedure completed.
2G-HandOff before Activate over	Total number of PDP context activation for 2G failed as handoff happened before activation procedure completed.
3G-Detach before Activate over	Total number of PDP context activation for 2G failed as detach procedure started before activation procedure completed.
2G-Detach before Activate over	Total number of PDP context activation for 2G failed as detach procedure started before activation procedure completed.
3G-Phase-2-Offload Failures	**Description**: This proprietary counter indicates the total number of PDP Activation failures due to Phase 2 offloading in 3G service. **Triggers**: Increments when PDP Activation fails due to Phase 2 offloading. **Availability**: per SGSN service, per RA, per RNC

Field	Description
2G-Phase-2-Offload Failures	**Description**: This proprietary counter indicates the total number of PDP Activation failures due to Phase 2 offloading in 2G service. **Triggers**: Increments when PDP Activation fails due to Phase 2 offloading. **Availability**: per GPRS service, per RA
3G-Invalid Msg Content	Total number of PDP context activation for 3G failed as request message contains invalid information.
2G-Invalid Msg Content	Total number of PDP context activation for 2G failed as request message contains invalid information.
Duplicate Activate Request	Indicates the statistics of duplicate context activation requests for 2G and 3G service received.
Total-Dup-Actv Req Received	Total number of duplicate context activation requests for 2G and 3G service received.
Total-Dup-3G-Actv Req Received	Total number of duplicate context activation requests for 3G service received.
Total-Dup-2G-Actv Req Received	Total number of duplicate context activation requests for 2G service received.
3G-Dup Req In PDP-ACTIVE State	Indicates the statistics of duplicate context activation requests for 3G service in PDP activate state.
Duplicate TI	Total number of duplicate context activation requests for 3G service in PDP active state with duplicate transaction identifiers (TIs).
Duplicate NSAPI	Total number of duplicate context activation requests for 3G service in PDP active state with duplicate Network Service Access Point Identifier (NSAPI) for 3G service.
Duplicate PDP-Addr and APN	Total number of duplicate context activation requests for 3G service in PDP active state with duplicate PDP address and access point name for 3G service.
2G-Dup Req In PDP-ACTIVE State	Indicates the statistics of duplicate context activation requests for 2G service in PDP activate state.
Duplicate TI	Total number of duplicate context activation requests for 2G service in PDP active state with duplicate transaction identifiers (TIs).
Duplicate NSAPI	Total number of duplicate context activation requests for 2G service in PDP active state with duplicate Network Service Access Point Identifier (NSAPI).
Duplicate PDP-Addr and APN	Total number of duplicate context activation requests for 2G service in PDP active state with duplicate PDP address and access point name.
3G-Dup Req In NOT PDP-ACTIVE State	Indicates the statistics of duplicate context activation requests for 3G service which are not in PDP active state.
Duplicate TI	Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate transaction identifiers (TIs).
Duplicate NSAPI	Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate Network Service Access Point Identifier (NSAPI).

Field	Description
Duplicate PDP-Addr and APN	Total number of duplicate context activation requests for 3G service which are not in PDP active state with duplicate PDP address and access point name.
2G-Dup Req In NOT PDP-ACTIVE State	Indicates the statistics of duplicate context activation requests for 2G service which are not in PDP active state.
Duplicate TI	Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate transaction identifiers (TIs).
Duplicate NSAPI	Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate Network Service Access Point Identifier (NSAPI).
Duplicate PDP-Addr and APN	Total number of duplicate context activation requests for 2G service which are not in PDP active state with duplicate PDP address and access point name.
Request Pdp Context Activation	Indicates the statistics of PDP context activation requests for 2G and 3G service.
Total-Request-Pdp-Ctxt-Req	Total number of PDP context activation requests received for 2G and 3G service.
3G-Request-Pdp-Ctxt-Req	Total number of PDP context activation requests received for 3G service.
2G-Request-Pdp-Ctxt-Req	Total number of PDP context activation requests received for 2G service.
Retransmission	Indicates the statistics of PDP context activation requests retransmitted for 2G and 3G service.
Total-Request-Pdp-Ctxt-Req	Total number of PDP context activation requests retransmitted for 2G and 3G service.
3G-Request-Pdp-Ctxt-Req	Total number of PDP context activation requests retransmitted for 3G service.
2G-Request-Pdp-Ctxt-Req	Total number of PDP context activation requests retransmitted for 2G service.
Request Pdp Context Activation Reject	Indicates the statistics of PDP context activation requests rejected for 2G and 3G service.
Total-Request-Pdp-Ctxt-Reject	Total number of PDP context activation requests rejected for 2G and 3G service.
3G-Request-Pdp-Ctxt-Reject	Total number of PDP context activation requests rejected for 3G service.
2G-Request-Pdp-Ctxt-Reject	Total number of PDP context activation requests rejected for 2G service.
Request Pdp Context Activation Denied	Indicates the statistics of PDP context activation requests Denied for 2G and 3G service.
3G-Insufficient Resources	Total PDP context activation requests denied due to insufficient resources in 3G service.
2G-Insufficient Resources	Total PDP context activation requests denied due to insufficient resources in 2G service.
3G-Actv Rej Unspecified	Total PDP context activation requests denied due to unspecified reasons in 3G service.
2G-Actv Rej Unspecified	Total PDP context activation requests denied due to unspecified reasons in 2G service.

Field	Description
3G-Feature Not Supported	Total PDP context activation requests denied due to requested feature not supported in 3G service.
2G-Feature Not Supported	Total PDP context activation requests denied due to requested feature not supported in 2G service.
3G-Svc Opt Tmp Out of Order	Total PDP context activation requests denied due to service option was temporarily out of order in 3G service.
2G-Svc Opt Tmp Out of Order	Total PDP context activation requests denied due to service option was temporarily out of order in 2G service.
Request Secondary Pdp Context Activation	This group of counters indicates the number of Request Secondary Context Activation messages sent to MS. The indicated count does include retransmissions. (verbose mode only).
Total-Request-Sec-Pdp-Ctxt-Req	Total number of Request Secondary PDP Context Activation messgaes sent to MS.
3G-Request-Sec-Pdp-Ctxt-Req	Total number of Request Secondary PDP Context Activation messages sent to MS (UMTS access).
2G-Request-Sec-Pdp-Ctxt-Req	Total number of Request Secondary PDP Context Activation messages sent to MS (GPRS access).
Retransmission	This group of counters indicate the number of Request Secondary Context Activation messages retransmitted to MS.
Total-Request-Sec-Pdp-Ctxt-Req	Total number of Request Secondary PDP Context Activation messages retransmitted to MS.
3G-Request-Sec-Pdp-Ctxt-Req	Total number of Request Secondary PDP Context Activation messgaes retransmitted to MS (UMTS access).
2G-Request-Sec-Pdp-Ctxt-Req	Total number of Request Secondary PDP Context Activation messages retransmitted to MS (GPRS access).
Request Secondary PDP Context Activation Reject	This group of counters indicate the number of Request Secondary Context Activation Reject messages received from MS.
Total-Request-Sec-Pdp-Ctxt-Reject	Total number of Request Secondary PDP Context Activation Reject messages from MS.
3G-Total-Request-Sec-Pdp-Ctxt-Reject	Total number of Request Secondary PDP Context Activation Reject messages from MS (UMTS access).
2G-Total-Request-Sec-Pdp-Ctxt-Reject	Total number of Request Secondary PDP Context Activation Reject messages from MS (GPRS access).
Request Secondary PDP Context Activation Denied	This group of counters indicates the number of Request Secondary Context Activation Reject messages received from MS categorized under different SM causes.
3G-Insufficient Resources	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "insufficient resources (26)" in UMTS access.

Field	Description
3G-Actv Rej Unspecified	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "actv rejected, unspecified (31)" in UMTS access.
3G-Feature Not Supported	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "feature not supported (40)" in UMTS access.
3G-Sem Error In TFT Op	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Semantic Errors In TFT operation (44)" in UMTS access.
3G-Syn Error In TFT Op	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Syntactical Errors In TFT operation (41)" in UMTS access
3G-Unknown Ctx	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "unknown PDP context (43)" in UMTS access.
3G-Sem Error In Pkt Filter	Total number of Request Secondary PDP Context Activation Reject from MS with cause "Semantic Errors In Pkt Filter(s) (44)" in UMTS access.
3G-Syn Errors In Pkt Filter	Total number of Request Secondary PDP Context Activation Reject from MS with cause "Syntactical Errors In Pkt Filter(s) (45)" in UMTS access.
3G-Ctx No-TFT Already Actv	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "PDP Ctx without TFT already activated (46)" in UMTS access.
3G-Actv Rej BCM violation	Tota number Request Secondary PDP Context Activation Reject messages from MS with cause "actv rejected, BCM violoation (48)" in UMTS access.
3G-Proto Err	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "protocol errors (95-111)" in UMTS access.
2G-Insufficient Resources	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "insufficient resources (26)" in GPRS access.
2G-Actv Rej Unspecified	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "actv rejected, unspecified (31)" in GPRS access.
2G-Feature Not Supported	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "feature not supported (40)" in GPRS access.
2G-Sem Error In TFT Op	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Semantic Errors In TFT operation (44)" in GPRS access.
2G-Syn Error In TFT Op	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Syntactical Errors In TFT operation (41)" i"GPRS access
2G-Unknown Ctx	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "unknown PDP context (43)" in GPRS access.
2G-Sem Error In Pkt Filter	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Semantic Errors In Pkt Filter(s) (44)" in GPRS access.
2G-Syn Errors In Pkt Filter	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "Syntactical Errors In Pkt Filter(s) (45)" in GPRS access.

Field	Description
2G-Ctx No-TFT Already	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "PDP Ctx without TFT already activated (46)" in GPRS access
2G-Actv Rej BCM violation	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "actv rejected, BCM violoation (48)" in GPRS access.
2G-Proto Err	Total number of Request Secondary PDP Context Activation Reject messages from MS with cause "protocol errors (95-111)" in GPRS access
Secondary PDP Context Activation Request Ignored	This group of counters indicate the number of Activate Secondary PDP Context Requests messages (from MS with Ti flag = 1) ignored by SGSN. (verbose mode only)
Total-Actv-Request-Nrspca-Ignored	Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1 and PDP not in activation in progress state.
3G-Actv-Request-Nrspca-Ignored	Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1 (in UMTS access) and PDP not in activation in progress state.
2G-Actv-Request-Nrspca-Ignored	Total number of Secondary Activate PDP Context Request messages from MS with Ti flag = 1 (in GPRS access) and PDP not in activation in progress state.
Network Initiated Secondary Activation Aborted	This group of counters indicates the number of NRSPCA procedures aborted/rejected by SGSN for various GMM/SM procedure collisions, before receiving any response from MS in response to a Request Secondary PDP Context Activation.
3G-NRSPCA-Abort-GTP-Suspend	Total number of NRSPCA procedures aborted in UMTS access due to GTP Suspend from peer SGSN or Suspend from BSC in GPRS access. IPCA Response with cause "MS is GPRS Suspended" is sent in this case. For S4-SGSN, CBR Response with cause "Unable to page UE due to Suspension" is sent.
3G-NRSPCA-Abort-Handoff	Total number of NRSPCA procedures aborted in UMTS access by handoff to peer SGSN. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.
3G-NRSPCA-Abort-Max-Retry-Attempts	Total number of NRSPCA procedure aborted in UMTS access due to Request Secondary PDP context activation maximum retry attempts. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent.
3G-NRSPCA-Abort-Paging-Expiry	Total number of NRSPCA procedure aborted in UMTS access due to Paging Expiry. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent.
3G-NRSPCA-Abort-Linked-Ctx-Deactv	Total number of NRSPCA procedures aborted in UMTS access due to linked Context or bundle deactivation. No IPCA Response is sent in this case.

Field	Description
3G-NRSPCA-Abort-Linked-Ctx-Detach	Total number of NRSPCA procedures aborted in UMTS access due to Detach procedure. No IPCA Response is sent in this case.
3G-NRSPCA-Abort-Inter-RAT-Handoff	Total number of NRSPCA procedures aborted in UMTS access due to inter-RAT RAU. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.
3G-NRSPCA-Abort-Iu-release	Total number of NRSPCA procedures aborted in UMTS access due to Iu release. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent.
3G-NRSPCA-Abort-SRNS-Handoff	Total number of NRSPCA procedures aborted in UMTS access due to old SGSN SRNS. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.
3G-NRSPCA-Abort-Intra-RAU	Total number of NRSPCA procedures aborted in UMTS access due to intra RAU. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.
3G-NRSPCA-Abort-Intra-SRNS	Total number of NRSPCA procedures aborted in UMTS access due to local SRNS. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.
3G-NRSPCA-Abort-RAB-Failure	Total number of NRSPCA procedures aborted in UMTS access due to RAB failure. NOTE: This is applicable only for S4-SGSN as RAB setup needs to be completed before sending CBR Response. (In Gn/Gp IPCA Rsp and Create PDP procedure is completed before RAB setup). CBR Response with cause "No resources available" is sent.
3G-NRSPCA-Abort-Ctx-Deactv	Total number of NRSPCA procedures aborted in UMTS access due to PDP deactivation events such as, • GTPU Path failure during RAB establishment • RAB Release while waiting for RAB Assignment Response for other bearers in case of multiple bearers being activated in a single CBR Request • Iu release during RAB setup NOTE: This is applicable only for S4-SGSN as RAB setup needs to be completed before sending CBR Response. (In Gn/Gp IPCA Rsp and Create PDP procedure is completed before RAB setup) CBR Response with cause "No resources available" is sent.

Field	Description
2G-NRSPCA-Abort-Subs-Suspend	Total number of NRSPCA procedures aborted in GPRS access due to GTP Suspend from peer SGSN. IPCA Response with cause "MS is GPRS Suspended" is sent in this case. For S4-SGSN, CBR Response with cause "Unable to page UE due to Suspension" is sent.
2G-NRSPCA-Abort-Handoff	Total number of NRSPCA procedures aborted in GPRS access by handoff to peer SGSN. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.
2G-NRSPCA-Abort-T3385-Expiry	Total number of NRSPCA procedures aborted in GPRS access due T3385 timer expiry. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent.
2G-NRSPCA-Abort-Paging-Expiry	Total number of NRSPCA procedures aborted in GPRS access due to Paging Expiry. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent.
2G-NRSPCA-Abort-Linked-Ctx-Deactv	Total number of NRSPCA procedures aborted in GPRS access due to linked context or bundle deactivation. No IPCA Response is sent in this case.
2G-NRSPCA-Abort-Linked-Ctx-Detach	Total number of NRSPCA procedures aborted in GPRS access due to Detach procedure. No IPCA Response is sent in this case.
2G-NRSPCA-Abort-Inter-RAT-Handoff	Total number of NRSPCA procedures aborted in GPRS access due to intra-RAT RAU. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "Temporarily rejected due to handover procedure in progress" is sent.
2G-NRSPCA-Abort-Ready-Tmr-Expiry	Total number of NRSPCA procedure saborted in GPRS access due to ready timer expiry during NRSPCA activation. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent.
2G-NRSPCA-Abort-Radio-Status	Total number of NRSPCA procedures aborted in GPRS access due Radio Status procedure from BSC during NRSPCA activation. IPCA Response with cause "MS is not GPRS responding" is sent in this case. For S4-SGSN, CBR Response with cause "UE not responding" is sent.
2G-NRSPCA-Abort-BVC-Block-Or-Reset	Total number of NRSPCA procedures aborted in GPRS access due to BVC Block/Reset procedure from BSC during NRSPCA activation. IPCA Response with cause "No resources available" is sent in this case. For S4-SGSN, CBR Response with cause "No resources available" is sent.
Modify Context Request	Indicates the statistics of MS and network initiated PDP context modification requests received for 2G and 3G service.

Field	Description
Total-Modify-Request	Total number of MS and network initiated PDP context modification requests received for 2G and 3G service.
3G-Modify-Request	Total number of MS and network initiated PDP context modification requests received for 3G service.
2G-Modify Request	Total number of MS and network initiated PDP context modification requests received for 2G service.
Modify-Request Rx	Total number of MS initiated PDP context modification requests received for 2G and 3G service.
3G-Modify-Request Rx	Total number of MS initiated PDP context modification requests received for 3G service.
2G-Modify-Request Rx	Total number of MS initiated PDP context modification requests received for 2G service.
Modify-Request Tx	Total number of network initiated PDP context modification requests received for 2G and 3G service.
3G-Modify-Request Tx	Total number of network initiated PDP context modification requests received for 3G service.
2G-Modify-Request Tx	Total number of network initiated PDP context modification requests received for 2G service.
Retransmission	Indicates the statistics of network initiated PDP context modification requests retransmitted for 2G and 3G service.
Total-Modify-Request Tx	Total number of network initiated PDP context modification requests retransmitted for 2G and 3G service.
3G-Modify-Request Tx	Total number of network initiated PDP context modification requests retransmitted for 3G service.
2G-Modify-Request Tx	Total number of network initiated PDP context modification requests retransmitted for 2G service.
Modify Context Accept	Indicates the statistics of MS and network initiated PDP context modification requests accepted for 2G and 3G service.
Total-Modify-Accept	Total number of MS and network initiated PDP context modification requests accepted for 2G and 3G service.
3G-Modify-Accept	Total number of MS and network initiated PDP context modification requests accepted for 3G service.
2G-Modify-Accept	Total number of MS and network initiated PDP context modification requests accepted for 2G service.
Modify-Accept Tx	Total number of MS initiated PDP context modification requests accepted for 2G and 3G service.

Field	Description
3G-Modify-Accept Tx	Total number of MS initiated PDP context modification requests accepted for 3G service.
2G-Modify-Accept Tx	Total number of MS initiated PDP context modification requests accepted for 2G service.
Modify-Accept Rx	Total number of network initiated PDP context modification requests accepted for 2G and 3G service.
3G-Modify-Accept Rx	Total number of network initiated PDP context modification requests received for 3G service.
2G-Modify-Accept Rx	Total number of network initiated PDP context modification requests accepted for 2G service.
Modify Context Reject	Indicates the statistics of MS and network initiated PDP context modification requests rejected for 2G and 3G service.
Total-Modify-Reject	Total number of MS and network initiated PDP context modification requests rejected for 2G and 3G service.
3G-Modify-Reject	Total number of MS and network initiated PDP context modification requests rejected for 3G service.
2G-Modify-Reject	Total number of MS and network initiated PDP context modification requests rejected for 2G service.
Modify-Reject Tx	Total number of MS initiated PDP context modification requests rejected for 2G and 3G service.
3G-Modify-Reject Tx	Total number of MS initiated PDP context modification requests rejected for 3G service.
2G-Modify-Reject Tx	Total number of MS initiated PDP context modification requests rejected for 2G service.
Modify-Reject Rx	Total number of network initiated PDP context modification requests rejected for 2G and 3G service.
3G-Modify-Reject Rx	Total number of network initiated PDP context modification requests rejected for 3G service.
2G-Modify-Reject Rx	Total number of network initiated PDP context modification requests rejected for 2G service.
Modify PDP Context Denied Tx	Indicates the reasons for denying MS initiated PDP context modifications for 2G and 3G services.
3G-Insufficient Resources	Total number of MS initiated requests to modify PDP context for 3G service rejected due to insufficient resources.
2G-Insufficient Resources	Total number of MS initiated requests to modify PDP context for 3G service rejected due to insufficient resources.

Field	Description
3G-Svc Option Not Supported	Total number of MS initiated requests to modify PDP context for 3G service rejected as requested service option is not supported.
2G-Svc Option Not Supported	Total number of MS initiated requests to modify PDP context for 2G service rejected as requested service option is not supported.
3G-Sem Err in TFT OP	Total number of MS initiated requests to modify PDP context for 3G service rejected due to semantic error in subscriber traffic flow template operation.
2G-Sem Err in TFT OP	Total number of MS initiated requests to modify PDP context for 2G service rejected due to semantic error in subscriber traffic flow template operation.
3G-Syntactic Err in TFT OP	Total number of MS initiated requests to modify PDP context for 3G service rejected due to syntax error in subscriber traffic flow template operation.
2G-Syntactic Err in TFT OP	Total number of MS initiated requests to modify PDP context for 2G service rejected due to syntax error in subscriber traffic flow template operation.
3G-Sem Err in Pkt Filter	Total number of MS initiated requests to modify PDP context for 3G service rejected due to semantic error in packet filter.
2G-Sem Err in Pkt Filter	Total number of MS initiated requests to modify PDP context for 2G service rejected due to semantic error in packet filter.
3G-Syntactic Err in Pkt Filter	Total number of MS initiated requests to modify PDP context for 3G service rejected due to syntax error in packet filter.
2G-Syntactic Err in Pkt Filter	Total number of MS initiated requests to modify PDP context for 2G service rejected due to syntax error in packet filter.
3G-Sem Incorrect Msg	Total number of MS initiated requests to modify PDP context for 3G service rejected due to semantically incorrect message.
2G-Sem Incorrect Msg	Total number of MS initiated requests to modify PDP context for 2G service rejected due to semantically incorrect message.
3G-Invalid Mandatory Info	Total number of MS initiated requests to modify PDP context for 3G service rejected as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of MS initiated requests to modify PDP context for 2G service rejected as mandatory information in message is invalid.
3G-Msg Non Existent	Total number of MS initiated requests to modify PDP context for 3G service rejected due to non-existent type of message.
2G-Msg Non Existent	Total number of MS initiated requests to modify PDP context for 2G service rejected due to non-existent type of message.
3G-IE Non Existent	Total number of MS initiated requests to modify PDP context for 3G service rejected due to non-existence of information element.
2G-IE Non Existent	Total number of MS initiated requests to modify PDP context for 2G service rejected due to non-existence of information element.

Field	Description
3G-Conditional IE Error	Total number of MS initiated requests to modify PDP context for 3G service rejected due to error in conditional information element.
2G-Conditional IE Error	Total number of MS initiated requests to modify PDP context for 2G service rejected due to error in conditional information element.
3G-Msg Not Compatible with State	Total number of MS initiated requests to modify PDP context for 3G service rejected as message type is not compatible with protocol state.
2G-Msg Not Compatible with State	Total number of MS initiated requests to modify PDP context for 2G service rejected as message type is not compatible with protocol state.
3G-Recovery on Timer Expiry	Total number of MS initiated requests to modify PDP context for 3G service rejected as timer expired for recovery.
2G-Recovery on Timer Expiry	Total number of MS initiated requests to modify PDP context for 2G service rejected as timer expired for recovery.
3G-Proto Err Unspecified	Total number of MS initiated requests to modify PDP context for 3G service rejected due to unspecified protocol error.
2G-Proto Err Unspecified	Total number of MS initiated requests to modify PDP context for 2G service rejected due to unspecified protocol error.
Modify PDP Context Rx	Indicates the statistics of reason to deny SGSN initiated PDP context modification for 2G and 3G service denied.
3G-Insufficient Resources	Total number of SGSN initiated requests received to modify PDP context for 3G service rejected due to insufficient resources.
2G-Insufficient Resources	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to insufficient resources.
3G-Svc Option Not Supported	Total number of SGSN initiated requests to modify PDP context for 3G service rejected as requested service option is not supported.
2G-Svc Option Not Supported	Total number of SGSN initiated requests to modify PDP context for 2G service rejected as requested service option is not supported.
3G-Sem Err in TFT OP	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to semantic error in subscriber traffic flow template operation.
2G-Sem Err in TFT OP	Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to semantic error in subscriber traffic flow template operation.
3G-Syntactic Err in TFT OP	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to syntax error in subscriber traffic flow template operation.
2G-Syntactic Err in TFT OP	Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to syntax error in subscriber traffic flow template operation.
3G-Sem Err in Pkt Filter	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to semantic error in packet filter.

Field	Description
2G-Sem Err in Pkt Filter	Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to semantic error in packet filter.
3G-Syntactic Err in Pkt Filter	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to syntax error in packet filter.
2G-Syntactic Err in Pkt Filter	Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to syntax error in packet filter.
3G-Sem Incorrect Msg	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to semantically incorrect message.
2G-Sem Incorrect Msg	Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to semantically incorrect message.
3G-Invalid Mandatory Info	Total number of SGSN initiated requests to modify PDP context for 3G service rejected as mandatory information in message is invalid.
2G-Invalid Mandatory Info	Total number of SGSN initiated requests to modify PDP context for 2G service rejected as mandatory information in message is invalid.
3G-Msg Non Existent	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to non-existent type of message.
2G-Msg Non Existent	Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to non-existent type of message.
3G-IE Non Existent	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to non-existence of information element.
2G-IE Non Existent	Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to non-existence of information element.
3G-Conditional IE Error	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to error in conditional information element.
2G-Conditional IE Error	Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to error in conditional information element.
3G-Msg Not Compatible with State	Total number of SGSN initiated requests to modify PDP context for 3G service rejected as message type is not compatible with protocol state.
2G-Msg Not Compatible with State	Total number of SGSN initiated requests to modify PDP context for 2G service rejected as message type is not compatible with protocol state.
3G-Recovery on Timer Expiry	Total number of SGSN initiated requests to modify PDP context for 3G service rejected as timer expired for recovery.
2G-Recovery on Timer Expiry	Total number of SGSN initiated requests to modify PDP context for 2G service rejected as timer expired for recovery.
3G-Proto Err Unspecified	Total number of SGSN initiated requests to modify PDP context for 3G service rejected due to unspecified protocol error.

Field	Description
2G-Proto Err Unspecified	Total number of SGSN initiated requests to modify PDP context for 2G service rejected due to unspecified protocol error.
Deactivate Context Request	Indicates the statistics of MS and network initiated PDP context deactivation requests received for 2G and 3G service.
Total-Deactv-Request	Total number of MS and network initiated PDP context deactivation requests received for 2G and 3G service.
3G-Deactv-Request	Total number of MS and network initiated PDP context deactivation requests received for 3G service.
2G-Deactv-Request	Total number of MS and network initiated PDP context deactivation requests received for 2G service.
MS-Deactv-Request	Total number of MS initiated PDP context deactivation requests received for 2G and 3G service.
3G-MS-Deactv-Request	Total number of MS initiated PDP context deactivation requests received for 3G service.
2G-MS-Deactv-Request	Total number of MS initiated PDP context deactivation requests received for 2G service.
SGSN-Deactv-Request	Total number of SGSN initiated PDP context deactivation requests received for 2G and 3G service.
3G-SGSN-Deactv-Request	Total number of SGSN initiated PDP context deactivation requests received for 3G service.
2G-SGSN-Deactv-Request	Total number of SGSN initiated PDP context deactivation requests received for 2G service.
HLR-Deactv-Request	Total number of home location register (HLR) initiated PDP context deactivation requests received for 2G and 3G service.
3G-HLR-Deactv-Request	Total number of HLR initiated PDP context deactivation requests received for 3G service.
2G-HLR-Deactv-Request	Total number of HLR initiated PDP context deactivation requests received for 2G service.
GGSN-Deactv-Request	Total number of GGSN initiated PDP context deactivation requests received for 2G and 3G service.
3G-GGSN-Deactv-Request	Total number of GGSN initiated PDP context deactivation requests received for 3G service.
2G-GGSN-Deactv-Request	Total number of GGSN initiated PDP context deactivation requests received for 2G service.
Retransmission	Indicates the statistics of network initiated PDP context deactivation requests retransmitted for 2G and 3G service

Field	Description
Total-SGSN-Deactv-Request	Total number of SGSN initiated PDP context deactivation requests retransmitted for 2G and 3G service.
3G-SGSN-Deactv-Request	Total number of SGSN initiated PDP context deactivation requests retransmitted for 3G service.
2G-SGSN-Deactv-Request	Total number of SGSN initiated PDP context deactivation requests retransmitted for 2G service.
Total-HLR-Deactv-Request	Total number of home location register (HLR) initiated PDP context deactivation requests retransmitted for 2G and 3G service.
3G-HLR-Deactv-Request	Total number of HLR initiated PDP context deactivation requests retransmitted for 3G service.
2G-HLR-Deactv-Request	Total number of HLR initiated PDP context deactivation requests retransmitted for 2G service.
Total-GGSN-Deactv-Request	Total number of GGSN initiated PDP context deactivation requests retransmitted for 2G and 3G service.
3G-GGSN-Deactv-Request	Total number of GGSN initiated PDP context deactivation requests retransmitted for 3G service.
2G-GGSN-Deactv-Request	Total number of GGSN initiated PDP context deactivation requests retransmitted for 2G service.
Deactivate Context Accept	Indicates the statistics of MS and network initiated PDP context deactivation requests accepted for 2G and 3G service.
Total-Deactv-Accept	Total number of MS and network initiated PDP context deactivation requests accepted for 2G and 3G service.
3G-Deactv-Accept	Total number of MS and network initiated PDP context deactivation requests accepted for 3G service.
2G-Deactv-Accept	Total number of MS and network initiated PDP context deactivation requests accepted for 2G service.
MS-Deactv-Accept	Total number of MS initiated PDP context deactivation requests accepted for 2G and 3G service.
3G-MS-Deactv-Accept	Total number of MS initiated PDP context deactivation requests accepted for 3G service.
2G-MS-Deactv-Accept	Total number of MS initiated PDP context deactivation requests accepted for 2G service.
SGSN-Deactv-Accept	Total number of SGSN initiated PDP context deactivation requests accepted for 2G and 3G service.
3G-SGSN-Deactv-Accept	Total number of SGSN initiated PDP context deactivation requests accepted for 3G service.

Field	Description
2G-SGSN-Deactv-Accept	Total number of SGSN initiated PDP context deactivation requests accepted for 2G service.
HLR-Deactv-Accept	Total number of home location register (HLR) initiated PDP context deactivation requests accepted for 2G and 3G service.
3G-HLR-Deactv-Accept	Total number of HLR initiated PDP context deactivation requests accepted for 3G service.
2G-HLR-Deactv-Accept	Total number of HLR initiated PDP context deactivation requests accepted for 2G service.
GGSN-Deactv-Accept	Total number of GGSN initiated PDP context deactivation requests accepted for 2G and 3G service.
3G-GGSN-Deactv-Accept	Total number of GGSN initiated PDP context deactivation requests accepted for 3G service.
2G-GGSN-Deactv-Accept	Total number of GGSN initiated PDP context deactivation requests accepted for 2G service.
Deactivation Causes Rx	This group displays the statistics of PDP context deactivation causes received by SGSN.
3G-Barred Due to ODB	The PDP contexts deactivated due to operator determined barring in 3G service network.
2G-Barred Due to ODB	The PDP contexts deactivated due to operator determined barring in 2G service network.
3G-Mbms Cap Insufficient Svc	The PDP contexts deactivated due to insufficient capacity for MBMS service in 3G service network.
2G-Mbms Cap Insufficient Svc	The PDP contexts deactivated due to insufficient capacity for MBMS service in 2G service network.
3G-Llc Or Sndcp Failure GB Mode	The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 3G service network.
2G-Llc Or Sndcp Failure GB Mode	The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 2G service network.
3G-Insufficient Resources	The PDP contexts deactivated due to insufficient resources in 3G service network.
2G-Insufficient Resources	The PDP contexts deactivated due to insufficient resources in 2G service network.
3G-Missing Or Unknown Apn	The PDP contexts deactivated due to unknown or missing APN in 3G service network.
2G-Missing Or Unknown Apn	The PDP contexts deactivated due to unknown or missing APN in 2G service network.
3G-Unknown Pdp Add Or Pdp Type	The PDP contexts deactivated due to unknown PDP context address or PDP context type in 3G service network.

Field	Description
2G-Unknown Pdp Add Or Pdp Type	The PDP contexts deactivated due to unknown PDP context address or PDP context type in 2G service network.
3G-User Auth Failed	The PDP contexts deactivated due to user authentication failure in 3G service network.
2G-User Auth Failed	The PDP contexts deactivated due to user authentication failure in 2G service network.
3G-Actv Rej By Ggsn	The PDP contexts deactivated as PDP context activation rejected by GGSN in 3G service network.
2G-Actv Rej By Ggsn	The PDP contexts deactivated as PDP context activation rejected by GGSN in 2G service network.
3G-Actv Rej Unspecified	The PDP contexts deactivated as PDP context activation rejection was not specified by network in 3G service network.
2G-Actv Rej Unspecified	The PDP contexts deactivated as PDP context activation rejection was not specified by network in 2G service network.
3G-Svc Option Not Supported	The PDP contexts deactivated as service option was not supported in 3G service network.
2G-Svc Option Not Supported	The PDP contexts deactivated as service option was not supported in 2G service network.
3G-Req Svc Option Not Subscribed	The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 3G service network.
2G-Req Svc Option Not Subscribed	The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 2G service network.
3G-Svc Option Tmp Out Of Order	The PDP contexts deactivated as requested service option was temporarily out of order or not available in 3G service network.
2G-Svc Option Tmp Out Of Order	The PDP contexts deactivated as requested service option was temporarily out of order or not available in 2G service network.
3G-Nsapi Already Used	The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 3G service network.
2G-Nsapi Already Used	The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 2G service network.
3G-Regular Deactv	The PDP contexts deactivated due to periodic deactivation in 3G service network.
2G-Regular Deactv	The PDP contexts deactivated due to periodic deactivation in 2G service network.
3G-Qos Not Accepted	The PDP contexts deactivated as requested QoS for session was not accepted by system in 3G service network.
2G-Qos Not Accepted	The PDP contexts deactivated as requested QoS for session was not accepted by system in 2G service network.

Field	Description
3G-Network Failure	The PDP contexts deactivated due to network failure in 3G service network.
2G-Network Failure	The PDP contexts deactivated due to network failure in 2G service network.
3G-Reactv Required	The PDP contexts deactivated as reactivation was required for PDP context in 3G service network.
2G-Reactv Required	The PDP contexts deactivated as reactivation was required for PDP context in 2G service network.
3G-Feature Not Supported	The PDP contexts deactivated as requested feature was not supported in 3G service network.
2G-Feature Not Supported	The PDP contexts deactivated as requested feature was not supported in 2G service network.
3G-Sem Error In The Tft Op	The PDP contexts deactivated due to semantic error in traffic flow template options in 3G service network.
2G-Sem Error In The Tft Op	The PDP contexts deactivated due to semantic error in traffic flow template options in 2G service network.
3G-Synt Error In The Tft Op	The PDP contexts deactivated due to syntax error in traffic flow template options in 3G service network.
2G-Synt Error In The Tft Op	The PDP contexts deactivated due to syntax error in traffic flow template options in 2G service network.
3G-Unknown Ctx	The PDP contexts deactivated due to unknown PDP context in 3G service network.
2G-Unknown Ctx	The PDP contexts deactivated due to unknown PDP context in 2G service network.
3G-Ctx No-Tft Already Activated	The PDP contexts deactivated as no PDP context was available for activated TFT in 3G service network.
2G-Ctx No-Tft Already Activated	The PDP contexts deactivated as no PDP context was available for activated TFT in 2G service network.
3G-M-Cast Grp Membership Time Out	The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 3G service network.
2G-M-Cast Grp Membership Time Out	The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 2G service network.
3G-Sem Errors In Pkt Filter	The PDP contexts deactivated due to semantic error in packet filter in 3G service network.
2G-Sem Errors In Pkt Filter	The PDP contexts deactivated due to semantic error in packet filter in 2G service network.
3G-Synt Errors In Pkt Filter	The PDP contexts deactivated due to syntax error in packet filter in 3G service network.
2G-Synt Errors In Pkt Filter	The PDP contexts deactivated due to syntax error in packet filter in 2G service network.

Field	Description
3G-Invalid Transaction Id Val	The PDP contexts deactivated due to invalid transaction id value in message in 3G service network.
2G-Invalid Transaction Id Val	The PDP contexts deactivated due to invalid transaction id value in message in 2G service network.
3G-Sem Incorrect Msg	The PDP contexts deactivated due to semantically incorrect message in 3G service network.
2G-Sem Incorrect Msg	The PDP contexts deactivated due to semantically incorrect message in 2G service network.
3G-Invalid Mandatory Info	The PDP contexts deactivated due to invalid information in mandatory field of message in 3G service network.
2G-Invalid Mandatory Info	The PDP contexts deactivated due to invalid information in mandatory field of message in 2G service network.
3G-Msg Non Existent	The PDP contexts deactivated due to non-existent type of message received in 3G service network.
2G-Msg Non Existent	The PDP contexts deactivated due to non-existent type of message received in 2G service network.
3G-Ie Non Existent	The PDP contexts deactivated due to non-existent type of information element received in 3G service network.
2G-Ie Non Existent	The PDP contexts deactivated due to non-existent type of information element received in 2G service network.
3G-Conditional Ie Error	The PDP contexts deactivated due to error in conditional information element received in 3G service network.
2G-Conditional Ie Error	The PDP contexts deactivated due to error in conditional information element received in 2G service network.
3G-Proto Err Unspecified	The PDP contexts deactivated due to unspecified protocol error in message received in 3G service network.
2G-Proto Err Unspecified	The PDP contexts deactivated due to unspecified protocol error in message received in 2G service network.
3G-Apn Restr val Incomp With Ctx	The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 3G service network.
2G-Apn Restr val Incomp With Ctx	The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 2G service network.
3G-Msg Not Comp With State	The PDP contexts deactivated due as received message was incompatible with session state in 3G service network.
2G-Msg Not Comp With State	The PDP contexts deactivated due as received message was incompatible with session state in 2G service network.

Field	Description
3G-Recovery On Timer Expiry	The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 3G service network.
2G-Recovery On Timer Expiry	The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 2G service network.
Deactivation Causes Tx	This group displays the statistics of PDP context deactivation causes sent by SGSN.
3G-Barred Due to ODB	The PDP contexts deactivated due to operator determined barring in 3G service network.
2G-Barred Due to ODB	The PDP contexts deactivated due to operator determined barring in 2G service network.
3G-Mbms Cap Insufficient Svc	The PDP contexts deactivated due to insufficient capacity for MBMS service in 3G service network.
2G-Mbms Cap Insufficient Svc	The PDP contexts deactivated due to insufficient capacity for MBMS service in 2G service network.
3G-Llc Or Sndcp Failure GB Mode	The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 3G service network.
2G-Llc Or Sndcp Failure GB Mode	The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 2G service network.
3G-Insufficient Resources	The PDP contexts deactivated due to insufficient resources in 3G service network.
2G-Insufficient Resources	The PDP contexts deactivated due to insufficient resources in 2G service network.
3G-Missing Or Unknown Apn	The PDP contexts deactivated due to unknown or missing APN in 3G service network.
2G-Missing Or Unknown Apn	The PDP contexts deactivated due to unknown or missing APN in 2G service network.
3G-Unknown Pdp Add Or Pdp Type	The PDP contexts deactivated due to unknown PDP context address or PDP context type in 3G service network.
2G-Unknown Pdp Add Or Pdp Type	The PDP contexts deactivated due to unknown PDP context address or PDP context type in 2G service network.
3G-User Auth Failed	The PDP contexts deactivated due to user authentication failure in 3G service network.
2G-User Auth Failed	The PDP contexts deactivated due to user authentication failure in 2G service network.
3G-Actv Rej By Ggsn	The PDP contexts deactivated as PDP context activation rejected by GGSN in 3G service network.
2G-Actv Rej By Ggsn	The PDP contexts deactivated as PDP context activation rejected by GGSN in 2G service network.
3G-Actv Rej Unspecified	The PDP contexts deactivated as PDP context activation rejection was not specified by network in 3G service network.

Field	Description
2G-Actv Rej Unspecified	The PDP contexts deactivated as PDP context activation rejection was not specified by network in 2G service network.
3G-Svc Option Not Supported	The PDP contexts deactivated as service option was not supported in 3G service network.
2G-Svc Option Not Supported	The PDP contexts deactivated as service option was not supported in 2G service network.
3G-Req Svc Option Not Subscribed	The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 3G service network.
2G-Req Svc Option Not Subscribed	The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 2G service network.
3G-Svc Option Tmp Out Of Order	The PDP contexts deactivated as requested service option was temporarily out of order or not available in 3G service network.
2G-Svc Option Tmp Out Of Order	The PDP contexts deactivated as requested service option was temporarily out of order or not available in 2G service network.
3G-Nsapi Already Used	The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 3G service network.
2G-Nsapi Already Used	The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 2G service network.
3G-Regular Deactv	The PDP contexts deactivated due to periodic deactivation in 3G service network.
2G-Regular Deactv	The PDP contexts deactivated due to periodic deactivation in 2G service network.
3G-Qos Not Accepted	The PDP contexts deactivated as requested QoS for session was not accepted by system in 3G service network.
2G-Qos Not Accepted	The PDP contexts deactivated as requested QoS for session was not accepted by system in 2G service network.
3G-Network Failure	The PDP contexts deactivated due to network failure in 3G service network.
2G-Network Failure	The PDP contexts deactivated due to network failure in 2G service network.
3G-Reactv Required	The PDP contexts deactivated as reactivation was required for PDP context in 3G service network.
2G-Reactv Required	The PDP contexts deactivated as reactivation was required for PDP context in 2G service network.
3G-Feature Not Supported	The PDP contexts deactivated as requested feature was not supported in 3G service network.
2G-Feature Not Supported	The PDP contexts deactivated as requested feature was not supported in 2G service network.

Field	Description
3G-Sem Error In The Tft Op	The PDP contexts deactivated due to semantic error in traffic flow template options in 3G service network.
2G-Sem Error In The Tft Op	The PDP contexts deactivated due to semantic error in traffic flow template options in 2G service network.
3G-Synt Error In The Tft Op	The PDP contexts deactivated due to syntax error in traffic flow template options in 3G service network.
2G-Synt Error In The Tft Op	The PDP contexts deactivated due to syntax error in traffic flow template options in 2G service network.
3G-Unknown Ctx	The PDP contexts deactivated due to unknown PDP context in 3G service network.
2G-Unknown Ctx	The PDP contexts deactivated due to unknown PDP context in 2G service network.
3G-Ctx No-Tft Already Activated	The PDP contexts deactivated as no PDP context was available for activated TFT in 3G service network.
2G-Ctx No-Tft Already Activated	The PDP contexts deactivated as no PDP context was available for activated TFT in 2G service network.
3G-M-Cast Grp Membership Time Out	The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 3G service network.
2G-M-Cast Grp Membership Time Out	The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 2G service network.
3G-Sem Errors In Pkt Filter	The PDP contexts deactivated due to semantic error in packet filter in 3G service network.
2G-Sem Errors In Pkt Filter	The PDP contexts deactivated due to semantic error in packet filter in 2G service network.
3G-Synt Errors In Pkt Filter	The PDP contexts deactivated due to syntax error in packet filter in 3G service network.
2G-Synt Errors In Pkt Filter	The PDP contexts deactivated due to syntax error in packet filter in 2G service network.
3G-Invalid Transaction Id Val	The PDP contexts deactivated due to invalid transaction id value in message in 3G service network.
2G-Invalid Transaction Id Val	The PDP contexts deactivated due to invalid transaction id value in message in 2G service network.
3G-Sem Incorrect Msg	The PDP contexts deactivated due to semantically incorrect message in 3G service network.
2G-Sem Incorrect Msg	The PDP contexts deactivated due to semantically incorrect message in 2G service network.
3G-Invalid Mandatory Info	The PDP contexts deactivated due to invalid information in mandatory field of message in 3G service network.

Field	Description
2G-Invalid Mandatory Info	The PDP contexts deactivated due to invalid information in mandatory field of message in 2G service network.
3G-Msg Non Existent	The PDP contexts deactivated due to non-existent type of message received in 3G service network.
2G-Msg Non Existent	The PDP contexts deactivated due to non-existent type of message received in 2G service network.
3G-Ie Non Existent	The PDP contexts deactivated due to non-existent type of information element received in 3G service network.
2G-Ie Non Existent	The PDP contexts deactivated due to non-existent type of information element received in 2G service network.
3G-Conditional Ie Error	The PDP contexts deactivated due to error in conditional information element received in 3G service network.
2G-Conditional Ie Error	The PDP contexts deactivated due to error in conditional information element received in 2G service network.
3G-Proto Err Unspecified	The PDP contexts deactivated due to unspecified protocol error in message received in 3G service network.
2G-Proto Err Unspecified	The PDP contexts deactivated due to unspecified protocol error in message received in 2G service network.
3G-Apn Restr val Incomp With Ctx	The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 3G service network.
2G-Apn Restr val Incomp With Ctx	The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 2G service network.
3G-Msg Not Comp With State	The PDP contexts deactivated due as received message was incompatible with session state in 3G service network.
2G-Msg Not Comp With State	The PDP contexts deactivated due as received message was incompatible with session state in 2G service network.
3G-Recovery On Timer Expiry	The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 3G service network.
2G-Recovery On Timer Expiry	The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 2G service network.
SM Status Messages	This group displays the statistics of the service manager status messages for 2G and 3G service.
Total-SM-Status-Tx	Total number of service manager status messages sent for 2G and 3G service
3G-SM-Status-Tx	Total number of service manager status messages sent for 3G service
2G-SM-Status-Tx	Total number of service manager status messages sent for 2G service

Field	Description
Total-SM-Status-Rx	Total number of service manager status messages received for 2G and 3G service
3G-SM-Status-Rx	Total number of service manager status messages received for 3G service
2G-SM-Status-Rx	Total number of service manager status messages received for 2G service
SM Status Rcvd Causes	This group displays the statistics of session manager status messages received by SGSN.
3G-Barred Due to ODB	The PDP contexts deactivated due to operator determined barring in 3G service network.
2G-Barred Due to ODB	The PDP contexts deactivated due to operator determined barring in 2G service network.
3G-Mbms Cap Insufficient Svc	The PDP contexts deactivated due to insufficient capacity for MBMS service in 3G service network.
2G-Mbms Cap Insufficient Svc	The PDP contexts deactivated due to insufficient capacity for MBMS service in 2G service network.
3G-Llc Or Sndcp Failure GB Mode	The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 3G service network.
2G-Llc Or Sndcp Failure GB Mode	The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 2G service network.
3G-Insufficient Resources	The PDP contexts deactivated due to insufficient resources in 3G service network.
2G-Insufficient Resources	The PDP contexts deactivated due to insufficient resources in 2G service network.
3G-Missing Or Unknown Apn	The PDP contexts deactivated due to unknown or missing APN in 3G service network.
2G-Missing Or Unknown Apn	The PDP contexts deactivated due to unknown or missing APN in 2G service network.
3G-Unknown Pdp Add Or Pdp Type	The PDP contexts deactivated due to unknown PDP context address or PDP context type in 3G service network.
2G-Unknown Pdp Add Or Pdp Type	The PDP contexts deactivated due to unknown PDP context address or PDP context type in 2G service network.
3G-User Auth Failed	The PDP contexts deactivated due to user authentication failure in 3G service network.
2G-User Auth Failed	The PDP contexts deactivated due to user authentication failure in 2G service network.
3G-Actv Rej By Ggsn	The PDP contexts deactivated as PDP context activation rejected by GGSN in 3G service network.
2G-Actv Rej By Ggsn	The PDP contexts deactivated as PDP context activation rejected by GGSN in 2G service network.
3G-Actv Rej Unspecified	The PDP contexts deactivated as PDP context activation rejection was not specified by network in 3G service network.

Field	Description
2G-Actv Rej Unspecified	The PDP contexts deactivated as PDP context activation rejection was not specified by network in 2G service network.
3G-Svc Option Not Supported	The PDP contexts deactivated as service option was not supported in 3G service network.
2G-Svc Option Not Supported	The PDP contexts deactivated as service option was not supported in 2G service network.
3G-Req Svc Option Not Subscribed	The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 3G service network.
2G-Req Svc Option Not Subscribed	The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 2G service network.
3G-Svc Option Tmp Out Of Order	The PDP contexts deactivated as requested service option was temporarily out of order or not available in 3G service network.
2G-Svc Option Tmp Out Of Order	The PDP contexts deactivated as requested service option was temporarily out of order or not available in 2G service network.
3G-Nsapi Already Used	The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 3G service network.
2G-Nsapi Already Used	The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 2G service network.
3G-Regular Deactv	The PDP contexts deactivated due to periodic deactivation in 3G service network.
2G-Regular Deactv	The PDP contexts deactivated due to periodic deactivation in 2G service network.
3G-Qos Not Accepted	The PDP contexts deactivated as requested QoS for session was not accepted by system in 3G service network.
2G-Qos Not Accepted	The PDP contexts deactivated as requested QoS for session was not accepted by system in 2G service network.
3G-Network Failure	The PDP contexts deactivated due to network failure in 3G service network.
2G-Network Failure	The PDP contexts deactivated due to network failure in 2G service network.
3G-Reactv Required	The PDP contexts deactivated as reactivation was required for PDP context in 3G service network.
2G-Reactv Required	The PDP contexts deactivated as reactivation was required for PDP context in 2G service network.
3G-Feature Not Supported	The PDP contexts deactivated as requested feature was not supported in 3G service network.
2G-Feature Not Supported	The PDP contexts deactivated as requested feature was not supported in 2G service network.

Field	Description
3G-Sem Error In The Tft Op	The PDP contexts deactivated due to semantic error in traffic flow template options in 3G service network.
2G-Sem Error In The Tft Op	The PDP contexts deactivated due to semantic error in traffic flow template options in 2G service network.
3G-Synt Error In The Tft Op	The PDP contexts deactivated due to syntax error in traffic flow template options in 3G service network.
2G-Synt Error In The Tft Op	The PDP contexts deactivated due to syntax error in traffic flow template options in 2G service network.
3G-Unknown Ctx	The PDP contexts deactivated due to unknown PDP context in 3G service network.
2G-Unknown Ctx	The PDP contexts deactivated due to unknown PDP context in 2G service network.
3G-Ctx No-Tft Already Activated	The PDP contexts deactivated as no PDP context was available for activated TFT in 3G service network.
2G-Ctx No-Tft Already Activated	The PDP contexts deactivated as no PDP context was available for activated TFT in 2G service network.
3G-M-Cast Grp Membership Time Out	The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 3G service network.
2G-M-Cast Grp Membership Time Out	The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 2G service network.
3G-Sem Errors In Pkt Filter	The PDP contexts deactivated due to semantic error in packet filter in 3G service network.
2G-Sem Errors In Pkt Filter	The PDP contexts deactivated due to semantic error in packet filter in 2G service network.
3G-Synt Errors In Pkt Filter	The PDP contexts deactivated due to syntax error in packet filter in 3G service network.
2G-Synt Errors In Pkt Filter	The PDP contexts deactivated due to syntax error in packet filter in 2G service network.
3G-Invalid Transaction Id Val	The PDP contexts deactivated due to invalid transaction id value in message in 3G service network.
2G-Invalid Transaction Id Val	The PDP contexts deactivated due to invalid transaction id value in message in 2G service network.
3G-Sem Incorrect Msg	The PDP contexts deactivated due to semantically incorrect message in 3G service network.
2G-Sem Incorrect Msg	The PDP contexts deactivated due to semantically incorrect message in 2G service network.
3G-Invalid Mandatory Info	The PDP contexts deactivated due to invalid information in mandatory field of message in 3G service network.

Field	Description
2G-Invalid Mandatory Info	The PDP contexts deactivated due to invalid information in mandatory field of message in 2G service network.
3G-Msg Non Existent	The PDP contexts deactivated due to non-existent type of message received in 3G service network.
2G-Msg Non Existent	The PDP contexts deactivated due to non-existent type of message received in 2G service network.
3G-Msg Type Not Comp With State	The PDP contexts deactivated as message type was not compatible with session state in 3G service network.
2G-Msg Type Not Comp With State	The PDP contexts deactivated as message type was not compatible with session state in 2G service network.
3G-Ie Non Existent	The PDP contexts deactivated due to non-existent type of information element received in 3G service network.
2G-Ie Non Existent	The PDP contexts deactivated due to non-existent type of information element received in 2G service network.
3G-Conditional Ie Error	The PDP contexts deactivated due to error in conditional information element received in 3G service network.
2G-Conditional Ie Error	The PDP contexts deactivated due to error in conditional information element received in 2G service network.
3G-Proto Err Unspecified	The PDP contexts deactivated due to unspecified protocol error in message received in 3G service network.
2G-Proto Err Unspecified	The PDP contexts deactivated due to unspecified protocol error in message received in 2G service network.
3G-Apn Restr val Incomp With Ctx	The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 3G service network.
2G-Apn Restr val Incomp With Ctx	The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 2G service network.
3G-Msg Not Compatible With State	The PDP contexts deactivated due as received message was incompatible with session state in 3G service network.
2G-Msg Not Compatible With State	The PDP contexts deactivated due as received message was incompatible with session state in 2G service network.
3G-Recovery On Timer Expiry	The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 3G service network.
2G-Recovery On Timer Expiry	The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 2G service network.
SM Status Sent Causes	This group displays the statistics of session manager status messages sent by SGSN.

Field	Description
3G-Barred Due to ODB	The PDP contexts deactivated due to operator determined barring in 3G service network.
2G-Barred Due to ODB	The PDP contexts deactivated due to operator determined barring in 2G service network.
3G-Mbms Cap Insufficient Svc	The PDP contexts deactivated due to insufficient capacity for MBMS service in 3G service network.
2G-Mbms Cap Insufficient Svc	The PDP contexts deactivated due to insufficient capacity for MBMS service in 2G service network.
3G-Llc Or Sndcp Failure GB Mode	The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 3G service network.
2G-Llc Or Sndcp Failure GB Mode	The PDP contexts deactivated due to failure of Logical Link Control or Sub Network Dependent Convergence Protocol (SNDCP) on Gb interface in 2G service network.
3G-Insufficient Resources	The PDP contexts deactivated due to insufficient resources in 3G service network.
2G-Insufficient Resources	The PDP contexts deactivated due to insufficient resources in 2G service network.
3G-Missing Or Unknown Apn	The PDP contexts deactivated due to unknown or missing APN in 3G service network.
2G-Missing Or Unknown Apn	The PDP contexts deactivated due to unknown or missing APN in 2G service network.
3G-Unknown Pdp Add Or Pdp Type	The PDP contexts deactivated due to unknown PDP context address or PDP context type in 3G service network.
2G-Unknown Pdp Add Or Pdp Type	The PDP contexts deactivated due to unknown PDP context address or PDP context type in 2G service network.
3G-User Auth Failed	The PDP contexts deactivated due to user authentication failure in 3G service network.
2G-User Auth Failed	The PDP contexts deactivated due to user authentication failure in 2G service network.
3G-Actv Rej By Ggsn	The PDP contexts deactivated as PDP context activation rejected by GGSN in 3G service network.
2G-Actv Rej By Ggsn	The PDP contexts deactivated as PDP context activation rejected by GGSN in 2G service network.
3G-Actv Rej Unspecified	The PDP contexts deactivated as PDP context activation rejection was not specified by network in 3G service network.
2G-Actv Rej Unspecified	The PDP contexts deactivated as PDP context activation rejection was not specified by network in 2G service network.
3G-Svc Option Not Supported	The PDP contexts deactivated as service option was not supported in 3G service network.
2G-Svc Option Not Supported	The PDP contexts deactivated as service option was not supported in 2G service network.

Field	Description
3G-Req Svc Option Not Subscribed	The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 3G service network.
2G-Req Svc Option Not Subscribed	The PDP contexts deactivated as requested service option was not subscribed by respective subscriber in 2G service network.
3G-Svc Option Tmp Out Of Order	The PDP contexts deactivated as requested service option was temporarily out of order or not available in 3G service network.
2G-Svc Option Tmp Out Of Order	The PDP contexts deactivated as requested service option was temporarily out of order or not available in 2G service network.
3G-Nsapi Already Used	The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 3G service network.
2G-Nsapi Already Used	The PDP contexts deactivated as requested Network Service Access Point Identifier (NSAPI) was already used in 2G service network.
3G-Regular Deactv	The PDP contexts deactivated due to periodic deactivation in 3G service network.
2G-Regular Deactv	The PDP contexts deactivated due to periodic deactivation in 2G service network.
3G-Qos Not Accepted	The PDP contexts deactivated as requested QoS for session was not accepted by system in 3G service network.
2G-Qos Not Accepted	The PDP contexts deactivated as requested QoS for session was not accepted by system in 2G service network.
3G-Network Failure	The PDP contexts deactivated due to network failure in 3G service network.
2G-Network Failure	The PDP contexts deactivated due to network failure in 2G service network.
3G-Reactv Required	The PDP contexts deactivated as reactivation was required for PDP context in 3G service network.
2G-Reactv Required	The PDP contexts deactivated as reactivation was required for PDP context in 2G service network.
3G-Feature Not Supported	The PDP contexts deactivated as requested feature was not supported in 3G service network.
2G-Feature Not Supported	The PDP contexts deactivated as requested feature was not supported in 2G service network.
3G-Sem Error In The Tft Op	The PDP contexts deactivated due to semantic error in traffic flow template options in 3G service network.
2G-Sem Error In The Tft Op	The PDP contexts deactivated due to semantic error in traffic flow template options in 2G service network.
3G-Synt Error In The Tft Op	The PDP contexts deactivated due to syntax error in traffic flow template options in 3G service network.

Field	Description
2G-Synt Error In The Tft Op	The PDP contexts deactivated due to syntax error in traffic flow template options in 2G service network.
3G-Unknown Ctx	The PDP contexts deactivated due to unknown PDP context in 3G service network.
2G-Unknown Ctx	The PDP contexts deactivated due to unknown PDP context in 2G service network.
3G-Ctx No-Tft Already Activated	The PDP contexts deactivated as no PDP context was available for activated TFT in 3G service network.
2G-Ctx No-Tft Already Activated	The PDP contexts deactivated as no PDP context was available for activated TFT in 2G service network.
3G-M-Cast Grp Membership Time Out	The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 3G service network.
2G-M-Cast Grp Membership Time Out	The PDP contexts deactivated due to timeout in multicast group membership for particular subscriber in 2G service network.
3G-Sem Errors In Pkt Filter	The PDP contexts deactivated due to semantic error in packet filter in 3G service network.
2G-Sem Errors In Pkt Filter	The PDP contexts deactivated due to semantic error in packet filter in 2G service network.
3G-Synt Errors In Pkt Filter	The PDP contexts deactivated due to syntax error in packet filter in 3G service network.
2G-Synt Errors In Pkt Filter	The PDP contexts deactivated due to syntax error in packet filter in 2G service network.
3G-Invalid Transaction Id Val	The PDP contexts deactivated due to invalid transaction id value in message in 3G service network.
2G-Invalid Transaction Id Val	The PDP contexts deactivated due to invalid transaction id value in message in 2G service network.
3G-Sem Incorrect Msg	The PDP contexts deactivated due to semantically incorrect message in 3G service network.
2G-Sem Incorrect Msg	The PDP contexts deactivated due to semantically incorrect message in 2G service network.
3G-Invalid Mandatory Info	The PDP contexts deactivated due to invalid information in mandatory field of message in 3G service network.
2G-Invalid Mandatory Info	The PDP contexts deactivated due to invalid information in mandatory field of message in 2G service network.
3G-Msg Non Existent	The PDP contexts deactivated due to non-existent type of message received in 3G service network.
2G-Msg Non Existent	The PDP contexts deactivated due to non-existent type of message received in 2G service network.

Field	Description
3G-Msg Type Not Comp With State	The PDP contexts deactivated as message type was not compatible with session state in 3G service network.
2G-Msg Type Not Comp With State	The PDP contexts deactivated as message type was not compatible with session state in 2G service network.
3G-Ie Non Existent	The PDP contexts deactivated due to non-existent type of information element received in 3G service network.
2G-Ie Non Existent	The PDP contexts deactivated due to non-existent type of information element received in 2G service network.
3G-Conditional Ie Error	The PDP contexts deactivated due to error in conditional information element received in 3G service network.
2G-Conditional Ie Error	The PDP contexts deactivated due to error in conditional information element received in 2G service network.
3G-Proto Err Unspecified	The PDP contexts deactivated due to unspecified protocol error in message received in 3G service network.
2G-Proto Err Unspecified	The PDP contexts deactivated due to unspecified protocol error in message received in 2G service network.
3G-Apn Restr val Incomp With Ctx	The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 3G service network.
2G-Apn Restr val Incomp With Ctx	The PDP contexts deactivated due as APN restore value was incompatible with PDP context in 2G service network.
3G-Msg Not Compatible With State	The PDP contexts deactivated due as received message was incompatible with session state in 3G service network.
2G-Msg Not Compatible With State	The PDP contexts deactivated due as received message was incompatible with session state in 2G service network.
3G-Recovery On Timer Expiry	The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 3G service network.
2G-Recovery On Timer Expiry	The PDP contexts deactivated due recovery of context started after expiry of deactivation timer 2G service network.
RNC Initiated RAB Messages	Indicates the statistics of the radio network controller (RNC) initiated radio access bearer (RAB) messages for 2G and 3G service.
Total Rab Mod Requested	Total number of requests for radio access bearer modification initiated by radio network controller.
Num Rab Mod	Total number of RAB modified on requests for modification initiated by radio network controller.
Total Rab Rel Requested	Total number of requests for radio access bearer release initiated by radio network controller.

Field	Description
Num Rab Rel	Total number of RAB modified on requests for release initiated by radio network controller.
SGSN Initiated RAB Messages	Indicates the statistics of the SGSN initiated radio access bearer (RAB) messages for 2G and 3G service.
Total Rab Assign Requested	Total number of SGSN initiated RAB assign requests messages received.
Total Rab Assign Rsp Rcvd	Total number of SGSN initiated RAB assign response messages received.
Rab Setup/Mod Attempted	Total number of SGSN initiated setup and modification attempted for RAB.
Rab Setup/Mod Accepted	Total number of SGSN initiated setup and modification accepted for RAB.
Rab Setup/Mod Timer Expired	Total number of SGSN initiated RAB setup and modification events where procedure timer exhausted.
Rab Setup/Mod Failed	Total number of SGSN initiated RAB setup and modification events failed.
Rab Rel Attempted	Total number of SGSN initiated RAB release procedure attempted.
Rab Rel Accepted	Total number of SGSN initiated RAB release procedure accepted.
Rab Rel Timer Expired	Total number of SGSN initiated RAB release procedure where procedure timer exhausted.
Rab Rel Failed	Total number of SGSN initiated RAB release procedure failed.
Rab Queued	Total number of SGSN initiated RAB messages in queue.
Rab Setup Reattempted (Diff IP)	Total number of SGSN initiated RAB setup reattempted with different IP address.
Total Set/Mod/Rel Rab Rejected	Total number of SGSN initiated RAB setup, modification/release rejected.
RAB Release Reason	This group indicates the statistics of reasons for RAB release.
Pre-Empted RAB Release	Total number of RABs released because SGSN preempted another RAB.
Rab Rel Due to UTRAN	Total number of RAB released due to UTRAN.
UE Radio Connection Lost	Total number of RAB released due to radio connection lost from UE.
Rab Rel Due to Other Reason	Total number of RAB released due to reasons other than listed in this table.
RAB Assignment Denied	This group indicates the statistics of reasons for RAB assignment denial.
Rab Pre Empted	Total number of RAB assignment denied because SGSN preempted another RAB.
Trelocoverall Expiry	Total number of RAB assignment denied because Overall Relocation timer expired.
Trelocprep Expiry	Total number of RAB assignment denied because Relocation Preparation timer expired.
Treloccomplete Expiry	Total number of RAB assignment denied because Relocation Completed timer expired.
Tqueuing Expiry	Total number of RAB assignment denied because Queuing timer expired.

Field	Description
Relocation Triggered	Total number of RAB assignment denied because another relocation procedure triggered.
Unable Establish During Reloc	Total number of RAB assignment denied because RAB failed to establish during relocation as it cannot be supported in the target RNC.
Unknown Target Rnc	Total number of RAB assignment denied because the target RNC is not known to the CN.
Relocation Cancelled	Total number of RAB assignment denied because relocation procedure was cancelled by the UTRAN or the UE.
Successful Relocation	Total number of RAB assignment denied because relocation was completed successfully.
Req Cipher Algo Not Supported	Total number of RAB assignment denied because the UTRAN or the UE is unable to support the requested ciphering and/or integrity protection algorithms.
Conflict Cipher Info	Total number of RAB assignment denied because there was conflict in ciphering information.
Failure In The Radio I/F Proc	Total number of RAB assignment denied because radio interface procedure has failed.
Rel Due To Utran Reason	Total number of RAB assignment denied as RAB release is initiated due to UTRAN generated reason.
User Inactivity	Total number of RAB assignment denied due to user inactivity.
Time Critical Relocation	Total number of RAB assignment denied because relocation is requested for time critical reason.
Req Traffic Class Unavail	Total number of RAB assignment denied because requested traffic class was not available for subscriber or in the RAN.
Invalid Rab Parameters Val	Total number of RAB assignment denied due to invalid value in RAB parameters.
Req Max Bit Rate Unavail	Total number of RAB assignment denied because requested Maximum Bit Rate was not available for downlink or uplink in RAN.
Req Max Bit Rate Dl Unavail	Total number of RAB assignment denied because requested Maximum Bit Rate was not available for downlink in RAN.
Req Max Bit Rate For Ul Unavail	Total number of RAB assignment denied because requested Maximum Bit Rate was not available for uplink in RAN.
Req G-Bit Rate Unavail	Total number of RAB assignment denied because requested Guaranteed Bit Rate was not available for downlink or uplink in RAN.
Req DL G-Bit Rate Unavail	Total number of RAB assignment denied because requested Guaranteed Bit Rate was not available for downlink in RAN.
Req UL G-Bit Rate Unavail	Total number of RAB assignment denied because requested Guaranteed Bit Rate was not available for uplink in RAN.

Field	Description
Req Trans Delay Not Achievable	Total number of RAB assignment denied because requested transfer delay is not achievable.
Invalid Rab Param Combo	Total number of RAB assignment denied due to invalid RAB parameters combination.
Violation For Sdu Parameters	Total number of RAB assignment denied due to condition violation for SDU parameters.
Violation Traffic Hndl Prio	Total number of RAB assignment denied due to condition violation for traffic handling priority.
Violation For G-Bit Rate	Total number of RAB assignment denied due to condition violation for guaranteed bit rate.
User Plane Ver Unsupported	Total number of RAB assignment denied because requested user plane versions were not supported.
Iu Up Failure	Total number of RAB assignment denied due to failure in Iu user plane.
Trelocalloc Expiry	Total number of RAB assignment denied because Relocation Resource Allocation procedure failed due to expiry of the timer TRELOCalloc.
Relocation Failure In T-System	Total number of RAB assignment denied because relocation failed due to a failure in target CN/RNC or target system.
Invalid Rab Id	Total number of RAB assignment denied because the RAB ID is unknown in the RNC.
No Remaining Rab	Total number of RAB assignment denied because no RAB is available.
Interaction With Other Proc	Total number of RAB assignment denied because relocation was cancelled due to interaction with other procedure.
Repeated Integrity Check Fail	Total number of RAB assignment denied due to repeated failure in integrity checking.
Req Type Not Supported	Total number of RAB assignment denied because the RNC is not supporting the requested location report type.
Req Superseded	Total number of RAB assignment denied because there was a second request on the same RAB.
Ue Gen Sig Con Rel	Total number of RAB assignment denied due to due to UE generated signalling connection release
Resource Optimisation Reloc	Total number of RAB assignment denied because relocation was requested due to resource optimisation.
Req Info Unavail	Total number of RAB assignment denied because requested information is not available.
Relocation Due to Radio Reason	Total number of RAB assignment denied because relocation was requested due to radio reason.

Field	Description
Reloc Unsupported In T-Rnc	Total number of RAB assignment denied due to relocation failure as relocation was not supported in target RNC or target system.
Directed Retry	Total number of RAB assignment denied because retry was directed from RNC.
Radio Con With Ue Lost	Total number of RAB assignment denied because radio connection was lost with UE.
Rnc Unable Establish All Rfcs	Total number of RAB assignment denied because RNC couldn't establish all RAB subflow combinations indicated within the RAB Parameters IE.
Deciphering Keys Unavail	Total number of RAB assignment denied because RNC is not able to provide requested deciphering keys.
Dedicated Assist Data Unavail	Total number of RAB assignment denied because RNC is not able to successfully deliver the requested dedicated assistance data to the UE.
Reloc Target Not Allowed	Total number of RAB assignment denied because relocation to the indicated target cell is not allowed for the UE in question.
Location Reporting Congestion	Total number of RAB assignment denied as congestion status reported location report.
Reduce Load In Serving Cell	Total number of RAB assignment denied because system was reducing load in service cell.
No Radio Resources In T-Cell	Total number of RAB assignment denied because radio resource was not available in target cell.
Geran Iu Mode Failure	Total number of RAB assignment denied because the GERAN cannot provide an appropriate RAB due to limited capabilities within GERAN.
Acc Rstrd Due To Shared N/w	Total number of RAB assignment denied because access to target system restricted due to shared networks.
Reloc Unsuported Due Puesbin	Total number of RAB assignment denied as the incoming relocation cannot be accepted by the target RNC because of the Provision of UE Specific Behavior Information to Network Entities (PUESBINE) feature.
Traffic T-Cell > S-Cell	Total number of RAB assignment denied because the target cell's traffic load is higher than that in the source cell.
Mbms No Multicast Svc For Ue	Total number of RAB assignment denied because the UE does not have any active multicast service.
Mbms Unknown Ue Id	Total number of RAB assignment denied because the CN does not know the UE or unknown UE identifier.
Mbms Sess Start No Data	Total number of RAB assignment denied because the MBMS Session Start procedure was successfully performed, but the RNC does not have any interested UE.
Mbms Superseded Due To Nnsf	Total number of RAB assignment denied as the MBMS Session Start procedure was rejected because NAS Node Selection Function (NNSF) towards another CN node.

Field	Description
Mbms Ue Linking Already Done	Total number of RAB assignment denied because the UE has already been linked to the given Multicast service
Mbms Ue De Linking Failure	Total number of RAB assignment denied because the UE had not been linked to the given Multicast service.
Tmgi Unknown	Total number of RAB assignment denied due to requested MBMS action failure because of the indicated Temporary Mobile Group Identity (TMGI) is unknown.
MS Unspecified Failure	Total number of RAB assignment denied due to unspecified failures from UE side.
SRNS Context Transfer Messages	Indicates the statistics of SGSN radio network subsystem context transfer messages.
SRNS Context Req Send	Total number of SGSN radio network subsystem context transfer request messages sent.
SRNS Context Rsp Rcvd	Total number of SGSN radio network subsystem context transfer response messages received.
SRNS Context Req Timer Expired	Total number of events when timer exhausted for SGSN radio network subsystem context transfer request messages.
Total PDP-Ctxt Accepted	Total number of PDP context accepted for SGSN radio network subsystem.
Total PDP-Ctxt Rejected	Total number of PDP context rejected for SGSN radio network subsystem.
SRNS Data Fwd Cmd Send	Total number of SGSN radio network subsystem data forward commands sent.
SRNS Ctxt Req Denied	This group indicates the statistics of reasons for SRNS context request denial.
Rab Pre Empted	Total number of SRNS context request denied because SGSN preempted another RAB.
Trelocoverall Expiry	Total number of SRNS context request denied because Overall Relocation timer expired.
Trelocprep Expiry	Total number of SRNS context request denied because Relocation Preparation timer expired.
Treloccomplete Expiry	Total number of SRNS context request denied because Relocation Completed timer expired.
Tqueuing Expiry	Total number of SRNS context request denied because Queuing timer expired.
Relocation Triggered	Total number of SRNS context request denied because another relocation procedure triggered.
Unable Establish During Reloc	Total number of SRNS context request denied because RAB failed to establish during relocation as it cannot be supported in the target RNC.
Unknown Target Rnc	Total number of SRNS context request denied because the target RNC is not known to the CN.

Field	Description
Relocation Cancelled	Total number of SRNS context request denied because relocation procedure was cancelled by the UTRAN or the UE.
Successful Relocation	Total number of SRNS context request denied because relocation was completed successfully.
Req Cipher Algo Not Supported	Total number of SRNS context request denied because the UTRAN or the UE is unable to support the requested ciphering and/or integrity protection algorithms.
Conflict Cipher Info	Total number of SRNS context request denied because there was conflict in ciphering information.
Failure In The Radio I/F Proc	Total number of SRNS context request denied because radio interface procedure has failed.
Rel Due To Utran Reason	Total number of SRNS context request denied as RAB release is initiated due to UTRAN generated reason.
User Inactivity	Total number of SRNS context request denied due to user inactivity.
Time Critical Relocation	Total number of SRNS context request denied because relocation is requested for time critical reason.
Req Traffic Class Unavail	Total number of SRNS context request denied because requested traffic class was not available for subscriber or in the RAN.
Invalid Rab Parameters Val	Total number of SRNS context request denied due to invalid value in RAB parameters.
Req Max Bit Rate Unavail	Total number of SRNS context request denied because requested Maximum Bit Rate was not available for downlink or uplink in RAN.
Req Max Bit Rate Dl Unavail	Total number of SRNS context request denied because requested Maximum Bit Rate was not available for downlink in RAN.
Req Max Bit Rate For Ul Unavail	Total number of SRNS context request denied because requested Maximum Bit Rate was not available for uplink in RAN.
Req G-Bit Rate Unavail	Total number of SRNS context request denied because requested Guaranteed Bit Rate was not available for downlink or uplink in RAN.
Req DL G-Bit Rate Unavail	Total number of SRNS context request denied because requested Guaranteed Bit Rate was not available for downlink in RAN.
Req UL G-Bit Rate Unavail	Total number of SRNS context request denied because requested Guaranteed Bit Rate was not available for uplink in RAN.
Req Trans Delay Not Achievable	Total number of SRNS context request denied because requested transfer delay is not achievable.
Invalid Rab Param Combo	Total number of SRNS context request denied due to invalid RAB parameters combination.

Field	Description
Violation For Sdu Parameters	Total number of SRNS context request denied due to condition violation for SDU parameters.
Violation Traffic Hndl Prio	Total number of SRNS context request denied due to condition violation for traffic handling priority.
Violation For G-Bit Rate	Total number of SRNS context request denied due to condition violation for guaranteed bit rate.
User Plane Ver Unsupported	Total number of SRNS context request denied because requested user plane versions were not supported.
Iu Up Failure	Total number of SRNS context request denied due to failure in Iu user plane.
Trelocalloc Expiry	Total number of SRNS context request denied because Relocation Resource Allocation procedure failed due to expiry of the timer TRELOCalloc.
Relocation Failure In T-System	Total number of SRNS context request denied because relocation failed due to a failure in target CN/RNC or target system.
Invalid Rab Id	Total number of SRNS context request denied because the RAB ID is unknown in the RNC.
No Remaining Rab	Total number of SRNS context request denied because no RAB is available.
Interaction With Other Proc	Total number of SRNS context request denied because relocation was cancelled due to interaction with other procedure.
Repeated Integrity Check Fail	Total number of SRNS context request denied due to repeated failure in integrity checking.
Req Type Not Supported	Total number of SRNS context request denied because the RNC is not supporting the requested location report type.
Req Superseded	Total number of SRNS context request denied because there was a second request on the same RAB.
Ue Gen Sig Con Rel	Total number of SRNS context request denied due to due to UE generated signalling connection release
Resource Optimisation Reloc	Total number of SRNS context request denied because relocation was requested due to resource optimisation.
Req Info Unavail	Total number of SRNS context request denied because requested information is not available.
Relocation Due to Radio Reason	Total number of SRNS context request denied because relocation was requested due to radio reason.
Reloc Unsupported In T-Rnc	Total number of SRNS context request denied due to relocation failure as relocation was not supported in target RNC or target system.
Directed Retry	Total number of SRNS context request denied because retry was directed from RNC.

Field	Description
Radio Con With Ue Lost	Total number of SRNS context request denied because radio connection was lost with UE.
Rnc Unable Establish All Rfcs	Total number of SRNS context request denied because RNC couldn't establish all RAB subflow combinations indicated within the RAB Parameters IE.
Deciphering Keys Unavail	Total number of SRNS context request denied because RNC is not able to provide requested deciphering keys.
Dedicated Assist Data Unavail	Total number of SRNS context request denied because RNC is not able to successfully deliver the requested dedicated assistance data to the UE.
Reloc Target Not Allowed	Total number of SRNS context request denied because relocation to the indicated target cell is not allowed for the UE in question.
Location Reporting Congestion	Total number of SRNS context request denied as congestion status reported location report.
Reduce Load In Serving Cell	Total number of SRNS context request denied because system was reducing load in service cell.
No Radio Resources In T-Cell	Total number of SRNS context request denied because radio resource was not available in target cell.
Geran Iu Mode Failure	Total number of SRNS context request denied because the GERAN cannot provide an appropriate RAB due to limited capabilities within GERAN.
Acc Rstrd Due To Shared N/w	Total number of SRNS context request denied because access to target system restricted due to shared networks.
Reloc Unsuported Due Puesbin	Total number of SRNS context request denied as the incoming relocation cannot be accepted by the target RNC because of the Provision of UE Specific Behavior Information to Network Entities (PUESBINE) feature.
Traffic T-Cell > S-Cell	Total number of SRNS context request denied because the target cell's traffic load is higher than that in the source cell.
Mbms No Multicast Svc For Ue	Total number of SRNS context request denied because the UE does not have any active multicast service.
Mbms Unknown Ue Id	Total number of SRNS context request denied because the CN does not know the UE or unknown UE identifier.
Mbms Sess Start No Data	Total number of SRNS context request denied because the MBMS Session Start procedure was successfully performed, but the RNC does not have any interested UE.
Mbms Superseded Due To Nnsf	Total number of SRNS context request denied as the MBMS Session Start procedure was rejected because NAS Node Selection Function (NNSF) towards another CN node.
Mbms Ue Linking Already Done	Total number of SRNS context request denied because the UE has already been linked to the given Multicast service

Field	Description
Mbms Ue De Linking Failure	Total number of SRNS context request denied because the UE had not been linked to the given Multicast service.
Tmgi Unknown	Total number of SRNS context request denied due to requested MBMS action failure because of the indicated Temporary Mobile Group Identity (TMGI) is unknown.
MS Unspecified Failure	Total number of SRNS context request denied due to unspecified failures from UE side.
No Response From RNC	Total number of SRNS context request denied due no response from RNC.
Miscellaneous Statistics	This group displays the miscellaneous statistics.
Rnc Overload Statistics	This subgroup displays the RNC overload statistics.
Activate Request Rejected	Indicates the total number of PDP context activation requests rejected due to RNC overload.
Activation droped during hand-off	Indicates the total number of PDP context activation dropped during handoff due to RNC overload.
Ms-Modify-Request Rejected	Indicates the total number of PDP context modify requests from MS rejected due to RNC overload.
N/W-Modify-Request Dropped	Indicates the total number of PDP context modify requests from network side dropped due to RNC overload.
Paging Req (Data) Dropped	Indicates the total number of paging requests from network side dropped due to RNC overload.
2G APN Selection Failure Statistics	
SDL-1	
All Packet Services Barred	**Description**: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - "All Packet Switched Services Barred" setting is present in the Subscription information for the subscriber. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
PDP Type not Present, PDP Address Present	**Description**: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - Activate PDP Context Request has PDP Address without PDP Type. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
PDP Type not Present, APN Present	**Description**: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - Activate PDP Context Request has APN without PDP Type. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis

Field	Description
PDP Type, Address and APN not Present, No Single SubRec	**Description**: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - PDP Type, PDP Address, APN are not present in Activate PDP Context Request and multiple PDP Subscription Records are present for the subscriber. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
SDL-2	
No SubRec matching PDP Type	**Description**: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - No PDP Subscription Records matching PDP Type from Activate PDP Context Request. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
No SubRec matching PDP Type and APN, No Wildcard APN	**Description**: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - No PDP Subscription Record matching PDP Type and APN from Activate PDP Context Request. Also, the subscriber does not have any PDP Subscription record with wildcard APN. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
Multiple SubRecs matching PDP Type and APN, No Dynamic Address	**Description**: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - Multiple PDP Subscription Records exist matching the PDP Type and APN from Activate PDP Context Request, but without dynamic PDP address. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
Multiple SubRecs matching PDP Type and APN, with Dynamic Address	**Description**: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - Multiple PDP Subscription Records exist matching the PDP Type and APN from Activate PDP Context Request, but all with dynamic PDP address. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
SDL-3	
APN not Present	

Field	Description
No Wildcard APN, Multiple SubRecs matching PDP Type	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN not present in Activate PDP Context Request • No PDP Subscription record with wildcard APN and Multiple PDP Subscription Records exist matching the PDP Type **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
Multiple SubRecs with Wildcard APN and same PDP Type	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN not present in Activate PDP Context Request • Multiple PDP Subscription Records with wildcard APN exist matching the PDP Type **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
PDP Address Present	
No SubRec matching PDP Address	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • PDP Address present in Activate PDP Context Request • No PDP Subscription record exist matching the PDP Type and PDP Address **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
Single SubRec matching PDP Address, No APN Match	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • PDP Address present in Activate PDP Context Request • Single PDP Subscription record exist matching the PDP Type and PDP Address, but APN does not match **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis

Field	Description
Multiple SubRecs matching PDP Address, APN not requested	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • PDP Address present in Activate PDP Context Request • Multiple PDP Subscription record exist matching the PDP Type and PDP Address, but APN not present in Activate PDP Context Request **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
Multiple SubRecs matching PDP Address, No APN Match	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • PDP Address present in Activate PDP Context Request • Multiple PDP Subscription record exist matching the PDP Type and PDP Address, but APN does not match **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
SDL-4	
APN sent by MS	
VPLMN User, APN-OI not HPLMN, not VPLMN	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI is neither matching HPLMN nor VPLMN **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
VPLMN User, APN-OI is VPLMN, VPLMN Addr not allowed	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI matches VPLMN, but VPLMN Address is not allowed **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis

Field	Description
VPLMN User, APN-OI is VPLMN, VPLMN AP Barred	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI matches VPLMN, but VPLMN Access Point Access is barred **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
VPLMN User, APN-OI is HPLMN, HPLMN AP Barred	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI matches HPLMN, but HPLMN Access Point Access is barred **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
VPLMN User, No APN-OI, VPLMN Addr not allowed, HPLMN AP Barred	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI is not present • VPLMN Address is not allowed • HPLMN Access Point Access is barred **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
VPLMN User, No APN-OI, VPLMN AP Barred, HPLMN AP Barred	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN present in Activate PDP Context Request • Subscriber is in VPLMN • Requested APN-OI is not present • VPLMN Access Point Access is barred • HPLMN Access Point Access is barred **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis

Field	Description
HPLMN user, APN-OI not HPLMN	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN present in Activate PDP Context Request • Subscriber is in HPLMN • Requested APN-OI doesn't match HPLMN **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
APN from Single Context	
VPLMN Addr not allowed, HPLMN AP Barred	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN selected from Single PDP Subscription Record • VPLMN Address not allowed • HPLMN Access Point Access is barred **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
VPLMN AP Barred, HPLMN AP Barred	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • APN selected from Single PDP Subscription Record • VPLMN Access Point Access is barred • HPLMN Access Point Access is barred **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
SDL-5:	
VPLMN User, VPLMN Addr not allowed	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • Default APN chosen by SGSN • Subscriber in VPLMN and • VPLMN Address not allowed **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis

Field	Description
VPLMN User, VPLMN AP Barred	**Description**: Total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reasons: • Default APN chosen by SGSN • Subscriber in VPLMN • VPLMN Access Point Access is barred **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
No Default APN for PDP Type	**Description**: Total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - No Default APN configured for the PDP Type. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
Internal APN Selection Failures:	
Wildcard APN with Static Address	**Description**: This proprietary counter indicates the total number of 2G Activate Reject(s) sent to MS for the following APN Selection Failure reason - Subscription PDP Record with wildcard APN has static PDP address. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
Unknown PDP Type in Subscribed Record	**Description**: This proprietary counter indicates the total number of 2G Activate Reject(s) sent to MS for the APN Selection Failure reason - matching Subscription PDP Record has unknown PDP Type. **Triggers**: Increments when Activate PDP Reject is sent due to this reason. **Availability**: per Chassis
GPRS SM Dropped Statistics	This group displays the statistics related to GPRS session manager packets dropped.
2G-Deactv-Accept	Total number of Deactivate Accept messages recieved by GPRS session manager on SGSN for 2G service.
2G-Other-SM-Msg	Total number of messages recieved by GPRS session manager on SGSN for 2G services from other session manager.
GPRS PDP FSM Statistics	This group displays the statistics related to GPRS finite state machine states for Primary PDP Context procedures.
Pri Actv Req Rcvd	Total number of Primary PDP Context Activate Request messages received by GPRS session manager on SGSN for GPRS service.
Pri Actv Acc Sent	Total number of Primary PDP Context Activate Request Accept messages sent by GPRS session manager on SGSN for GPRS service.

Field	Description
Pri Actv Rej Sent	Total number of Primary PDP Context Activate Request Reject messages sent by GPRS session manager on SGSN for GPRS service.
Sec Actv Req Rcvd	Total number of Secondary PDP Context Activate Request messages received by GPRS session manager on SGSN for GPRS service.
Sec Actv Acc Sent	Total number of Secondary PDP Context Activate Request Accept messages sent by GPRS session manager on SGSN for GPRS service.
Sec Actv Rej Sent	Total number of Secondary PDP Context Activate Request Reject messages sent by GPRS session manager on SGSN for GPRS service.
Modify Req Rcvd	Total number of PDP Context Modify Request messages received by GPRS session manager on SGSN for GPRS service.
Modify Acc Sent	Total number of PDP Context Modify Request Accept messages sent by GPRS session manager on SGSN for GPRS service.
Modify Rej Sent	Total number of PDP Context Modify Request Reject messages sent by GPRS session manager on SGSN for GPRS service.
Modify Req Sent	Total number of PDP Context Modify Request messages sent by GPRS session manager on SGSN for GPRS service.
Modify Acc Rcvd	Total number of PDP Context Modify Request Accept messages received by GPRS session manager on SGSN for GPRS service.
Deactv Req Rcvd	Total number of PDP Context Deactivate Request messages received by GPRS session manager on SGSN for GPRS service.
Deactv Acc Sent	Total number of PDP Context Deactivate Request Accept messages sent by GPRS session manager on SGSN for GPRS service.
Deactv Req Sent	Total number of PDP Context Deactivate Request messages sent by GPRS session manager on SGSN for GPRS service.
Deactv Acc Rcvd	Total number of PDP Context Deactivate Request messages received by GPRS session manager on SGSN for GPRS service.
SM Status Sent	Total number of messages with GPRS session manager status on SGSN for GPRS service sent by SGSN.
SM Status Rcvd	Total number of messages with GPRS session manager status on SGSN for GPRS service received by SGSN.
3G-Req Rej BCM Violation	Indicates the transmission or receipt of a Modification PDP Context Reject with a Request Rejected, Bearer Control Mode (BCM) Violation Cause code on the S4-SGSN.
2G-Req Rej BCM Violation	Indicates the transmission or receipt of a Modification PDP Context Reject with a Request Rejected, Bearer Control Mode (BCM) Violation Cause code on the S4-SGSN.
No suitable cell in Location Area	This counter is added for the re-direction message, it displays the presenc or absence of suitable cells in the Location Area.

Field	Description
XID Resp Failure	This counter keeps track of the number of attach failures due to the XID response failure for the XID's initiated from SGSN to negotiate IOV-UI value after successful authentication procedure (only if the Random IOV-UI procedure is enabled). Separate counters are added to count the XID faiures during simple attach and combined attach procedures.
Paging Statistics	
Total-CRA-Page-Req-Same-RAT	This counter keeps track of total common RA page requests.
3G-PS-CRA-Page-Req-in-2G	This counter keeps track of common RA RANAP page requests for a 3G subscriber.
Total-CRA-Page-Ret-Same-RAT	This counter keeps track of total common RA page re-transmission requests .
3G-PS-CRA-Page-Ret-Req-in-2G	This counter keeps track of total common RA RANAP page retransmission requests for a 3G subscriber.
Total-CRA-Page-Req-Other-RAT	This counter keeps track of total common RA page requests.
3G-PS-CRA-Page-Req	This counter keeps track of total common RA BSSGP page for a 3G subscriber.
Total-CRA-Page-Ret-Other-RAT	This counter keeps track of total common RA page re-transmission requests
3G-PS-CRA-Page-Ret-Req	This counter keeps track of total common RA page re-transmission requests for a 3G subscriber.
Total-CRA-Page-Rsp-Same-RAT	This counter keeps track of total common RA page responses.
3G-PS-CRA-Page-Rsp	This counter keeps track of total common RA page response for a 3G subscriber.
Total-CRA-Page-Rsp-Other-RAT	This counter keeps track of total common RA page responses.
3G-PS-CRA-Attach-from-2G	This counter keeps track of total common RA attach requests for 3G subscriber.
3G-PS-CRA-RAU-from-2G	This counter keeps track of total common RA RAU requests for 3G subscriber.
3G-PS-CRA-Power-Off-from-2G	This counter keeps track of total common RA Power of requests for 3G subscriber.
Total-CRA-Page-TO-Other-RAT	This counter keeps track of total common RA page requests to other RAT.
3G-PS-CRA-Timeout-in-2G	This counter keeps track of total common RA time outs for a 3G subscriber.
Total-CRA-Page-Stop	This counter keeps track of total common RA stop ongoing page requests for subscribers.
3G-PS-CRA-Page-Stop	This counter keeps track of total common RA stop ongoing page requests for 3G subscribers.
2G-PS-CRA-Page-in-3G	This counter keeps track of common RA BSSGP page requests for a 2G subscriber.
2G-PS-CRA-Page-Ret-Req-in-3G	This counter keeps track of total common RA page re-transmission requests for a 2G subscriber.
2G-PS-CRA-Page-Req	This counter keeps track of common RA BSSGP page requests for a 2G subscriber.

Field	Description
2G-PS-CRA-Page-Rsp	This counter keeps track of total common RA page response for a 2G subscriber.
2G-PS-CRA-Attach-from-3G	This counter keeps track of total common RA attach requests for 2G subscriber.
2G-PS-CRA-RAU-from-3G	This counter keeps track of total common RA RAU requests for 2G subscriber.
2G-PS-CRA-Power-Off-from-3G	This counter keeps track of total common RA Power of requests for 2G subscriber.
2G-PS-CRA-Timeout-in-3G	This counter keeps track of total common RA time outs for a 2G subscriber.
2G-PS-CRA-Page-Stop	This counter keeps track of total common RA stop ongoing page requests for 2G subscribers.
Non Paging Statistics	
3G-CRA-Attach	This counter keeps track of common RA Attach requests for 3G subscribers.
3G-CRA-RAU	This counter keeps track of common RA RAU requests for 3G subscribers.
3G-CRA-Power-Off	This counter keeps track of common RA Power-Off requests for 3G subscribers.
2G-CRA-Attach	This counter keeps track of common RA Attach requests for 2G subscribers.
2G-CRA-RAU	This counter keeps track of common RA RAU requests for 2G subscribers.
2G-CRA-Power-Off	This counter keeps track of common RA Power-Off requests for 2G subscribers.
3G Page Throttling Statistics	
PS-Page-Req sent by RLF	Number of PS Paging Request sent by RLF
Ret-PS-Page-Req sent by RLF	Number of PS Paging Request Retries sent by RLF
PS-Page-Req dropped by RLF	Number of PS Paging Request dropped by RLF
Ret-PS-Page-Req dropped by RLF	Number of PS Paging Request Retries dropped by RLF
PS-Page-Req dropped due to no memory	Number of PS Paging Request dropped due to insufficient memory
2G Page Throttling statistics	
Paging Request sent out by RLF	Number of Total PS Paging Request sent by RLF
Total-Page-Req sent	Total number of Paging requests sent.
Ret-Total-Page-Req sent	Number of Total PS Paging Request Retries sent by RLF
Page-Requests-LA	Number of PS Paging Request at LA level sent by RLF
Ret-Page-Requests-LA	Number of PS Paging Request Retries at LA level sent by RLF
Page-Requests-RA	Number of PS Paging Request at RA level sent by RLF
Ret-Page-Requests-RA	Number of PS Paging Request Retries at RA level sent by RLF

Field	Description
Page-Requests-BSS	Number of PS Paging Request at BSS level sent by RLF
Ret-Page-Requests-BSS	Number of PS Paging Request Retries at BSS level sent by RLF
Page-Requests-Cell	Number of PS Paging Request at Cell level sent by RLF
Ret-Page-Requests-Cell	Number of PS Paging Request Retries at Cell level sent by RLF
Paging Request dropped by RLF	Number of Total PS Paging Request dropped by RLF
Total-Page-Req dropped	Total number of Paging requests dropped.
Ret-Total-Page-Req dropped	Number of Total PS Paging Request Retries dropped by RLF
Page-Requests-LA	Number of PS Paging Request at LA level dropped by RLF
Ret-Page-Requests-LA	Number of PS Paging Request Retries at LA level dropped by RLF
Page-Requests-RA	Number of PS Paging Request at RA level dropped by RLF
Ret-Page-Requests-RA	Number of PS Paging Request Retries at RA level dropped by RLF
Page-Requests-BSS	Number of PS Paging Request at BSS level dropped by RLF
Ret-Page-Requests-BSS	Number of PS Paging Request Retries at BSS level dropped by RLF
Page-Requests-Cell	Number of PS Paging Request at Cell level dropped by RLF
Ret-Page-Requests-Cell	Number of PS Paging Request Retries at Cell level dropped by RLF
PS-Page-Req dropped due to no memory	Number of PS Paging Request dropped due to insufficient memory
Attach Reqs (with LAPI)	Number of 2G Attach Requests received with LAPI
Attach Reqs(without LAPI)	Number of 2G Attach Requests received without LAPI
Attach Cong Rej(LAPI)	Number of 2G Attach Requests with LAPI rejected due to congestion
Attach Cong Rej(non LAPI)	Number of 2G Attach Requests without LAPI rejected due to congestion
Attach APN Cong Reject	Number of 2G Attach Requests rejected due to apn level congestion
RAU Reqs(with LAPI)	Number of 2G RAU Requests received with LAPI
RAU Reqs(without LAPI)	Number of 2G RAU Requests received without LAPI
RAU reject Cong LAPI	Number of 2G ISRAU Requests with LAPI rejected due to congestion
RAU reject Cong non-LAPI	Number of 2G ISRAU Requests without LAPI rejected due to congestion
RAU reject APN based Cong	Number of 2G ISRAU Requests rejected due to apn congestion
Dropped due to congestion	Number of 2G Intra RAU Requests dropped due to congestion

Field	Description
With LAPI	Number of 2G Intra RAU Requests with lapi dropped due to congestion
Without LAPI	Number of 2G Intra RAU Requests without lapi dropped due to congestion
RAU reject Cong LAPI	Number of 2G Intra RAU Requests with lapi rejected due to congestion
RAU reject Cong non-LAPI	Number of 2G Intra RAU Requests without lapi rejected due to congestion
Inter RAT Congestion Reject	Number of Inter RAT RAU Requests rejected due to congestion
Congestion rej with LAPI	Number of Inter RAT RAU Requests with LAPI rejected due to congestion
Congestion rej without LAPI	Number of Inter RAT RAU requests without LAPI rejected due to congestion
Inter GPRS Srv Rau Cong Rej	Number of Inter GPRS Service RAU Request rejected due to congestion
Congestion rej with LAPI	Number of Inter GPRS Service RAU Request with LAPI rejected due to congestion
Congestion rej without LAPI	Number of Inter GPRS Service RAU Request without LAPI rejected due to congestion
Inter RAT Congestion Drop	Number of Inter RAT RAU Requests dropped due to congestion
congestion drop with LAPI	Number of Inter RAT RAU requests with LAPI dropped due to congestion
congestion drop without LAPI	Number of Inter RAT RAU requests without LAPI dropped due to congestion
Inter GPRS Srv Rau Cong Drop	Number of Inter GPRS Service RAU Requests dropped due to congestion
Congestion drop with LAPI	Number of Inter GPRS Service RAU requests with LAPI dropped due to congestion
Congestion drop without LAPI	Number of Inter GPRS Service RAU requests without LAPI dropped due to congestion
3G-Att-Req-with-LAPI	Number of 3G Attach Requests received with LAPI
3G-Att-Req-without-LAPI	Number of 3G Attach Requests received without LAPI
Ret-3G-Req-With-LAPI	Number of 3G Attach Requests retried with LAPI
Ret-3G-Req-Without-LAPI	Number of 3G Attach Requests retried without LAPI
3G-Att-Rej-Cong-With-LAPI	Number of 3G Attach requests with LAPI rejected due to congestion.
3G-Att-Rej-Cong-Without-LAPI	Number of 3G Attach requests rejected without LAPI due to congestion
3G-Att-Rej-APN-Based-Cong	Number of 3G Attach requests rejected due to apn level congestion
3G-RAU-Req-with-LAPI	Number of 3G RAU Requests received with LAPI
3G-RAU-Req-without-LAPI	Number of 3G RAU Requests received without LAPI
Ret-3G-RAU-With-LAPI	Number of 3G RAU Requests with LAPI retried
Ret-3G-RAU-Without-LAPI	Number of 3G RAU Requests without LAPI retried
3G-RAU-Rej-Cong-With-LAPI	Number of 3G RAU requests with LAPI rejected due to congestion

Field	Description
3G-RAU-Rej-Cong-Without-LAPI	Number of 3G RAU requests without LAPI rejected due to congestion
3G-RAU-Rej-APN-Based-Cong	Number of 3G RAU requests rejected due to apn level congestion
3G-Serv-Req-With-LAPI	Number of 3G Service Requests received with LAPI
3G-Serv-Req-Without-LAPI	Number of 3G Service Requests received without LAPI
Ret-3G-Req-With-LAPI	Number of 3G Service Requests with LAPI retried
Ret-3G-Req-Without-LAPI	Number of 3G Service Requests without LAPI retried
3G-Serv-Rej-Cong-With-LAPI	Number of 3G service requests rejected due to congestion with LAPI
3G-Serv-Rej-Cong-Without-LAPI	Number of 3G service requests rejected due to congestion without LAPI
3G-Congestion	Service requests rejected due to congestion.
Congestion(With LAPI)	Number of service requests with LAPI dropped due to congestion
Congestion(non LAPI)	Number of service requests without LAPI dropped due to congestion
Congestion(With LAPI) [under "Routing Area Update Requests Drops:"]	Number of 3G RAU requests with LAPI dropped due to congestion
Congestion(non LAPI) [under "Routing Area Update Requests Drops:"]	Number of 3G RAU requests without LAPI dropped due to congestion
Activated Subscribers 3G Activated Gn Interface	Number of 3G Gn subscribers activated with LAPI
Activated Subscribers 3G Activated Gn Interface	Number of 3G Gn subscribers activated without LAPI
Activated Subscribers 2G Activated Gn Interface	Number of 2G Gn subscribers activated with LAPI
Activated Subscribers 2G Activated Gn Interface	Number of 2G Gn subscribers activated without LAPI
Activated Subscribers 3G Activated S4 Interface	Number of 3G S4 subscribers activated with LAPI
Activated Subscribers 3G Activated S4 Interface	Number of 3G S4 subscribers activated without LAPI
Activated Subscribers 2G Activated S4 Interface	Number of 2G S4 subscribers activated with LAPI
Activated Subscribers 2G Activated S4 Interface	Number of 2G S4 subscribers activated without LAPI

Field	Description
Activate PDP Contexts 3G-Actv Pdp Ctx Gn Interface	Number of 3G Gn Activate PDP Contexts with LAPI
Activate PDP Contexts 3G-Actv Pdp Ctx Gn Interface	Number of 3G Gn Activate PDP Contexts without LAPI
Activate PDP Contexts 2G-Actv Pdp Ctx Gn Interface	Number of 2G Gn Activate PDP Contexts with LAPI
Activate PDP Contexts 2G-Actv Pdp Ctx Gn Interface	Number of 2G Gn Activate PDP Contexts without LAPI
Activate PDP Contexts 3G-Actv Pdp Ctx S4 Interface	Number of 3G S4 Activate PDP Contexts with LAPI
Activate PDP Contexts 3G-Actv Pdp Ctx S4 Interface	Number of 3G S4 Activate PDP Contexts without LAPI
Activate PDP Contexts 2G-Actv Pdp Ctx S4 Interface	Number of 2G S4 Activate PDP Contexts with LAPI
Activate PDP Contexts 2G-Actv Pdp Ctx S4 Interface	Number of 2G S4 Activate PDP Contexts without LAPI
Activate Context Request 3G-Actv-Request	Number of 3G Primary Activation Request Received with LAPI
Activate Context Request 2G-Actv-Request	Number of 2G Primary Activation Request Received with LAPI
Activate Context Request 3G-Secondary-Actv-Request Secondary-Actv-Request	Number of 3G Secondary Activation Request Received with LAPI
Activate Context Request 2G-Secondary-Actv-Request Secondary-Actv-Request	Number of 2G Secondary Activation Request Received with LAPI
Activate Context Reject Primary-Actv-Reject	Number of 3G Primary Activation Reject due to Congestion
Activate Context Reject Primary-Actv-Reject	Number of 3G Primary Activation Reject due to Congestion and LAPI
Activate Context Reject Primary-Actv-Reject	Number of 2G Primary Activation Reject due to Congestion
Activate Context Reject Primary-Actv-Reject	Number of 2G Primary Activation Reject due to Congestion and LAPI
Activate Context Reject Secondary-Actv-Reject	Number of 3G Secondary Activation Reject due to Congestion

Field	Description
Activate Context Reject Secondary-Actv-Reject	Number of 3G Secondary Activation Reject due to Congestion and LAPI
Activate Context Reject Secondary-Actv-Reject	Number of 2G Secondary Activation Reject due to Congestion
Activate Context Reject Secondary-Actv-Reject	Number of 2G Secondary Activation Reject due to Congestion and LAPI
Modify Context Request Modify-Request Rx 3G-Modify-Request Rx	Number of 3G MS Initiated Modify Request Received with LAPI
Modify Context Request Modify-Request Rx 2G-Modify-Request Rx	Number of 2G MS Initiated Modify Request Received with LAPI
Modify Context Reject Modify-Reject Tx	Number of 3G Modify Reject due to congestion
Modify Context Reject Modify-Reject Tx	Number of 3G Modify Reject due to congestion and LAPI
Modify Context Reject Modify-Reject Tx	Number of 2G Modify Reject due to congestion
Modify Context Reject Modify-Reject Tx	Number of 2G Modify Reject due to congestion and LAPI
cur-iu-srv-req-dt-ukn-ptmsi	This counter is incremented every time current access is released due to Service request received in direct transfer with unknown-ptmsi value.
cur-iu-intra-rau-dt-ukn-ptmsi	This counter is incremented every time current access is released due to Local Intra RAU received in direct transfer with unknown-ptmsi value.
Rab-Not-Re-Estd-UL-Data-Stat	This field is added to display the number of RABs not re-established due to absence of NSAPI bit set in the Uplink Data Status IE. This field is also used as a measure to verify the reduction in radio signaling.
3G-Pri-Actv-APN-Not-Sup-Rej	Total number of Primary 3G activate requests rejected due to absence of APN support.
2G-Pri-Actv-APN-Not-Sup-Rej	Total number of Primary 2G activate requests rejected due to absence of APN support.
3G-APN-Not-Supported-in-PLMN-RAT	Indicates if APN is not supported in PLMN-RAT combination in a 3G scenario.
2G-APN-Not-Supported-in-PLMN-RAT	Indicates if APN is not supported in PLMN-RAT combination in a 2G scenario.
APN Not Supported in PLMN RAT combination Statistics	Statistics collected for APN not supported in PLMN RAT combination.
3G-Pdp-Dropped-During-New-SGSN-RAU	Number of 3G PDP contexts dropped due to new SGSN-RAU.
2G-Pdp-Dropped-During-New-SGSN-RAU	Number of 2G PDP contexts dropped due to new SGSN-RAU.

Field	Description
3G-Pdp-Dropped-During-New-SGSN-SRNS	Number of 3G PDP contexts dropped due to new SGSN-SRNS.
Pdp-Dropped-During-3G-To-2G-IRAT	Number of 2G PDP contexts dropped due to new SGSN-SRNS.
3G-Actv-NRPCA-Reject	Number of 3G activate NRPCA requests rejected.
Pdp-Dropped-During-2G-To-3G-IRAT	Number of PDP contexts dropped during 2G to 3G IRAT
APN not sup PLMN-RAT	Statistics collected for APN not supported in PLMN RAT combination.
Inbound Inter node SRNS failure	Number of inbound inter-node SRNS failures.
APN not sup in PLMN/RAT	Statistics collected for APN not supported in PLMN RAT combination.
Inbound Inter-RAU Fallback Statistics	Displays the inbound Inter RAU Fallback statistics.
3G-Inbound Inter SGSN RAU Fallback to GTPV1	This counter displays the number of 3G in-bound ISRAUs for which GTPv2 is restricted and RAU has succeeded over GTPv1. This counter is pegged during 3G in-bound ISRAU, when the S4-SGSN sends EGTP context Ack with failure cause to the peeras the subscriber's call-control profile has **sgsn core-nw-interface gn** configuration and initiates a GTP context request for a subscriber.
Inter-RAU Inbound Fallback to GTPV1	This counter displays the number of 2G in-bound ISRAUs for which GTPv2 is restricted and RAU has succeeded over GTPv1.This counter is pegged during 2G in-bound ISRAU, when the S4-SGSN sends EGTP context ACK with failure cause to the peer as the subscriber's call-control profile has **sgsn core-nw-interface gn** configuration and initiates a GTP context request for a subscriber.



CHAPTER 59

show gprs-service

This chapter includes the **show gprs-service** command output tables.

- show gprs-service all, on page 1139

show gprs-service all

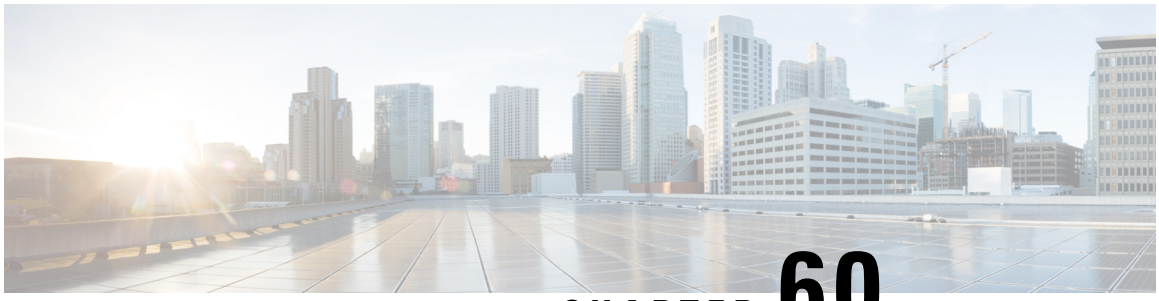
Table 292: show gprs-service all Command Output Descriptions

Field	Description
Service name	The GPRS service name that is running in this session.
Context	Name of the VPN context in which specified GPRS service is running.
Status	Status of the GPRS service for which statistics are displayed.
Accounting Context Name	Name of the accounting context for this GPRS service to enable accounting parameters.
Self PLMN	Name of the PLMN of this GPRS service.
MAP Service	Name of the mobile application part (MAP) service configured in this GPRS service.
HSS Service	The name of the home subscrber service (HSS) associated with this GPRS service.
SGTP Service	Name of the SGSN GTPP (SGTP) service configured in this GPRS service.
EGTP Service	The name of the EGTP service associated with this GPRS service.
CAMEL Service	The name of the CAMEL service associated with this GPRS service.
DSCP Template	The name of the DSCP template to be used for downlink packets with this GPRS service.
GS Serviceq	Name of the Gs service configured in this GPRS service to provide Gs interface support between an SGSN and an MSC/VLR.
SM-T3385 Timeout	The time-out duration in seconds for GPRS session management timer - T3385 on network side for PDP context activation.
SM-T3386 Timeout	The time-out duration in seconds for GPRS session management timer - T3386 on network side for PDP context modification.

Field	Description
SM-T3395 Timeout	The time-out duration in seconds for GPRS session management timer - T3395 on network side for PDP context deactivation.
SM-GUARD Timeout	The time duration, in seconds, after which session manager resources are cleared for this GPRS service.
SM-Max Activate Retries	Total number of retries for PDP context activation from GPRS session manager.
SM-Max Modify Retries	Total number of retries for PDP context modification from GPRS session manager.
SM-Max Deactivate Retries	Total number of retries for PDP context deactivation from GPRS session manager.
SM-Ignore PCO IE Decode Error	Indicates whether the decoding error ignored due to incorrect PCO IE length in SM messages is enabled/disabled.
SM-Trim Trailing Spaces in APN	Indicates whether the removal of any trailing space(s) in requested APN by SGSN is enabled/disabled.
SM-APN Partial match	Indicates whether the partial matching of requested APN during APN selection is enabled/disabled.
SM-APN(R) from First Sub Record	Indicates (enabled) that the selection of the APN from the first subscription record is to be used as the requested APN.
GMM TRAU Timeout	The time duration, in seconds, that the "old" 3G SGSN waits to purge the MSs data. This timer is started by the "old" SGSN after completion of an inter-SGSN RAU.
GMM-T3302 Timeout	The time, in seconds, that the system will wait before initiating a GPRS attach procedure or RAU procedure.
GMM-Mnr Timeout	The time-out duration in seconds for GPRS mobility management timer - Mobile Reachable on network side.
GMM-Purge Timeout	The time-out duration in seconds for GPRS mobility management timer - Purge to hold the detach of MM context on network side.
GMM-T3313 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3313 on network side for paging procedure initiation.
GMM-T3312 Timeout	The periodic routing area update timer delivered by the SGSN to the UE in the Attach Accept and the Routing Area Update Accept messages.
GMM-T3323 Timeout	The amount of time, in minutes, the UE will wait after the Periodic RAU timer (T3312 timer) expiry before deactivating Idle Mode Signaling Reduction.
GMM-T3370 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3370 on network side for identity request procedure.
GMM-Max Identity Retries	Maximum number of retries for identity request procedure from GPRS mobility manager.
GMM-T3360 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3360 on network side for Authentication and Cipher request procedure.

Field	Description
GMM-Max Auth Retries	Maximum number of retries for authentication request procedure from GPRS mobility manager.
GMM LLC Timeout	Configured timeout duration in seconds at the logical link control protocol message procedure from GPRS mobility manager.
GMM LLC PDU Life Time	Configured life time in seconds at the logical link control protocol message procedure from GPRS mobility manager.
GMM-Perform-Identity-After-Auth	Specifies whether "perform identity after authentication" procedure is enabled or not.
GMM Ciphering Algorithm	This group provides the ciphering algorithm configuration in this GPRS service.
Priority*1..3*	Specifies the priority for GPRS Encryption Algorithm (GEA) configured for ciphering in this GPRS service. Possible GPRS encryption algorithms are: gea0: GPRS Encryption Algorithm 0 (GEA0)gea1: GPRS Encryption Algorithm 1 (GEA1)gea2: GPRS Encryption Algorithm 2 (GEA2)gea3: GPRS Encryption Algorithm 3(GEA3)
Accounting cdr-types	Specifies type of accounting CDRs configured in this GPRS service. Possible values are: mcdr: Mobility CDR (M-CDR)scdr: SGSN CDR (S-CDR)sms mo-cdr: SMS Mobile Originated CDR (S-MO-CDR)sms mt-cdr: SMS Mobile Terminated CDR (S-MT-CDR) : Mobile Terminated Location request CDR (LCS-MT-CDR): Mobile Originated Location request CDR (LCS-MO-CDR)
Charging Characteristics(CC) Profiles	This group provides the charging characteristics (CC) profiles configured in this GPRS service
Profile *nn*	Specifies the charging characteristic (CC) profile configured in this SGSN service. *nn* is the number of CC profiles configured in this GPRS service and possible values are 1 through 15.
Buckets	Specifies the charging bucket configured for charging characteristic in this GPRS service
paging-scheme	Specifies the paging scheme configuration information in this GPRS service
max-page-retransmission	Specifies the maximum number of retries configured for paging in this GPRS service
paging-area	Specifies the paging area information in this GPRS service.
last-known-cell	Indicate the last known cell of the subscriber.
last-known-ra	Indicate the last known routing area of the subscriber.
last-known-la	Indicate the last known location area of the subscriber.
last-known-bsc	Indicate the last known base station controller (BSC) of the subscriber.
Network Global MME ID Mgmt DB	Indicates if a network global MME ID management database ID is associated with this GPRS service. This ID is used for GUTI to RAI mapping of networks with LACs for UTRAN and GERAN coverage in the 32768 - 65535 range.

Field	Description
TAI Management Database	Indicates if a Tracking Area Identifier (TAI) Management database is associated with this GPRS service.
MCC/MNC Encoding in DNS for RAI FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RAI FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for RAI FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RAI FQDN in SNAPTR Query .
MCC/MNC Encoding in DNS for APN FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for APN FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for APN FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for APN FQDN in SNAPTR Query.
MCC/MNC Encoding in DNS for RNC FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RNC FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for RNC FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RNC FQDN in SNAPTR Query.
MCC/MNC Encoding in DNS for MMEC FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for MMEC FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for MMEC FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for MMEC FQDN in SNAPTR Query.
MCC/MNC Encoding in DNS for TAI FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for TAI FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for TAI FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for TAI FQDN in SNAPTR Query.
NRI(s) that will be used in NON-POOLED area	Displays the list of NRIs used in the Non-Pooled area.
Gprs NRI value	Displays the NRI value and also indicates the status of offloading for each NRI.
NRI(s) that will be used in POOLED area	Displays the list of NRIs used in the Pooled area.
NRI(s) that will be used in POOLED & NON-POOLED area	Displays the list of NRIs used in the Non-Pooled and Pooled areas.



CHAPTER 60

show gs-service

This chapter includes the **show gs-service** command output tables.

- show gs-service all, on page 1143

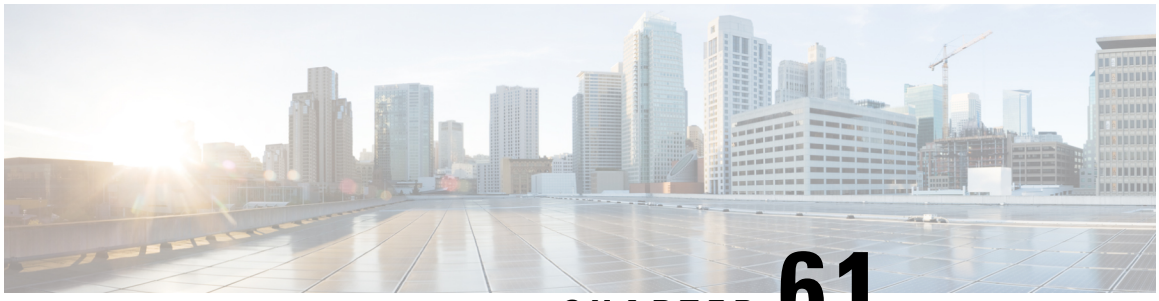
show gs-service all

Table 293: show gs-service all Command Output Descriptions

Field	Description
Service name	The Gs service that is running in this session.
State	Status of the Gs service.
Context	The name of the context in which Gs service is running.
SGSN Number	The E.164 number for the SGSN to associate with the Gs service.
SSN	Indicates the subsystem number configured or not. If configured it indicates SSN.
Self SCCP Network Id	Indicates the SCCP network identifier configured or not. If configured it indicates SSCP network identifier.
T6-1 Timeout	Indicates the retransmission timer (T6-1) value to guard the location update. Default: 10 seconds Range: 10 to 90 seconds
T8 Timeout	Indicates the retransmission timer (T8) value to guard the explicit IMSI detach from the GPRS service procedure. Default: 4 seconds Range: 1 to 30 seconds
T9 Timeout	Indicates the retransmission timer (T9) value to guard the explicit IMSI detach from the non-GPRS service procedure. Default: 4 seconds Range: 1 to 30 seconds

Field	Description
T10 Timeout	Indicates the retransmission timer (T10) value to guard the implicit IMSI detach from the non-GPRS service procedure. Default: 4 seconds Range: 1 to 30 seconds
T12-1 Timeout	Indicates the retransmission timer value (T12-1) in minutes to control the resetting of SGSN-Reset variable procedure. Default: 54 minutes (plus 8 seconds for transmission delay) Range: 0 to 380 minutes
T12-2 Timeout	Indicates the retransmission timer (T10) value to guard the SGSN reset procedure. Default: 4 seconds Range: 1 to 30 seconds
Max N8 Retries	Indicates the maximum retransmission allowed for procedure for explicit IMSI detach message from GPRS service (N8). Default: 2 retries Range: 0 to 10 retries
Max N9 Retries	Indicates the maximum retransmission allowed for procedure for explicit IMSI detach message from non-GPRS service (N9). Default: 2 retries Range: 0 to 10 retries
Max N10 Retries	Indicates the maximum retransmission allowed for procedure for implicit IMSI detach message from non-GPRS service (N10). Default: 2 retries Range: 0 to 10 retries
Max N12 Retries	Indicates the maximum retransmission allowed for N12 procedure for sending BSSAP+ Reset Indication message (N12). Default: 2 retries Range: 0 to 10 retries
GS Service Configurations	
LAC Id	Indicates the subscriber location area code identifier configured in Gs service. Range: 1 through 65535
Pool Type	Type of pool area (non-pool area or pool area) configured in Gs service. Possible values are: • Non Pool Area • Pool Area

Field	Description
Pool Area/ Non Pool Area name	Name of the configured Non-pool area or pool area in Gs service.
Pool Area Configurations	
Pool Area Name	Name of the configured pool area in Gs service.
Default Vlr	Name of the default VLR attached to this pool area.
LAC in Pool Area	Indicates the subscriber location area code identifier configured in this pool area. Range: 1 through 65535
VLR Hash Type	Indicates the type of hash configured for this pool area. Possible values are: • Value • Range
Value / Range	Indicates the value of hash or range of hash.
Vlr Name	Name of the VLR attached to this pool area.
Non-Pool Area Configurations	
Non-Pool Area Name	Name of the configured non-pool area in Gs service.
Vlr Name	Name of the VLR attached to this non-pool area.
LAC in Pool Area	Indicates the subscriber location area code identifier configured in this non-pool area. Range: 1 through 65535
VLR Configurations	
VLR Name	Name of the VLR attached to this Gs service.
ISDN Numbe	Indicates the E.164 ISDN number of configured VLR.
SSN	Indicates the subsystem number configured or not. If configured it indicates SSN.
Point Code	Indicates the configured point code address for VLR in SS7 address format.a
SGSN Reset	Indicates whether SGSN reset function is allowed or not. Possible values are: • TRUE • FALSE



CHAPTER 61

show gtpc

This chapter includes the **show gtpc** command output tables.

- show gtpc counters ggsn-service, on page 1147
- show gtpc full, on page 1149
- show gtpc summary callid, on page 1154
- show gtpc statistics custom1, on page 1156
- show gtpc statistics custom2, on page 1157
- show gtpc statistics verbose, on page 1157

show gtpc counters ggsn-service

Table 294: show gtpc counters ggsn-service Command Output Descriptions

Field	Description
APN Name	The name of the APN that the subscriber is currently accessing.
Callid	The call identification number that uniquely identifies the subscriber.
IMSI	The subscriber's International Mobile Subscriber Identity.
NSAPI	The subscriber's Network Service Access Point Identifier.
Updates PDP Context	
Update PDP Context RX	The total number of Update PDP Context Request messages received from the SGSN(s).
Accepted	The total number of Update PDP Context Response messages transmitted to the SGSN(s) containing a cause value of 128 (80H, Request accepted).
Denied	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s).
Update PDP Context Denied	
System Failure	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 204 (CCH, System failure).

Field	Description
Invalid Message Format	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format).
Semantic Error in TFT	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation).
Syntactic Error in TFT	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation).
Semantic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)).
Mandatory IE Incorrect:	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing).
Syntactic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)).
Optional IE Incorrect	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect).
Updates PDP Context Sent	
Update PDP Context RX	The total number of Update PDP Context Request messages transmitted to the SGSN(s).
Accepted	The total number of Update PDP Context Response messages received from the SGSN(s) containing a cause value of 128 (80H, Request accepted).
Denied	The total number of "reject" Update PDP Context Response messages received from the SGSN(s).
Update Sent Reasons	
IP Address Updated	The total number of Update PDP Context Request messages transmitted to the SGSN(s) because of a change in the IP address of the PDP context.
QoS Updated	The total number of Update PDP Context Request messages transmitted to the SGSN(s) because of a change in the quality of service (QoS) level for the PDP context.
Misc. Reasons	The total number of Update PDP Context Request messages transmitted to the SGSN(s) for other reasons.
Update PDP Context Deny Received	
System Failure	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 204 (CCH, System failure).
Non-existent	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format).

Field	Description
Unsupported Service	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation).
Invalid Message Format	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation).
Semantic Error in TFT	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)).
Syntactic Error in TFT	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect).
Semantic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing).
Mandatory IE Incorrect	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)).
Mandatory IE Missing	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect).
Syntactic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 204 (CCH, System failure).
Optional IE Incorrect	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format).
GTPU Receive	
Total Packets	The total number of GTPU packets received.
Total Bytes	The total number of GTPU bytes received.
GTPU Send	
Total Packets	The total number of GTPU packets transmitted.
Total Bytes	The total number of GTPU bytes transmitted.

show gtpc full

Table 295: show gtpc full Command Output Descriptions

Field	Description
APN Name	The name of the APN that the subscriber is currently accessing.
Callid	The call identification number that uniquely identifies the subscriber.
User Name	The user name associated with this session.

Field	Description
User Address	Is the address of the user's PDP context in dotted decimal notation.
Session Type	Specifies the type of session for MBMS service. Possible values are: • MBMS UE • MBMS Multicast Bearer
Mcast Address	Displays the IP address of Broadcast Multicast service center.
Update MBMS Context RX	Total number of update messages received for MBMS context.
Accepted	Total number of update messages received and accepted for MBMS context
Denied	Total number of update messages received and denied for MBMS context
Discarded	Total number of update messages discarded for MBMS context
IMEI(SV)	Indicates the International Mobile Equipment Identity (and Software Version) (IMEI(SV)) of subscriber's mobile equipment.
IMSI	The subscriber's International Mobile Subscriber Identity.
NSAPI	The subscriber's Network Service Access Point Identifier.
GGSN Service	Specifies the name of a configured GGSN service that can be from 1 to 63 alpha and/or numeric characters and is case sensitive.
SGSN Address	Specifies the IP address for the SGSN.
MBMS Session Start	This group specifies the statistics of messages for MBMS session start.
MBMS Session Start TX	Total number of messages sent for MBMS session start.
Accepted	Total number of messages accepted for MBMS session start.
Denied	Total number of messages denied for MBMS session start.
MBMS Session Start Denied	This group specifies the statistics of reasons for denial of MBMS session.
No Resources	Total number of MBMS session start messages denied due to non-availability of resources.
No Memory	Total number of MBMS session start messages denied due to non-availability of memory.
System Failure	Total number of MBMS session start messages denied due to system failure.
Non-existent	Total number of MBMS session start messages denied due to non-existence of MBMS context.
Invalid Message Format	Total number of MBMS session start messages denied due to invalid message format.
Mandatory IE Incorrect	Total number of MBMS session start messages denied as mandatory information element was incorrect.

Field	Description
Mandatory IE Missing	Total number of MBMS session start messages denied as mandatory information element was missing.
Bearer Ctxt Superseded	Total number of MBMS session start messages denied as beaer context get superseded by information in message.
MBMS Session Stop	This group specifies the statistics of messages for MBMS session stop.
MBMS Session Stop TX	Total number of messages sent for MBMS session stop.
Accepted	Total number of messages accepted for MBMS session stop.
Denied	Total number of messages denied for MBMS session stop.
Charging ID	Contains an identifier used for correlating charging records and events.
Charging Characteristics Statistics	Hot - The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "1", representing "hot" billing. Normal - The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "8", representing "normal" billing. Prepaid - The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "4", representing "prepaid billing. Flat - The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "2", representing "flat-rate" billing.
User Location Info Type	Indicates the type of User Location Information, Cell Global Identification (CGI) or Service Area Identity (SAI) of where the user currently is registered or available.
User Location Info	Indicates the information of User location, CGI or SAI.
MS TimeZone	The Time Zone MS is sending in the CPC/UPC message.
Daylight Saving Time	The number of hours the MS TimeZone is adjusted for Daylight Savings Time
CAMEL Charging Info	Indicates whether or not CAMEL charging information was received.
Length	The length of the CAMELInformationPDP IE
Payload Compression	Indicates whether payload compression is allowed or prohibited.
Transitions to Presv. Mode	Indicates total number sessions in transitions state for preservation mode. Note: This is a customer specific counter and dependent of customer specific license only.
Transitions to LORC state	Indicates total number sessions in transitions state for overcharging protection support mode. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.

Field	Description
GTP-U Tunnel Establishment	Indicates if the particular session is using direct tunnel or not. Possible values are: • Normal • Pending • Direct-Tunnel Status "Pending" means that GGSN is switching from direct-tunnel to two tunnels for the particular session. "Normal" status indicates that particular context is not using Direct Tunnel.
Updates PDP Context	
Update PDP Context RX	The total number of Update PDP Context Request messages received from the SGSN(s).
Accepted	The total number of Update PDP Context Response messages transmitted to the SGSN(s) containing a cause value of 128 (80H, Request accepted).
Denied	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s).
Update PDP Context Denied	
System Failure	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 204 (CCH, System failure).
Invalid Message Format	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format).
Semantic Error in TFT	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation).
Syntactic Error in TFT	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation).
Semantic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)).
Mandatory IE Incorrect:	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing).
Syntactic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)).
Optional IE Incorrect	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect).
Updates PDP Context Sent	
Update PDP Context TX	The total number of Update PDP Context Request messages transmitted to the SGSN(s).

Field	Description
Accepted	The total number of Update PDP Context Response messages received from the SGSN(s) containing a cause value of 128 (80H, Request accepted).
Denied	The total number of "reject" Update PDP Context Response messages received from the SGSN(s).
Update PDP Context Deny Received	
System Failure	The total number of "reject" Update PDP Context Response messages received with a cause code of 204 (CCH, System failure).
Non-existent	The total number of "reject" Update PDP Context Response messages received with a cause code of 192 (C0H, Non-existent).
Invalid Message Format	The total number of "reject" Update PDP Context Response messages received with a cause code of 193 (C1H, Invalid message format).
Semantic Error in TFT	The total number of "reject" Update PDP Context Response messages received with a cause code of 215 (D7H, Semantic error in the TFT operation).
Syntactic Error in TFT	The total number of "reject" Update PDP Context Response messages received with a cause code of 216 (D8H, Syntactic error in the TFT operation).
Semantic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages received with a cause code of 217 (D9H, Semantic error in packet filter(s).
Mandatory IE Incorrect:	The total number of "reject" Update PDP Context Response messages received with a cause code of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of "reject" Update PDP Context Response messages received with a cause code of 202 (CAH, Mandatory IE missing).
Syntactic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages received with a cause code of 218 (DAH, Syntactic error in packet filter(s)).
Optional IE Incorrect	The total number of "reject" Update PDP Context Response messages received with a cause code of 203 (CBH, Optional IE incorrect).
GTPU Receive	
Total Packets	The total number of GTP User (GTPU) packets received.
Traffic Class	
Conversational	The number of GTPU packets received tagged with a traffic class of Conversational.
Streaming	The number of GTPU packets received tagged with a traffic class of Streaming.
Interactive 1	The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 1.
Interactive 2	The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 2.

Field	Description
Interactive 3	The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 3,
Background	The number of GTPU packets received tagged with a traffic class of Background.
GTPU Send	
Total Packets	The total number of GTP User (GTPU) packets transmitted.
Traffic Class	
Conversational	The number of GTPU packets transmitted tagged with a traffic class of Conversational.
Streaming	The number of GTPU packets transmitted tagged with a traffic class of Streaming.
Interactive 1	The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 1.
Interactive 2	The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 2.
Interactive 3	The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 3,
Background	The number of GTPU packets transmitted tagged with a traffic class of Background.

show gtpc summary callid

Table 296: show gtpc summary callid Command Output Descriptions

Field	Description
GTP Summary	Displays a brief status for GTP.
Update PDP Context RX	Displays the total number of Update PDP Context Request messages received.
Accepted	Displays the number of Update PDP Context Request messages received that were accepted.
Denied	Displays the number of Update PDP Context Request messages received that were denied.
Update PDP Context TX	Displays the total number of Update PDP Context Request messages transmitted.
Accepted	Displays the number of Update PDP Context Request messages received that were transmitted.
Denied	Displays the number of Update PDP Context Request messages received that were transmitted.
IP Address Updates	Displays the number of times the IP address was updated.

Field	Description
QoS Updates	Displays the number of times the quality of service (QoS) level was changed.
Misc. Updates	Displays the number of updates experienced.
Qos negotiation	
CPC Qos Accepted	The number of times QoS parameters received in Create PDP Context (CPC) Request messages were accepted.
CPC Qos Downgrade	The number of times QoS parameters received in Create PDP Context (CPC) Request messages were downgraded.
UPC Qos Accepted	The number of times QoS parameters received in Update PDP Context (UPC) Request messages were accepted.
UPC Qos Downgraded	The number of times QoS parameters received in Update PDP Context (UPC) Request messages were downgraded.
GTPU Receive	
Total Packets	The total number of GTP User (GTPU) packets received.
Traffic Class	
Conversational	The number of GTPU packets received tagged with a traffic class of Conversational.
Streaming	The number of GTPU packets received tagged with a traffic class of Streaming.
Interactive 1	The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 1.
Interactive 2	The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 2.
Interactive 3	The number of GTPU packets received tagged with a traffic class of Interactive and a priority of 3,
Background	The number of GTPU packets received tagged with a traffic class of Background.
GTPU Send	
Total Packets	The total number of GTP User (GTPU) packets transmitted.
Traffic Class	
Conversational	The number of GTPU packets transmitted tagged with a traffic class of Conversational.
Streaming	The number of GTPU packets transmitted tagged with a traffic class of Streaming.
Interactive 1	The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 1.
Interactive 2	The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 2.

Field	Description
Interactive 3	The number of GTPU packets transmitted tagged with a traffic class of Interactive and a priority of 3,
Background	The number of GTPU packets transmitted tagged with a traffic class of Background.

show gtpc statistics custom1



Important These statistics are specific to Free-of-Charge service (FoCS) and Operator Determined Barring (ODB) support using private GTP-C extensions and enabled under customer-specific license. For more information on this support, contact your local representative.

Table 297: show gtpc statistics custom1 Command Output Descriptions

Field	Description
Preservation Mode stats	Displays the statistics of GTP-C messages in preservation mode.
Sessions in preservation mode	Indicates total number sessions in preservation mode.
Transitions to preservation mode	Indicates total number sessions in transitions state from non-preservation mode to preservation mode.
Transitions to non-preservation mode	Indicates total number sessions in transitions state from preservation mode to non-preservation mode.
Free Of Charge Service stats	Displays the statistics of GTP-C messages for Free-of-Charge services.
Session stats	Indicates sessions statistics for FOCS and/or ODB enabled sessions.
FOCS	Indicates the total number of sessions Free-of-Charge services (FOCS) enabled status.
ODB	Indicates the total number of sessions with Operator Determined Barring enabled status.
Sessions release stats	Indicates the statistics for sessions, in preservation mode of using FOCS and/or ODB, released due to any reason
Other-reasons	Indicates the total number of sessions, in preservation mode of using FOCS and/or ODB, released due to reasons not specified in this table.
in-acl-disconnect-on-violation	Indicates the total number of sessions, in preservation mode of using FOCS and/or ODB, released due to ACL rule violation.

show gtpc statistics custom2

Important These statistics are specific to private GTP-C extensions for overcharging protection on loss of radio coverage for a subscriber. For more information on this support, contact your local representative.

Table 298: show gtpc statistics custom2 Command Output Descriptions

Field	Description
LORC Stats	This group indicates the status of loss of radio coverage extensions in GTP-C messages configured for overcharging protection.
Sessions in lorc state	Indicates the number of GGSN session are in LORC state and subscriber is in out of radio coverage area. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.
Transitions to lorc state	Indicates total number sessions in transitions state for overcharging protection support mode. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.

show gtpc statistics verbose

Table 299: show gtpc statistics verbose Command Output Descriptions

Field	Description
Session Stats	
Total Current	The total number of PDP contexts currently being facilitated by the system.
S6b Assume Positive	The number of S6b assumed positive subscriber count being facilitated by the system.
IPv4	The number of IPv4 PDP contexts currently being facilitated by the system.
PPP	The number of PPP PDP contexts currently being facilitated by the system.
IPv4 Emergency	The number of non-emergency IPv4 calls.
Auth IMSI	The number of authorized IMSIs by SGSN (i.e. valid subscription).
UnAuth IMSI	The number of authentic IMSIs but NOT verified by SGSN.

Field	Description
Only IMEI	The IMSIs that have not been provided by the SGSN and the session is based on IMEI.
IPv6	The number of IPv6 PDP contexts currently being facilitated by the system.
Network Initiated	The number of PDP contexts currently being facilitated by the system that were activated using the NRPA procedure.
IPv6 Emergency	The number of non-emergency IPv6 calls.
Auth IMSI	The number of authorized IMSIs by SGSN (i.e. valid subscription).
UnAuth IMSI	The number of authentic IMSIs but NOT verified by SGSN.
Only IMEI	The IMSIs that have not been provided by the SGSN and the session is based on IMEI.
IPv4v6	The number of IPv4v6 PDP contexts currently being facilitated by the system.
MBMS UE	Total number of MBMS UE context connected.
MBMS Mcast Bearer	Total number of MBMS multicast bearer context connected.
MBMS Bcast Bearer	Total number of MBMS broadcast bearer context connected.
Total Setup	The total number of PDP contexts that have been facilitated by the system since it was either powered up or since the statistics were last cleared -whichever is latest.
IPv4	The total number of IPv4 PDP contexts that have been facilitated by the system.
PPP	The total number of PPP PDP contexts that have been facilitated by the system.
IPv4 Emergency	The total number of non-emergency IPv4 calls.
Auth IMSI	The number of authorized IMSIs by SGSN (i.e. valid subscription).
UnAuth IMSI	The number of authentic IMSIs but NOT verified by SGSN.
Only IMEI	The IMSIs that have not been provided by the SGSN and the session is based on IMEI.
IPv6	The total number of IPv6 PDP contexts that have been facilitated by the system.
SGSN Initiated	The total number of SGSN-initiated PDP contexts that have been facilitated by the system
IPv6 Emergency	The number of non-emergency IPv6 calls.
Auth IMSI	The number of authorized IMSIs by SGSN (i.e. valid subscription).
UnAuth IMSI	The number of authentic IMSIs but NOT verified by SGSN.
Only IMEI	The IMSIs that have not been provided by the SGSN and the session is based on IMEI.
IPv4v6	The number of IPv4v6 PDP contexts currently being facilitated by the system.
Network Initiated	The number of IPv4v6 PDP contexts currently being facilitated by the system that were activated using the NRPA procedure.

Field	Description
MBMS UE	Total number of MBMS UE context connected.
MBMS Mcast Bearer	Total number of MBMS multicast bearer context connected.
MBMS Bcast Bearer	Total number of MBMS broadcast bearer context connected.
Total Released	The total number of PDP contexts that have been released by the system.
Dynamic Address Allocation	
IPv4 Attempt	The total number of IPv4 sessions attempted with dynamic PDP address allocation.
Successful	The total number of IPv4 sessions successfully established with dynamic PDP address allocation.
IPv6 Attempt	The total number of IPv6 sessions attempted with dynamic PDP address allocation.
Successful	The total number of IPv6 sessions successfully established with dynamic PDP address allocation.
IP Authentication	
CHAP Auth Attempt	The total number PDP contexts that attempted CHAP authentication.
Successful	The total number PDP contexts that were successfully authenticated using CHAP.
Failure	The total number PDP contexts that failed authentication attempting to use CHAP.
PAP Auth Attempt	The total number PDP contexts that attempted PAP authentication.
Successful	The total number PDP contexts that were successfully authenticated using PAP.
Failure	The total number PDP contexts that failed authentication attempting to use PAP.
No Auth Requests	The total number PDP contexts that did not have authentication enabled.
Session Release Reasons	
SGSN Initiated	The total number of PDP contexts that have been released due to the receipt of a Delete PDP Context message from the SGSN(s).
Secondary Teardown	The total number of PDP contexts that have been released due to the termination of a secondary context (for example, a teardown flag was set in Delete PDP Context message received or a teardown happened due to the context replacement case).
Session Mgr. Died	The total number of PDP contexts that have been released due to the termination of the Session Manager task that was facilitating the contexts.
Admin Releases	The total number of PDP contexts that have been released due by the system administrator (for example, issuing the **clear subscriber** command, or stopping the GGSN service).
APN Removed	The total number of PDP contexts that have been released due to the removal of the APN configuration from the system.

Field	Description
Call Aborted	The total number of PDP contexts that have been released due to miscellaneous reasons such as the removal of a source or destination context on the system, etc.
Idle Timeout	The total number of PDP contexts that have been released due to the expiration of the idle timeout period as configured in the APN configuration mode.
Absolute Timeout	The total number of PDP contexts that have been released due to the expiration of the absolute timeout period as configured in the APN configuration mode.
Source Addr Violation	The total number of PDP contexts that have been released due to the detection of a source violation.
Flow Addition Failure	The total number of PDP contexts that have been released due to the system's failure to add a flow.
DHCP Renewal Failure	The total number of PDP contexts that have been released due to a DHCP lease renewal failure.
Long Duration Timeout	The total number of PDP contexts that have been released due to the expiration of the long duration timeout period.
Error Indication	The total number of PDP contexts that have been released due to an error indication.
Context replacement	The total number of PDP contexts that have been released due to a context replacement.
Other Reasons	The total number of PDP contexts that have been released due to other reasons.
Purged via Audit	The total number requests that were purged during Session Manager recovery. If the GTPCMgr did not get an audit request for a particular session, then it is released by GTPCMgr.
Update Handoff Reject	The total number of PDP contexts that have been released due to the receipt of a reject message during an update handoff.
LP Fallback Timeout	The total number of IP CAN sessions that have been released due to local policy timeout.
Total Path Failures	The total number of PDP contexts that have been released due to SGSN path failures detected by the system.
SGSN Restart	
Create PDP Req	The total number of PDP contexts that have been released due to path failures detected after sending a Create PDP Context Request message.
Update PDP Req	The total number of PDP contexts that have been released due to path failures detected after sending a Update PDP Context Request message.
Echo Response	The total number of PDP contexts that have been released due to path failures detected after sending an Echo Response message.
Timeout	
GTPC Echo Timeout	

Field	Description
GTPU Echo Timeout	
GGSN Req Timeout	
Path Management Messages	
Echo Request RX	The total number of Echo Requests received from SGSN(s).
Echo Response TX	The total number of Echo Responses sent to SGSN(s) in response to Echo Requests.
Echo Request TX	The total number of Echo Requests sent to the SGSN(s).
Echo Response RX	The total number of Echo Responses received from SGSN(s) in response to Echo Requests.
GTP-U Echo Request RX	The total number of GTPU Echo Requests received from SGSN(s).
GTP-U Echo Response TX	The total number of GTPU Echo Responses sent to SGSN(s) in response to GTPU Echo Requests.
GTP-U Echo Request TX	The total number of GTPU Echo Requests sent to the SGSN(s).
GTP-U Echo Response RX	The total number of GTPU Echo Responses received from SGSN(s) in response to GTPU Echo Requests.
Version Not Supported	
RX	The total number of Version Not Supported messages received.
TX	The total number of Version Not Supported messages transmitted.
Supported Ext. Headers Notif	
RX	The total number of supported extension headers notifications received.
TX	The total number of supported extension headers notifications transmitted.
Tunnel Management Messages	
Total CPC Req	The total number of Create PDP Context Request messages received. This is the sum of GTPC v0 and GTP v1 messages.
CPC Req(V1)	The total number of Create PDP Context Request messages received that used GTPC version 1.
CPC Req(V0)	The total number of Create PDP Context Request messages received that used GTPC version 0.
Primary CPC Req	The total number of Activate Primary PDP Context Request received.
Secondary CPC Req	The total number of Activate Secondary PDP Context Request received
Initial CPC Req	The total number of non-retransmitted Create PDP Context Requests for the primary PDP context.

Field	Description
Retransmitted	The total number of re-transmitted Create PDP Context Request messages received for either the primary or secondary PDP contexts.
Total Accepted	The total number of Create PDP Context Response messages transmitted containing a cause value of 128 (80H, Request accepted).
Total Denied	The total number of "reject" Create PDP Context Response messages transmitted.
Total Discarded	The total number of Create PDP Context Request messages received from the SGSN(s) that were discarded.
Update PDP Context RX	The total number of Update PDP Context Request messages received from the SGSN(s).
Accepted	The total number of Update PDP Context Response messages transmitted to the SGSN(s) containing a cause value of 128 (80H, Request accepted).
Denied	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s).
Update PDP Context TX	The total number of Update PDP Context Request messages transmitted to the SGSN(s).
Accepted	The total number of Update PDP Context Response messages received from the SGSN(s) containing a cause value of 128 (80H, Request accepted).
Denied	The total number of "reject" Update PDP Context Response messages received from the SGSN(s).
Delete PDP Context RX	The total number of Delete PDP Context Request messages received from the SGSN(s).
Accepted	The total number of Delete PDP Context Response messages transmitted containing a cause value of 128 (80H, Request accepted).
Denied	The total number of "reject" Delete PDP Context Response messages transmitted.
Discarded	The total number of Delete PDP Context Request messages received from the SGSN(s) that were discarded
Delete PDP Context TX	The total number of Delete PDP Context Request messages transmitted to the SGSN(s).
Accepted	The total number of Delete PDP Context Response messages received from the SGSN(s) containing a cause value of 128 (80H, Request accepted).
Denied	The total number of "reject" Delete PDP Context Response messages received from the SGSN(s).
Error Indication RX	The total number of error indication messages received from the SGSN(s).
Error Indication TX	The total number of error indication messages transmitted to the SGSN(s).
PDU Notification	The total number of PDU notifications sent by GGSN as a part of the NRPA procedure.
Accepted	The total number of accepted PDU notifications sent by GGSN as a part of the NRPA procedure.

Field	Description
Denied	The total number of rejected PDU notifications sent by GGSN as a part of the NRPA procedure.
PDU Notificatn Reject	The total number of PDU Notification Rejects that were received.
Accepted	The total number of PDU Notification Rejects that were received and accepted.
Denied	The total number of PDU Notification Rejects that were received and rejected.
Discarded	The total number of PDU Notification Rejects that were received and discarded.
GTP-U Tunnel Establishment with RNC	
Direct Tunnels Established	Indicates the number of times direct tunnels established between GGSN and RNC as instructed by SGSN in Update PDP Context Request.
Direct Tunnels torn down by SGSNs	Indicates the total number of times direct tunnels between GGSN and RNC are removed as instructed by SGSN in Update PDP Context Request.
Direct Tunnels that received Error Indication	Indicates the total number of Direct Tunnels that have received GTP Error Indication from RNC. This statistic counts GTP Error Indication only once per Direct Tunnel.
Update PDP Tx Reasons	
QoS Change	The number of Update PDP Context Request messages were sent when the GGSN requested the QoS Profile information to the SGSN.
Providing PDP address	The providing PDP address that is sent to the SGSN.
Direct Tunnel Flags update	Indicates the number of Update PDP Context Requests going out of GGSN towards SGSN with direct tunnel flags IE.
Update PDP Context Rx Reasons	
SGSN Handoff	The total number SGSN handoffs that have been completed for which PDP context updated.
SGSN Group Handoff	The total number handoffs between SGSN groups that have been completed for which PDP context updated.
Create PDP Context Denied	
No Resources	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 199 (C7H, No resources available). **NOTE:** Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the **Create PDP Denied - No Resource Reasons** of this table.

Field	Description
No Memory	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 212 (D4H, No memory is available). **NOTE:** Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the **Create PDP Denied - No Memory** of this table.
All Dyn Addr Occupied	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 211 (D3H, All dynamic PDP addresses are occupied). **NOTE:** Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the **Create PDP Denied - Dynamic Address Occupied** of this table.
User Auth Failed	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (D1H, User authentication failed). **NOTE:** Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the **Create PDP Denied - Auth Failure Reasons** section of this table.
Unknown/Missing APN	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 219 (DBH, Missing or unknown APN).
System Failure	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 204 (CCH, System failure). **NOTE:** Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the **Create PDP Denied - System Failure Reasons** section of this table.
Unknown PDP Addr/Type	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 220 (DCH, Unknown PDP address or PDP type). **NOTE:** Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the **Create PDP Denied - Unknown PDP Addr or Type** section of this table.
Unsupported Version	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 198 (C6H, version not supported).
Semantic Error in TFT	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation).
Syntactic Error in TFT	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation).
Semantic Error in Packet Filter	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)).

Field	Description
Mandatory IE Incorrect	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect). **NOTE:** Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the **Create PDP Denied - Mandatory IE Incorrect** section of this table.
Mandatory IE Missing	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing).
Syntactic Error in Packet Filter	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)).
Optional IE Incorrect	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect). **NOTE:** Statistics that further detail the reasons for rejecting a Create PDP Context Request with this reason are located in the **Create PDP Denied - Optional IE Incorrect** section of this table.
Invalid Message Format	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format).
Context Not Found	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 210 (D2H, Context not found).
Service not Supported	The total number of "reject" Create PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 200 (C8H, Service not supported).
APN restriction Incompatibility	
No APN Subscription	Indicates that the GGSN has denied the user access to an APN because a subscription is required, but the subscriber does not have the necessary subscription.
Create PDP Denied - No Resource Reasons	
PLMN Policy Reject	The PLMN policy configured for the GGSN service processing the request is configured to reject the SGSN's requests.
New Call Policy Reject	The system is configured with a newcall policy to reject new sessions.
APN/Svc Capacity	The APN being accessed is currently facilitating the maximum number of PDP contexts specified in its configuration (refer to the **max-contexts** command in the APN configuration mode).
Input-Q Exceeded	The queue size between demux-mgr and session managers has been exceeded due to pending requests.
No Session Manager	No Session Manager task is available to process the request.
Session Manager Dead	The Session Manager Task assigned to the PDP context was terminated.
Secondary For PPP	A secondary request for PPP was received.

Field	Description
Other Reasons	Other reasons not listed here.
Session Mgr Retried	Multiple Session Manager Tasks were unable to accept the request.
Session Mgr Not Ready	The Session Manager Task assigned to the PDP context was not ready to accept the request.
Session Setup Timeout	The total number of Create PDP Context (CPC) reject due to session setup timeout
Charging Svc Auth Fail	Authorization with the charging service failed.
APN Reject Policy	
ICSR State Invalid	Indicates that the Create PDP request was denied because the interchassis session recovery state is invalid.
DHCP IP Address Not Present	DHCP-assigned IP addresses were not available for assignment to the PDP Context.
Radius IP Validation Failed	RADIUS IP validation failed.
S6B IP Validation Failed	
Congestion Policy Applied	The system entered a state resulting in the invocation of a GGSN service "reject" congestion policy.
Exceeded secondary-pdp-context limit per-subscriber	
GTP-v0 IP address allocation/validation failed	IP address allocation or validation failed.
Mediation Delay GTP Response Accounting Start failed:	The number of call setup failures due to Accounting Start failures with delay GTP response feature enabled.
Create PDP Denied - Auth Failure Reasons	
Authentication Failed	The total number of requests rejected due to incorrect username/password.
AAA Auth Req Failed	The total number of requests rejected due to authentication failure requests.
APN selection-mode mismatch	The total number of requests rejected due to a conflicting configuration of the Selection Mode in the Create PDP Context request and the APN.
Non-Existent Virtual APN	The request is rejected due to an invalid APN.
Reject Foreign Subscriber	
IMS Authorization Fail	
Create PDP Denied - No Memory	
No More AAA Sessions	The total number of requests rejected due to the system not having AAA session handles available.

Field	Description
Misc. Reasons	The total number of requests rejected due to the system not being able to allocate the memory required for processing the request.
Create PDP Denied - Unknown PDP Addr or Type	
Invalid IP Address	The total number of requests rejected due to the receipt of an invalid IP address (i.e. 0.0.0.0) from the SGSN.
Conflict IP Address	The total number of requests rejected due to a conflict between the IP addresses provided by the MS and RADIUS servers.
Static Address Not Present	The total number of requests rejected due to the MS not having a static address when the system is configured with an IP address allocation method of static.
Static Address Not Allowed	The total number of requests rejected due to the system's IP address allocation method being configured for static, but the Create PDP Context Request message requests dynamic allocation.
Static IP Validation Failed	The total number of requests rejected due to the validation failure of the static IP address offered by the MS.
Local Pool Static Address Not Allowed	The total number of requests rejected due to the MS offering a static IP address that is not configured in a pool on the system.
DHCP IP Validation Failed	The total number of requests rejected due to the validation failure of the IP address allocated by DHCP.
DHCP Relay Static Address Not Allowed	The total number of requests rejected due to the IP address being present in the call but the system not being configured to accept statically assigned addresses for DHCP relay.
DHCP Proxy Static Address Not Allowed	The total number of requests rejected due to the IP address being present in the call but the system not being configured to accept statically assigned addresses for DHCP proxy.
DHCP Local Pool Static Address Not Allowed	The total number of requests rejected due to the IP address being present in the call but the system not being configured to accept statically assigned addresses for DHCP local pool.
DHCP Client Static Address Not Allowed	The total number of requests rejected due to the IP address being present in the call but the system not being configured to accept statically assigned addresses for DHCP client.
PDP Type Mismatch or Unknown PDP Type	The total number of requests rejected due to an unknown PDP type or a PDP type that does not match with the one configured for the APN using the **pdp-type** command.
Create PDP Denied - Dynamic Address Occupied	
DHCP No IP Address Alloc	The total number of requests rejected due to a failure in DHCP IP address allocation.
DHCP Timer Notification	The total number of requests rejected due to an expiration of the system's DHCP timer prior to the receipt of a reply from the DHCP server resulting in a failure to allocate an IP address.
Local IP Validation Failed	The total number of requests rejected due to an IP address validation failure.

Field	Description
Local IP Pool All Address Occupied	The total number of requests that are occupied due to an IP address is occupied.
Create PDP Denied - System Failure Reasons	
Misc. Reasons	The total number of requests rejected due to miscellaneous reasons.
Create PDP Denied - Mandatory IE Incorrect	
NSAPI	The total number of requests rejected due to an invalid NSAPI.
Create PDP Denied - Optional IE Incorrect	
Private Extention	The total number of requests rejected due to incorrect optional information elements in the request such as private extensions.
Create PDP Discard Reasons	
No Session	The total number of requests discarded due to no session being found for the secondary context request.
No Memory	The total number of requests discarded due to no memory being available on the system to allocate for the request.
Malformed Message	The total number of requests discarded due to the request being poorly formed.
Invalid Ctrl TEID	The total number of requests discarded due to an invalid control TEID in the request.
Internal Bounce Error	The total number of requests discarded due to a bounce in an internal system message.
Misc. Reasons	The total number of requests discarded due to miscellaneous reasons.
Version Not Supported	The total number of requests discarded due to the request using an unsupported version.
Congestion Policy Applied	The system entered a state resulting in the invocation of a GGSN service "drop" congestion policy.
ICSR State Invalid	Indicates that the Create PDP request was denied because the interchassis session recovery state is invalid.
Update PDP Context Denied	
No Resources	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 199 (C7H, No resources available).
No Memory	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 212 (D4H, No memory is available).
System Failure	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 204 (CCH, System failure).
Non-existent	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 192 (C0H, Non-existent).

Field	Description
Unsupported Service	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 200 (C8H, Service not supported).
Invalid Message Format	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format).
Semantic Error in TFT	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation).
Syntactic Error in TFT	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation).
Semantic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)).
Mandatory IE Incorrect	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing).
Syntactic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)).
Optional IE Incorrect	The total number of "reject" Update PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect).
Update PDP Context Deny Received	
No Resources	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 199 (C7H, No resources available).
No Memory	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 212 (D4H, No memory is available).
System Failure	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 204 (CCH, System failure).
Non-existent	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 192 (C0H, Non-existent).
Unsupported Service	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 200 (C8H, Service not supported).
Invalid Message Format	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format).
Semantic Error in TFT	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 215 (D7H, Semantic error in the TFT operation).
Syntactic Error in TFT	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 216 (D8H, Syntactic error in the TFT operation).

Field	Description
Semantic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 217 (D9H, Semantic error in packet filter(s)).
Mandatory IE Incorrect	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing).
Syntactic Error in Packet Filter	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 218 (DAH, Syntactic error in packet filter(s)).
Optional IE Incorrect	The total number of "reject" Update PDP Context Response messages received from the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect).
Delete PDP Context Denied	
Mandatory IE Incorrect	The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing).
Optional IE Incorrect	The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect).
Invalid Message Format	The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format).
Non-existent	The total number of "reject" Delete PDP Context Response messages transmitted to the SGSN(s) sent with a cause code of 192 (C0H, Non-existent).
Delete PDP Context Discard Reasons	
No Memory	The total number of "reject" Delete PDP Context Response messages received from the SGSN and discarded due to no memory being available to process the request.
Pacing Queue Exceeded	The total number of "reject" Delete PDP Context Response messages received from the SGSN and discarded due to there being too many requests pending in the Session Manager Task's Pacing Queue.
Recovery Session Fail	The total number of "reject" Delete PDP Context Response messages received from the SGSN and discarded due to the recovery of a demux-manager resulting in its inability to queue the request for processing.
ICSR State Invalid	Indicates that the delete PDP request was denied because the interchassis session recovery state is invalid.
Delete PDP Context Deny Received	
Mandatory IE Incorrect	The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 201 (C9H, Mandatory IE incorrect).

Field	Description
Mandatory IE Missing	The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 202 (CAH, Mandatory IE missing).
Optional IE Incorrect	The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 203 (CBH, Optional IE incorrect).
Invalid Message Format	The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 193 (C1H, Invalid message format).
Non-existent	The total number of "reject" Delete PDP Context Response messages received from the SGSN(s) sent with a cause code of 192 (C0H, Non-existent).
Location Management Messages	
Send Routeing Info	The total number of Send Routeing Info Request messages sent by the GGSN to the SGSN(s).
Accepted	The total number of Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were accepted.
Denied	The total number of Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied.
Failure Report	The total number of Failure Report messages sent by the GGSN to the SGSN(s).
Accepted	The total number of Failure Report messages sent by the GGSN to the SGSN(s) that were accepted.
Denied	The total number of Failure Report messages sent by the GGSN to the SGSN(s) that were denied.
Note MS GPRS Present	The total number of Note to MS GPRS Present Request messages sent by the GGSN to the SGSN(s).
Accepted	The total number of Note to MS GPRS Present Request messages sent by the GGSN to the SGSN(s) that were accepted.
Denied	The total number of Note to MS GPRS Present Request messages sent by the GGSN to the SGSN(s) that were denied.
Discarded	The total number of Note to MS GPRS Present Request messages sent by the GGSN to the SGSN(s) that were discarded.
Send Routing Information Request Failure Causes	
No Resources Available	The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 199 (C7H, No resources available).
Service Not Supported	The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 200 (C8H, Service not supported).
System Failure	The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 204 (CCH, System failure).

Field	Description
Mandatory IE Incorrect	The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 202 (CAH, Mandatory IE missing).
Optional IE Incorrect	The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 203 (CBH, Optional IE incorrect).
Invalid Message Format	The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied with a cause code of 193 (C1H, Invalid message format).
No Proxy Found	The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied because no proxy MAP configuration was located for the NRPA procedure.
Proxy Not Reachable	The total number of Note to Send Routeing Info Request messages sent by the GGSN to the SGSN(s) that were denied because the configured MAP proxy is unreachable (i.e. not responding to SRI requests).
Send Routing Information Failure MAP Causes	
Subscriber Absent	The total number of Send Routeing Info Request responses received with a failure MAP cause of subscriber absent.
System Failure	The total number of Send Routeing Info Request responses received with a failure MAP cause of system failure.
Data Missing	The total number of Send Routeing Info Request responses received with a failure MAP cause of data missing.
Unexpected Data	The total number of Send Routeing Info Request responses received with a failure MAP cause of unexpected data.
Unknown Subscriber	The total number of Send Routeing Info Request responses received with a failure MAP cause of unknown subscriber.
Facility Not Supported	The total number of Send Routeing Info Request responses received with a failure MAP cause of facility not supported.
Unauthorized Network	The total number of Send Routeing Info Request responses received with a failure MAP cause of unauthorized network.
Call Barred	
Note MS GPRS Present Request Failure Causes:	
Mandatory IE Incorrect	
Mandatory IE Missing	
PDU Notification Failure Causes	

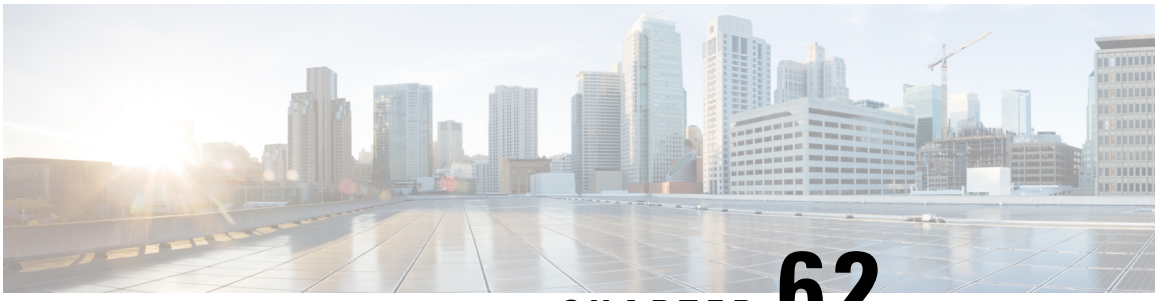
Field	Description
Unsupported Service	The total number of PDU Notification responses received with a failure cause code of 200 (C8H, Service not supported).
System Failure	The total number of PDU Notification responses received with a failure cause code of 204 (CCH, System failure).
MS GPRS Detached	The total number of PDU Notification responses received with a failure cause code of 195 (C3H, MS is GPRS Detached).
GPRS Cnxn Suspended	The total number of PDU Notification responses received with a failure cause code of 207 (CFH, GPRS connection suspended).
Mandatory IE Incorrect	The total number of PDU Notification responses received with a failure cause code of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of PDU Notification responses received with a failure cause code of 202 (CAH, Mandatory IE incorrect).
Optional IE Incorrect	The total number of PDU Notification responses received with a failure cause code of 203 (CBH, Optional IE incorrect).
Invalid Message Format	The total number of PDU Notification responses received with a failure cause code of 193 (C1H, Invalid message format).
Unknown IMSI	The total number of PDU Notification responses received with a failure cause code of 194 (C2H, IMSI not known).
Roaming Restriction	
No Resources	The total number of PDU Notification responses received with a failure cause code of 199 (C7H, No resources available).
PDU Notification Reject Causes	
MS Not GPRS Responding	The total number of PDU Notification responses received with a reject cause code of 196 (C4H, MS is not GPRS Responding).
MS Refuses	The total number of PDU Notification responses received with a reject cause code of 197 (C5H, MS Refuses).
Mandatory IE Incorrect	The total number of PDU Notification responses received with a reject cause code of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of PDU Notification responses received with a reject cause code of 202 (CAH, Mandatory IE incorrect).
Optional IE Incorrect	The total number of PDU Notification responses received with a reject cause code of 203 (CBH, Optional IE incorrect).
Invalid Message Format	The total number of PDU Notification responses received with a reject cause code of 193 (C1H, Invalid message format).
MS Info Change Reporting Messages:	

Field	Description
MS Info Chng Notif Req	
Accepted	
Denied	
Discarded	
MS Info Change Reporting Message Failure Causes:	
Invalid Message Format	
Unknown IMSI	
Mandatory IE Incorrect	
Mandatory IE Missing	
Optional IE Incorrect	
System Failure	
Qos QCI Stats	
QCI 1	
CPC QoS Accepted	The number of QoS requests with QCI 1 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading.
CPC QoS Downgraded	The number of QoS requests with qci1 coming from CPC were downgraded.
UPC QoS Accepted	The number of QoS requests with qci1 coming from Update PDP Context (UPC) were accepted as it is without any downgrading.
UPC QoS Downgraded	The number of QoS requests with qci1 coming from UPC were downgraded.
QCI 2	
CPC QoS Accepted	The number of QoS requests with qci 2 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading.
CPC QoS Downgraded	The number of QoS requests with qci2 coming from CPC were downgraded.
UPC QoS Accepted	The number of QoS requests with qci 2 coming from Update PDP Context (UPC) were accepted as it is without any downgrading.
UPC QoS Downgraded	The number of QoS requests with qci 2 coming from UPC were downgraded.
QCI 3	
CPC QoS Accepted	The number of QoS requests with qci 3 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading.
CPC QoS Downgraded	The number of QoS requests with qci 3 coming from CPC were downgraded.

Field	Description
UPC QoS Accepted	The number of QoS requests with qci 3 coming from Update PDP Context (UPC) were accepted as it is without any downgrading.
UPC QoS Downgraded	The number of QoS requests with qci 3 coming from UPC were downgraded.
QCI 4	
CPC QoS Accepted	The number of QoS requests with qci 4 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading.
CPC QoS Downgraded	The number of QoS requests with qci 4 coming from CPC were downgraded.
UPC QoS Accepted	The number of QoS requests with qci 4 coming from Update PDP Context (UPC) were accepted as it is without any downgrading.
UPC QoS Downgraded	The number of QoS requests with qci 4 coming from UPC were downgraded.
QCI 5	
CPC QoS Accepted	The number of QoS requests with qci 5 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading.
CPC QoS Downgraded	The number of QoS requests with qci 5 coming from CPC were downgraded.
UPC QoS Accepted	The number of QoS requests with qci 5 coming from Update PDP Context (UPC) were accepted as it is without any downgrading.
UPC QoS Downgraded	The number of QoS requests with qci 5 coming from UPC were downgraded.
QCI 6	
CPC QoS Accepted	The number of QoS requests with qci 6 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading.
CPC QoS Downgraded	The number of QoS requests with qci 6 coming from CPC were downgraded.
UPC QoS Accepted	The number of QoS requests with qci 6 coming from Update PDP Context (UPC) were accepted as it is without any downgrading.
UPC QoS Downgraded	The number of QoS requests with qci 6 coming from UPC were downgraded.
QCI 7	
CPC QoS Accepted	The number of QoS requests with qci 7 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading.
CPC QoS Downgraded	The number of QoS requests with qci 7 coming from CPC were downgraded.
UPC QoS Accepted	The number of QoS requests with qci 7 coming from Update PDP Context (UPC) were accepted as it is without any downgrading.
UPC QoS Downgraded	The number of QoS requests with qci 7 coming from UPC were downgraded.
QCI 8	

Field	Description
CPC QoS Accepted	The number of QoS requests with qci 8 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading.
CPC QoS Downgraded	The number of QoS requests with qci 8 coming from CPC were downgraded.
UPC QoS Accepted	The number of QoS requests with qci 8 coming from Update PDP Context (UPC) were accepted as it is without any downgrading.
UPC QoS Downgraded	The number of QoS requests with qci 8 coming from UPC were downgraded.
QCI 9	
CPC QoS Accepted	The number of QoS requests with qci 9 coming from Create PDP Context (CPC) were accepted, as as it is without downgrading.
CPC QoS Downgraded	The number of QoS requests with qci 9 coming from CPC were downgraded.
UPC QoS Accepted	The number of QoS requests with qci 9 coming from Update PDP Context (UPC) were accepted as it is without any downgrading.
UPC QoS Downgraded	The number of QoS requests with qci 9 coming from UPC were downgraded.
GTPC Receive	
Total Packets	The total number of GTPC packets received.
Total Bytes	The total number of GTPC bytes received.
GTPC Send	
Total Packets	The total number of GTPC packets transmitted.
Total Bytes	The total number of GTPC bytes transmitted.
GTPC Outgoing Throttling:	
Total Messages Rate Limited	
Total Messages Rate Limited No Delay	
Total Messages Queued	
Total Messages Aborted From Queue	
Total Messages Throttled	
Prioritized APN/ARP Statistics:	
CPC Req allowed under APN prioritization	
CPC Req allowed under ARP prioritization	

Field	Description
GTPC Incoming Throttling:	
Total Messages Rate Limited	
Total Messages Scheduled	
Total Messages Currently Queued	
Total Messages Dropped From Queue	
Total Messages Throttled	



CHAPTER 62

show gtpc-load-control-profile full all

• show gtpc-load-control-profile full all, on page 1179

show gtpc-load-control-profile full all

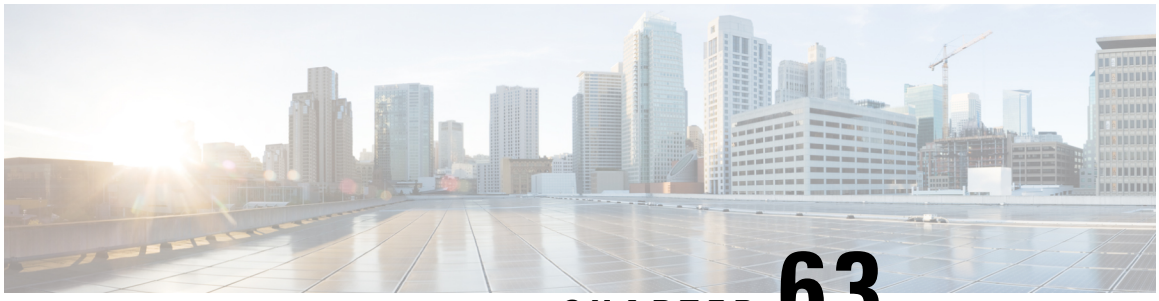
This chapter includes the output of the **show gtpc-load-control-profile full all** command.

Table 300: show gtpc-load-control-profile full all Command Output Descriptions

Field	Description
GTP-C Load Control Profile Name	The name of this configured Load Control Profile. A string of 1 to 64 alphanumeric characters.
Weightage	
System CPU Utilization Weightage	The weightage, as a percentage of 100, configured for system CPU utilization for this Load Control Profile.
System Memory Utilization Weightage	The weightage, as a percentage of 100, configured for memory utilization for this Load Control Profile.
License Session Utilization Weightage	The weightage, as a percentage of 100, configured for license session utilization for this Load Control Profile.
Inclusion Frequency	
Change Factor	The change factor, as a percentage of 1 to 20, configured for this Load Control Profile.
Advertisement Interval	The configured advertisement-interval for this Load Control Profile. Valid entries are from 0 to 3600 seconds. The default is 300 seconds.
Load control information Handling	
Homer	Indicates if load control information handling is enabled for the home PLMN.
Visitor	Indicates if load control information handling is enabled for the visited PLMN.

show gtpc-load-control-profile full all

Field	Description
Load control information Publishing	
Homer:	Indicates if load control information publishing is enabled for the home PLMN.
Visitor	Indicates if load control information publishing is enabled for the visited PLMN.
Load Threshold	
Threshold	The load threshold setting configured for this node.



CHAPTER 63

show gtpc-overload-control-profile full all

• show gtpc-overload-control-profile full all, on page 1181

show gtpc-overload-control-profile full all

This chapter includes the show gtpc-overload-control-profile full all command output table.

Table 301: show gtpc-overload-control-profile full all Command Output Descriptions

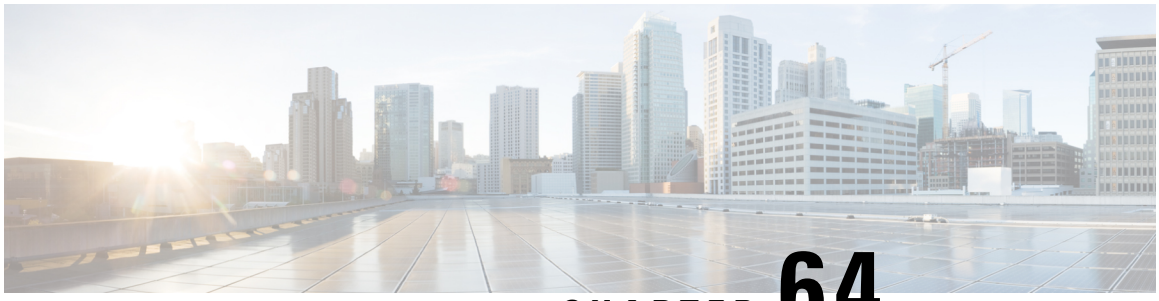
Field	Description
Weightage	
System CPU Utilization Weightage	The weightage, as a percentage of 100, configured for system CPU utilization for this Overload Control Profile.
System Memory Utilization Weightage	The weightage, as a percentage of 100, configured for memory utilization for this Overload Control Profile.
License Session Utilization Weightage	The weightage, as a percentage of 100, configured for license session utilization for this Overload Control Profile.
Tolerance	
Report Reduction Metric	The configured report reduction metric, as a percentage of 100, configured for this Overload Control Profile.
Self Protection Limit	The configured self-protection limit, as a percentage of 100, configured for this Overload Control Profile.
Initial-Reduction-Metric	The initial reduction metric, as a percentage of 100, configured for this Overload Control Profile.
Inclusion Frequency	
Change Factor	The change factor, as a factor of 1 to 20, configured for this Load Control Profile.
Advertisement Interval	The configured advertisement-interval for this Load Control Profile. Valid entries are from 0 to 3600 seconds. The default is 300 seconds.

show gtpc-overload-control-profile full all

Field	Description
Validity Period	The configured validity period, configured for this Overload Control Profile, after which the overload control information will no longer be valid.
Throttling Profile	
Exclude Emergency Events	Indicates if excluding the emergency events from throttling due to the peer's overload reduction metric is enabled or disabled for this Overload Control Profile. n/a indicates that Exclude Emergency Events is disabled.
Exclude EARP	Indicates which messages with earp (one or more of messages 1-15) are configured to be excluded from throttling for this Overload Control Profile. n/a indicates that Exclude EARP is disabled.
Self-Protection Behavior	
Exclude EARP	Indicates if self-protection-behavior is configured for up to three EARP values. This setting configures the node so that incoming request messages for the configured evolved ARP priority values are not rejected even if the system is under self-protection mode. n/a indicates that self-protection behavior is disabled for EARP(s).
Exclude APN	Indicates if self-protection-behavior is configured for up to three APNs. n/a indicates that self-protection behavior is disabled for APN(s).
Overload control information Handling	
Homer:	Indicates if the handling of overload control information for the home PLMN is enabled or disabled.
Visitor:	Indicates if the handling of overload control information for the visited PLMN is enabled or disabled.
Overload control information Publishing	
Homer:	Indicates if the publishing of overload control information for the home PLMN is enabled or disabled.
Visitor:	Indicates if the publishing of overload control information for the visited PLMN is enabled or disabled.
Message Prioritization	
Group1	Indicates the message prioritization, as a percentage of 100, configured for the following group of messages (group1): • Update Bearer Request message for default bearer generated from P-GW ingress • Update Bearer Request message for dedicated bearer generated from P-GW ingress • Handoff Create Session Request message generated from ePDG egress. The default setting is 60%.

Field	Description
Group2	Indicates the message prioritization, as a percentage of 100, configured for the following group of messages (group2): • Create Bearer Request message for default bearer generated from P-GW ingress • PDN connection requested Create Session Request message from ePDG egress The default setting is 40%.

show gtpc-overload-control-profile full all



CHAPTER 64

show gtpp

This chapter includes the **show gtpp** command output tables.

- show gtpp accounting servers, on page 1185
- show gtpp counters all, on page 1186
- show gtpp group, on page 1191
- show gtpp statistics, on page 1198
- show gtpp statistics group , on page 1204
- show gtpp statistics cgf-address, on page 1204
- show gtpp group name default, on page 1210
- show gtpp storage-server statistics, on page 1210
- show gtpp storage-server counters, on page 1218
- show gtpp storage-server local file counters, on page 1218
- show gtpp storage-server local file statistics, on page 1218
- show gtpp storage-server status, on page 1219
- show gtpp storage-server streaming file statistics, on page 1221
- show gtpp storage-server streaming file statistics verbose, on page 1222
- show gtpp storage-server streaming file counters all, on page 1223

show gtpp accounting servers

Table 302: show gtpp accounting servers Command Output Descriptions

Field	Description
Context Name	The name of the system context in which the CGF is configured.
Primary Accounting server address	The IP address of the CGF.
port	The TCP port over which GTPP messaging is performed.
priority	The configured priority of the CGF.
State	The status of the CGF as Active or Inactive.
Group	The GTPP server group name in which this server is configured.

show gtpp counters all

Table 303: show gtpp counters all Command Output Descriptions

Field	Description
Outstanding GCDRs	The current total number of G-CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding GCDRs	The total number of G-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived GCDRs	The current total number of G-CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
GCDRs buffered with AAAPROXY	The current total number of G-CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
GCDRs buffered with AAAMGR	The current total number of G-CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding eGCDRs	The current total number of eG-CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding eGCDRs	The total number of eG-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived eGCDRs	The current total number of eG-CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
eGCDRs buffered with AAAPROXY	The current total number of eG-CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
eGCDRs buffered with AAAMGR	The current total number of eG-CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding MCDRs	The current total number of M-CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding MCDRs	The total number of M-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"

Field	Description
Archived MCDRs	The current total number of M-CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
MCDRs buffered with AAAPROXY	The current total number of M-CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
MCDRs buffered with AAAMGR	The current total number of M-CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding PGWGCDRs	The current total number of PGW G-CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding PGWGCDRs	The total number of PGW G-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived PGWGCDRs	The current total number of PGW G-CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
PGWGCDRs buffered with AAAPROXY	The current total number of PGW G-CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
PGWGCDRs buffered with AAAMGR	The current total number of PGW G-CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding SCDRs	The current total number of S-CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding SCDRs	The total number of S-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived SCDRs	The current total number of S-CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
SCDRs buffered with AAAPROXY	The current total number of S-CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
SCDRs buffered with AAAMGR	The current total number of S-CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.

Field	Description
Outstanding S-SMO-CDRs	The current total number of S-SMO-CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding S-SMO-CDRs	The total number of S-SMO-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived S-SMO-CDRs	The current total number of S-SMO-CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
S-SMO-CDRs buffered with AAAPROXY	The current total number of S-SMO-CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
S-SMO-CDRs buffered with AAAMGR	The current total number of S-SMO-CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding S-SMT-CDRs	The current total number of S-SMT-CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding S-SMT-CDRs	The total number of S-SMT-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived S-SMT-CDRs	The current total number of S-SMT-CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
S-SMT-CDRs buffered with AAAPROXY	The current total number of S-SMT-CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
S-SMT-CDRs buffered with AAAMGR	The current total number of S-SMT-CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding LCS-MT-CDRs	The current total number of LCS-MT-CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding LCS-MT-CDRs	The total number of LCS-MT-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived LCS-MT-CDRs	The current total number of LCS-MT-CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
LCS-MT-CDRs buffered with AAAPROXY	The current total number of LCS-MT-CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.

Field	Description
LCS-MT-CDRs buffered with AAAMGR	The current total number of LCS-MT-CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding LCS-MO-CDRs	The current total number of LCS-MO-CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding LCS-MO-CDRs	The total number of LCS-MO-CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived LCS-MO-CDRs	The current total number of LCS-MO-CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
LCS-MO-CDRs buffered with AAAPROXY	The current total number of LCS-MO-CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
LCS-MO-CDRs buffered with AAAMGR	The current total number of LCS-MO-CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding GMBH CDRs	The current total number of GMBH CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding GMBH CDRs	The total number of GMBH CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived GMBH CDRs	The current total number of GMBH CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
GMBH CDRs buffered with AAAPROXY	The current total number of GMBH CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
GMBH CDRs buffered with AAAMGR	The current total number of GMBH CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding SGW CDRs	The current total number of S-GW CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding SGW CDRs	The total number of S-GW CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"

Field	Description
Archived SGW CDRs	The current total number of S-GW CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
SGW CDRs buffered with AAAPROXY	The current total number of S-GW CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
SGW CDRs buffered with AAAMGR	The current total number of S-GW CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
WLAN CDRs buffered with AAAPROXY	The current total number of WLAN CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
WLAN CDRs buffered with AAAMGR	The current total number of WLAN CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding ePDG CDRs	The current total number of ePDG CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding ePDG CDRs	The total number of ePDG CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived ePDG CDRs	The current total number of ePDG CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.
ePDG CDRs buffered with AAAPROXY	The current total number of ePDG CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
ePDG CDRs buffered with AAAMGR	The current total number of ePDG CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.
Outstanding SMBMS CDRs	The current total number of SMBMS CDRs sent to the CGF(s) for which no response was received.
Possibly Duplicate Outstanding SMBMS CDRs	The total number of SMBMS CDRs sent to the CGF(s) with a packet transfer command of "Send Possibly Duplicated Data Record Packet"
Archived SMBMS CDRs	The current total number of SMBMS CDRs achieved by CGF. **Note** This counter is only present if the **all** keyword is used.

Field	Description
SMBMS CDRs buffered with AAAPROXY	The current total number of SMBMS CDRs buffered by the system's AAA Proxy tasks. **Note** This counter is only present if the **all** keyword is used.
SMBMS CDRs buffered with AAAMGR	The current total number of SMBMS CDRs buffered by the system's AAA Manager tasks. **Note** This counter is only present if the **all** keyword is used.

show gtpp group

The output of this command is enhanced to display the following fields

Table 304: show gtpp group Command Output Descriptions

Field	Description
Group name	The GTPP server group name.
Context	The context name of the configured GTPP group.
CDR timeout	Indicates the configured timeout duration in seconds for CDRs.
CDR max-retries	Indicates the configured maximum retries for CDR.
ECHO timeout	Indicates the configured timeout duration in seconds for ECHO message.
ECHO max-retries	Indicates the configured maximum retries for ECHO message.
Dead time	Indicates the dead time for specific GTPP group.
Detect-dead-server consecutive-failures	Indicates the total consecutive failure of dead server detection probe.
Dead-server-suppress-cdrs	Indicates whether suppression of CDRs is enabled or not when a dead server is detected.
Duplicate-hold-time minutes	Configured time in minutes to hold duplicate CDRs.
Redirection allowed	Indicates whether redirection is allowed or not.
Source-port-validation	Indicates whether source port validation is enabled or not.
Charging-agent address	Indicates the IP address of configured charging agent.
Charging-agent port	Indicates the port number of configured charging agent.
Suppress zero-volume CDRs	Indicates if the suppression of zero byte data count CDRs is enabled or not.
Max CDR size	Indicates the maximum CDR size allowed in bytes.

Field	Description
Max CDRs in msg	Indicates the maximum CDRs allowed in a message.
Max CDRs wait-time	Indicates the maximum wait/live time allowed for CDRs.
Dictionary	Indicates the applicable GTPP dictionary for CDR encoding.
Data-req start seq-num	Indicates the starting sequence number of data request message.
start-file-seq-num	Indicates the starting file sequence number during chassis load/reload. It will be active only for recovery failure case.
recover-file-seq-num	Indicates whether recovery of file seq num is needed during chassis reload.
Storage Server	This group indicates the storage server information if CDR storage mode is remote. This counter is applicable for the ASR 5000 only.
Mode	Indicates the mode of the CDR storage. Possible modes are: • Local: CDRs stored on local HDD on SMC card. • Remote: CDRs stored on remote GSS server. This counter is applicable for the ASR 5000 only.
Storage-server address	Indicates the configured GTPP storage server IP address.
Storage-server port	Indicates the port number of configured GTPP storage server.
Storage-server timeout	indicates the timeout in seconds configured for GTPP storage server.
Storage-server max-retries	Indicates the maximum retries configured for the GSS messages.
Local Storage	This group indicates the storage server information, if CDR storage mode is local. This counter group is applicable for the ASR 5000 only.
Last-MS-Timezone	Indicates the "Last MS-Timezone" in the CDR field.
last-uli	Indicates the "Last ULI" in the CDR field.
AAAmgr Wait Time	Indicates the time in seconds that AAAmgr has to wait trying to accumulate 255 CDRs.
File Transfer Mode	Indicates whether Push method is provisioned to send local CDR files to a remote host.
Push via Local Context	Specifies whether local context was used to reach remote server with Push method.
File rotation volume-limit	Indicates the volume of CDR file in MB after which CDR file rotation will happen. This counter group is applicable for the ASR 5000 only.
File rotation CDR-count	Indicates the number of CDRs to include in a CDR file after which CDR file rotation will happen. This counter group is applicable for the ASR 5000 only.
File rotation time-interval	Indicates the time duration in seconds after after which CDR file rotation will happen. This counter group is applicable for the ASR 5000 only.

Field	Description
Force File rotation by time-interval	Indicates whether force file rotation is enabled or not. If this is enabled it forces the system for file-rotation at specified interval even if there are no CDRs generated.
File compression	Indicates the whether file compression is configured or not on CDR files. This counter group is applicable for the ASR 5000 only.
File format	Indicates the format name of file to store CDRs in specified format in CDR file. This counter group is applicable for the ASR 5000 only.
Purge-processed-files	Indicates the configuration of purge interval duration of processed files. This is an optional setting and can be configured with **purge-interval** *purge_dur* keyword with **gtpp storage-server local file purge-processed-files** command in GTPP Group Configuration Mode.
Attributes	
APN present	Indicates whether or not the "APN" attribute is present in the CDR.
PDP type present	Indicates whether or not the "PDP Type" attribute is present in the CDR.
PDP address present	Indicates whether or not the optional field "PDP Address" is present in the CDR.
Dynamic flag present	Indicates whether or not the "Dynamic Flag" attribute is present in the CDR.
Diagnostics present	Indicates whether or not the "Diagnostics" attribute is present in the CDR.
Node ID present	Indicates whether or not the "Node ID" attribute is present in the CDR.
Charging-Char sel mode present	Indicates whether or not the "Charging Characteristic Selection Mode" attribute is present.
MSISDN present	Indicates whether or not the MSISDN attribute is present.
IMEI present	Indicates whether or not the IMEI attribute is present.
RAT present	Indicates whether or not the RAT attribute is present.
MS-Timezone present	Indicates whether or not the "MS-Timezone" attribute is present in the CDR.
User Location Information present	Indicates whether or not the "User Location Information" attribute is present in the CDR.
TWAN User Location Information present	Indicates whether or not the "TWAN User Location Information" attribute is present in the CDR.
List of service Data present	Indicates whether or not the optional field "List of Service Data" is present in the CDR.
Served MNAI present	Indicates whether or not the optional field "Served MNAI" is present in the CDR.
PGW PLMN-ID present	Indicates whether or not the optional field "PGW PLMN-ID" is present in the CDR.
Start-Time present	Indicates whether or not the optional field "Start-Time" is present in the CDR.
Stop-Time present	Indicates whether or not the optional field "Stop-Time" is present in the CDR.

Field	Description
PDN connection ID present	Indicates whether or not the optional field "PDN Connection ID" is present in the CDR.
Served PDP PDN address extension present	Indicates whether or not the optional field "Served-pdp-pdn-address-extension" is present in the CDR.
SGSN-Change present	Indicates whether or not the optional field "SGSN Change" is present in the CDR.
Duration in milliseconds	Indicates the configured duration in milliseconds.
PLMN-id present	Indicates whether or not the public land mobile network identifier attribute is present in the CDR.
PLMN-id unknown-use	Indicates whether a public land mobile network identifier which is of unknown use is present in the CDR.
Local-rec-seq-num present	Indicates whether or not the local record sequence number attribute is present.
Node-id suffix	Indicates whether or not the server node id attribute is present in the CDR.
APN-AMBR	Indicates whether or not the optional field "apn-ambr" is present in the CDR.
Furnish-charging-information present	Indicates whether or not the optional field "PSFurnishChargingInformation" is present in the CDR.
Cell-plmn-id	Indicates whether cell public land mobile network identifier attribute is present or not.
Camel-Info	Indicates whether or not the "CAMEL" specific fields are present in the S-CDR, M-CDR, S-SMO-CDR and S-SMT-CDR.
Sms	Indicates the SMS attribute information.
Recording entity	Indicates whether or not the SMS recording entity is present in the attribute.
Service centre	Indicates whether or not the SMS service center information is present in the attribute.
Destination number	Indicates whether the destination number for SMS is present in the attribute.
Record extensions:	Indicates the information for record extensions.
Rat	Indicates whether radio access type information is present in record extension attributes or not.
qos max-length	Displays the QoS max-length configured value. If this field is not configured, "None" will be displayed.
Packet count present	Indicates if including packet count is enabled in G-CDR.
Triggers	
Volume-limit	Indicates the status of configured volume limit trigger. Possible status are: • Enabled • Disabled

Field	Description
Time-limit	Indicates the status of configured time limit trigger. Possible status are: • Enabled • Disabled
Tariff-time-change	Indicates the status of configured trigger for tariff time change. Possible status are: • Enabled • Disabled
Serving-Node-change-limit	Indicates the status of configured trigger for SGSN change limit. Possible status are: • Enabled • Disabled
Intra-SGSN-group-change	Indicates the status of configured trigger for intra-SGSN group change. Possible status are: • Enabled • Disabled
Inter-plmn-sgsn-change	Indicates the status of configured trigger for SGSN change between PLMN. Possible status are: • Enabled • Disabled
Egcdr-max-losdv-limit	Indicates the status of configured trigger for maximum list of service data volume (LoSDV) limit for eG-CDRs. Possible status are: • Enabled • Disabled
Qos-change	Indicates the status of configured trigger for QoS change. Possible status are: • Enabled • Disabled
RAT-change	Indicates the status of configured trigger for RAT change. Possible status are: • Enabled • Disabled
on RAT-change generate	Indicates whether to generate CDRs for RAT change.

Field	Description
ULI-Change	Indicates the status of configured trigger for ULI change. Possible status are: • Enabled • Disabled
MS-timezone-change	Indicates the status of configured trigger for change in time zone of MS. Possible status are: • Enabled • Disabled
Routing-area-update	Indicates the status of configured trigger for update in routing area. Possible status are: • Enabled • Disabled
Presv-mode-state-change	Enables/disables preservation-mode-change trigger. Possible status are: • Enabled • Disabled
Direct-tunnel	Indicates the status of configured trigger for direct tunnel. Possible status are: • Enabled • Disabled
Cell-update	Enables cell-update trigger for S-CDR (if the dictionary specified in the gtpp group supports the cell update. This trigger is available only for 2G. Currently "custom18" supports cell update trigger. Possible status are: • Enabled • Disabled
PLMN-id-change	Enables plmn-id-change trigger for SGSN CDRs provided, if the dictionary specified in the gtpp group supports the plmn-id-change. Possible status are: • Enabled • Disabled
Mbms config	Specifies the MBMS configuration information.
Buckets	Indicates the total number of data buckets configured for MBMS service.
Interval	Indicates the interval duration configured for MBMS service.
Volume	Indicates the data volume configured for MBMS service.

Field	Description
Tarif:	Specifies the tariff configuration for MBMS service.
Time1	Indicates the tariff configuration for time slot 1 in MBMS service.
Time2	Indicates the tariff configuration for time slot 2 in MBMS service.
Time3	Indicates the tariff configuration for time slot 3 in MBMS service.
Time4	Indicates the tariff configuration for time slot 4 in MBMS service.
EGCDR	Specifies the configuration for eG-CDRs.
Lotdv-max-containers	Indicates the maximum number of containers configured for list of traffic data volume (LoTDV) for eG-CDRs.
Losdv-max-containers	Indicates the maximum number of containers configured for list of service data volume (LoSDV) for eG-CDRs.
Service-idle-timeout	Indicates the idle timeout duration configured in seconds for service for eG-CDRs.
Rulebase-max-length	Indicates the maximum character length of charging rulebase name in LOSDV, if configured to a non-zero value.
Service-interval	Indicates whether interval duration configured in seconds to retry for eG-CDRs.
Service-uplink	Indicates the total bytes uplinked for service in eG-CDRs.
Service-downlink	Indicates the total bytes downlinked for service in eG-CDRs.
Service-total	Indicates the total bytes in traffic (uplinked+ downlinked) for service in eG-CDRs.
Closing-cause-unique	Indicates whether any unique closing cause set for eG-CDR closing.
Include-all-losdvs	Indicates whether eG-CDR configured to include all LoSDV.
Delete-service-thresholds	Indicates the configured threshold in eG-CDR to delete the service.
Secondary RAT records present	Specifies whether the Secondary RAT record is present or not. The available options are: • no • yes
Limit-secondary-rat-usage	Specifies a limit for Secondary RAT usage report.

show gtpp statistics

Table 305: show gtpp statistics Command Output Descriptions

Field	Description
Accumulated Statistics	
Start Collection Req	Total number of Start Collection requests.
Normal Release Req	Total number of Normal Release requests.
Management Intervention Req	Total number of Management Intervention requests.
Abnormal Release Req	Total number of Abnormal Release requests.
Time Limit Req	Total number of Time Limit requests.
Volume Limit Req	Total number of Volume Limit requests.
SGSN Change Req	Total number of SGSN Change requests.
Maximum Change Condition Req	Total number of Maximum Change Condition requests.
RAT Change Req	Total number of RAT Change requests.
MS Time Zone Change Req	Total number of MS Time Zone Change requests.
List of Down Stream Node Change	List of down-stream node change.
Intra SGSN Intersystem Change Req	Total number of Intra SGSN Intersystem Change requests.
FOCS/ODB ACL Violation Req	Indicates the total number of FOCS enabled sessions closed due to ACL rule violation recieved for FOCS and/or ODB.
Inactivity Timeout (FOCS enabled):	Indicates the total number of FOCS enabled sessions closed due to inactivity timeout.
SGW Relocation	Indicates the total number of S-GW to SGSN relocations.
Total G-CDR transmission	Total number of G-CDR transmissions.
Total eG-CDR transmission	This indicates the total number of eG-CDRs transmitted to the mediation system.
Total PGW-CDR transmission	This indicates the total number of PGW-CDRs transmitted to the mediation system.
Total S-CDR transmission	Total number of S-CDR transmissions.
Total M-CDR transmission	Total number of M-CDR transmissions.
Total S-SMO-CDR transmission	Total number of S-SMO-CDR transmissions.
Total S-SMT-CDR transmission	Total number of S-SMT-CDR transmissions.
Total LCS-MT-CDR transmission	Total number of LCS-MT-CDR transmissions.

Field	Description
Total LCS-MO-CDR transmission	Total number of LCS-MO-CDR transmissions.
Total G-MB-CDR transmission	Total number of G-MB-CDR transmissions.
Total SGW-CDR transmission	Total number of SGW-CDR transmissions.
Total ePDG-CDR transmission	Total number of ePDG-CDR transmissions.
Total WLAN-CDR transmission	Total number of WLAN-CDR transmissions.
Total G-CDR retransmission	Total number of G-CDR retransmissions.
Total eG-CDR retransmission	This indicates the total number of eG-CDRs re-transmitted to the mediation system. This will happen whenever SGSN/GGSN is not getting the response from the mediation server in a stipulated period of time.
Total PGW-CDR retransmission	This indicates the total number of PGW-CDRs re-transmitted to the mediation system. This will happen whenever PGW/SGW is not getting the response from the mediation server in a stipulated period of time.
Total S-CDR retransmission	Total number of S-CDR retransmissions.
Total M-CDR retransmission	Total number of M-CDR retransmissions.
Total S-SMO-CDR retransmission	Total number of S-SMO-CDR retransmissions.
Total S-SMT-CDR retransmission	Total number of S-SMT-CDR retransmissions.
Total LCS-MT-CDR retransmission	Total number of LCS-MT-CDR retransmissions.
Total LCS-MO-CDR retransmission	Total number of LCS-MO-CDR retransmissions.
Total SGW-CDR retransmission	Total number of SGW-CDR retransmissions.
Total ePDG-CDR retransmission	Total number of ePDG-CDR retransmissions.
Total WLAN-CDR retransmission	Total number of WLAN-CDR retransmissions.
Total G-MB-CDR retransmission	Total number of G-MB-CDR retransmissions.
Total G-CDR accepted	Total number of G-CDR accepted.
Total eG-CDR accepted	This indicates the total number of eG-CDRs successfully sent to the mediation server for which the SGSN/GGSN received the ACCEPT response.
Total PGW-CDR accepted	This indicates the total number of PGW-CDRs successfully sent to the mediation server for which the PGW/SGW received the ACCEPT response.
Total S-CDR accepted	Total number of S-CDR accepted.
Total M-CDR accepted	Total number of M-CDR accepted.
Total S-SMO-CDR accepted	Total number of S-SMO-CDR accepted.

Field	Description
Total S-SMT-CDR accepted	Total number of S-SMT-CDR accepted.
Total LCS-MT-CDR accepted	Total number of LCS-MT-CDR accepted.
Total LCS-MO-CDR accepted	Total number of LCS-MO-CDR accepted.
Total G-MB-CDR accepted	Total number of G-MB-CDR accepted.
Total SGW-CDR accepted	Total number of SGW-CDR accepted.
Total ePDG-CDR accepted	Total number of ePDG-CDR accepted.
Total WLAN-CDR accepted	Total number of WLAN-CDR accepted.
Total G-CDR transmission failures	Total number of G-CDR transmission failures.
Total eG-CDR transmission failures	This indicates the total number of eG-CDRs successfully sent to the mediation server for which the SGSN/GGSN received the FAIL response.
Total PGW-CDR retransmission	This indicates the total number of PGW-CDRs successfully sent to the mediation server for which the PGW/SGW received the FAIL response.
Total S-CDR transmission failures	Total number of S-CDR transmission failures.
Total M-CDR transmission failures	Total number of M-CDR transmission failures.
Total S-SMO-CDR transmission failures	Total number of S-SMO-CDR transmission failures.
Total S-SMT-CDR transmission failures	Total number of S-SMT-CDR transmission failures.
Total LCS-MT-CDR transmission failures	Total number of LCS-MT-CDR transmission failures.
Total LCS-MO-CDR transmission failures	Total number of LCS-MO-CDR transmission failures.
Total G-MB-CDR transmission failures	Total number of G-MB-CDR transmission failures.
Total SGW-CDR transmission failures	Total number of SGW-CDR transmission failures.
Total ePDG-CDR transmission failures	Total number of ePDG-CDR transmission failures.
Total WLAN-CDR transmission failures	Total number of WLAN-CDR transmissions failures.
G-CDR transmission failure percent	G-CDR transmission failure percentage.
eG-CDR transmission failures percent	Total percentage of transmitted eG-CDRs failed on peer node.
PGW-CDR transmission failures percent	Total percentage of transmitted PGW-CDRs failed on peer node.
S-CDR transmission failure percent	S-CDR transmission failure percentage.

Field	Description
M-CDR transmission failure percent	M-CDR transmission failure percentage.
S-SMO-CDR transmission failure percent	S-SMO-CDR transmission failure percentage.
S-SMT-CDR transmission failure percent	S-SMT-CDR transmission failure percentage.
LCS-MT-CDR transmission failure percent	LCS-MT-CDR transmission failure percentage.
LCS-MO-CDR transmission failure percent	LCS-MO-CDR transmission failure percentage.
G-MB-CDR transmission failure percent	G-MB-CDR transmission failure percentage.
SGW-CDR transmission failure percent	SGW-CDR transmission failure percentage.
ePDG-CDR transmission failure percent	ePDG-CDR transmission failure percentage.
WLAN-CDR transmission failure percent	WLAN-CDR transmission failure percentage.
CDRs purged by dead-server suppress-cdrs	Total number of CDRs purged in all GTPP server groups configured on system when **gtpp dead-server suppress-cdrs** command is enabled.
Charging Characteristics Statistics	
Hot	The charging characteristic setting.
Normal	The charging characteristic setting.
Prepaid	The charging characteristic setting.
Flat	The charging characteristic setting.
Unknown	The charging characteristic setting.
CGF Specific Statistics	
Data Record Transfer Requests Sent When the primary CGF goes down, all outstanding requests with the primary CGF are marked as Possibly Duplicate and sent to the secondary CGF. This is because of the uncertainty as to whether the primary CGF processed the requests or not. So the seq-numbers (for primary CGF) for these requests are stored. When the primary CGF comes back again, an Empty DRT with the stored seq-numbers is sent to the primary CGF. The CGF can reply either REQ_ALREADY_FULFILLED (primary CGF processed the request. Cancel request is sent to the secondary CGF to delete the request) or REQUEST_ACCEPTED (primary CGF has not got this request before. Release request is sent to secondary to store the request).	
Send	Total number of DRT requests sent.

Field	Description
Possibly Duplicate	Total number of possibly duplicate DRT requests sent.
Cancel	Total number of cancel DRT requests sent.
Release	Total number of release DRT requests sent.
Empty	Total number of empty DRT requests sent.
Data Record Transfer Requests Retried	
Send	Total number of DRT request retried.
Possibly Duplicate	Total number of DRT requests marked possibly duplicate retried.
Cancel	Total number of cancel DRT requests retried.
Release	Total number of release DRT requests retried.
Empty	Total number of empty DRT requests retried.
Data Record Transfer Requests Success	
Send	Total number of DRT requests sent successfully.
Possibly Duplicate	Total number of DRT requests marked possibly duplicate sent successfully.
Cancel	Total number of canceled DRT requests sent successfully.
Release	Total number of release DRT requests sent successfully.
Empty	Total number of empty DRT requests sent successfully.
Data Record Transfer Response Cause	
Accepted	Total number of DRT response messages with cause as "accepted".
Not Fulfilled	Total number of DRT response messages with cause as "not fulfilled".
Already Fulfilled	Total number of DRT response messages with cause as "already fulfilled".
Dup Already Fulfilled	Total number of DRT response messages with cause as "duplicate already fulfilled".
Invalid Msg Format	Total number of DRT response messages with cause as "invalid message format".
Mandatory IE Missing	Total number of DRT response messages with cause as "mandatory IE missing".
Service not supported	Total number of DRT response messages with cause as 'service not supported".
Version not supported	Total number of DRT response messages with cause as "version not supported".
Mandatory IE incorrect	Total number of DRT response messages with cause as "mandatory IE incorrect".
Optional IE incorrect	Total number of DRT response messages with cause as "optional IE incorrect".
No Resources	Total number of DRT response messages with cause as "no resources".

Field	Description
System Failure	Total number of DRT response messages with cause as "system failure".
CDR Decode Error	Total number of DRT response messages with cause as "CDR decode error".
Seq No incorrect	Total number of DRT response messages with cause as "sequence number incorrect".
Unknown Cause	Total number of DRT response messages with unknown cause.
GTPP Echo Messages	
Echo Req Sent	Total number of echo request messages sent.
Echo Req Rcvd	Total number of echo request messages received.
Echo Rsp Rcvd	Total number of echo response messages received.
Echo Rsp Sent	Total number of echo response messages sent.
Redirection Req/Rsp Messages	
Redirection Req Rcvd	Total number of redirection request messages received.
Redirection Rsp Sent	Total number of redirection response messages sent.
Redirection Request Cause	
Trans Buffer full	Total number of redirection requests with cause code as "transmit buffers are full".
Recv Buffer Full	Total number of redirection requests with cause code as "receive buffers are full".
Other Node Down	Total number of redirection requests with cause code as "other node is about to go down.
Self Node down	Total number of redirection requests with cause code as "this node is about to go down".
System Failure	Total number of redirection requests with cause code as "system failure".
Redirection Response Cause	
Accepted	Total number of redirection responses with cause code as "accepted".
Service Not Supported	Total number of redirection responses with cause code as "service not supported".
System Failure	Total number of redirection responses with cause code as "system failure".
Mandatory IE Incorrect	Total number of redirection responses with cause code as "mandatory IE incorrect".
Mandatory IE Missing	Total number of redirection responses with cause code as "mandatory IE missing".
Optional IE incorrect	Total number of redirection responses with cause code as "optional IE incorrect".
Invalid Msg Format	Total number of redirection responses with cause code as "invalid message format".
Version Not Supported	Total number of redirection responses with cause code as "version not supported".

Field	Description
No Resources	Total number of redirection responses with cause code as "no resources".
Node Alive Req/Rsp Messages	
Node Alive Req Rcvd	Total number of node alive request messages received.
Node Alive Req Sent	Total number of node alive request messages sent.
Node Alive Rsp Sent	Total number of node alive response messages sent.
Node Alive Rsp Rcvd	Total number of node alive response messages received.
Invalid messages received	
Invalid Sequence Number	Total number of messages with invalid sequence number received.
Unknown CGF	Total number of messages received with unknown CGF.
Unknown Msg type	Total number of messages received with unknown message type.
Round Trip Time	
Last DRT Round Trip Time	Time taken for the last DRT round trip.
Average DRT Round Trip Time	Average time taken for DRT round trip.

show gtpp statistics group

The output of this CLI command displays the following parameter.

Field	Description
Total PGW-CDR exceed size limit	Displays the total number of CDRs that exceeded size limit in P-GW.

show gtpp statistics cgf-address

Table 306: show gtpp statistics cgf-address Command Output Descriptions

Field	Description
Accumulated Statistics	
Start Collection Req	The total number of accounting start requests generated. **NOTE:** These requests are not sent to CGF. The requests are just a system record that accounting for a session has started and in future releases may be required to be sent to CGF.

Field	Description
Normal Release Req	The total number of requests generated because of normal PDP context deletion (i.e. PDP context deletion initiated by SGSN or GGSN).
Management Intervention Req	The total number of requests generated because of management intervention (request due to O&M reasons, e.g. clear subscribers all)
Abnormal Release Req	The total number of requests generated because of abnormal termination of session (e.g. Session Manager failure results in abnormal release of PDP contexts active for that Session Manager.
Time Limit Req	The number of interim requests generated because of the time limit being reached. The time limit is configured using the **cc profile** command in the GGSN service configuration mode.
Volume Limit Req	The number of interim requests generated because of volume limit being reached. The volume limit is configured using **cc profile** command in the GGSN service configuration mode.
SGSN Change Req	The number of interim requests generated because of the number of inter SGSN switch-overs reaching the configured limit or because of an SGSN switchover resulting in a new RAI (Routing Area Identity). The maximum number of SGSN changes is configured using the **cc profile** command in the GGSN service configuration mode.
Maximum Change Condition Req	The number of interim requests generated because of the "List of traffic Volume" Containers reaching the configured limit. This value is configured using the **cc profile** command in the GGSN service configuration mode.
Total G-CDR transmission	The total number of GTPP Requests sent to the CGF. **NOTE:** This counter does not include requests re-transmitted to the CGF.
Total G-CDR retransmission	The total number of GTPP Requests retransmitted to the CGF. **NOTE:** This counter does not include the requests that were originally transmitted to the CGF.
Total G-CDR accepted	The total number of G-CDRs accepted by the CGF.
Total G-CDR transmission failures	The total number of GTPP Requests that were not responded to by CGFs. **NOTE:** This statistic is not displayed if the cgf_address optional keyword is used.
G-CDR transmission failure percent	The failure percentage of DRT requests. This is calculated as (Total G-CDR Trans failures/(Total GCDR Trans Failures + Total G-CDR accepted) *100).
Total LCS-MT-CDR transmission	The total number of GTPP Requests sent to the CGF. **NOTE:** This counter does not include requests re-transmitted to the CGF.
Total LCS-MT-CDR retransmission	The total number of GTPP Requests retransmitted to the CGF. **NOTE:** This counter does not include the requests that were originally transmitted to the CGF.
Total LCS-MT-CDR accepted	The total number of LCS-MT-CDRs accepted by the CGF.

Field	Description
Total LCS-MT-CDR transmission failures	The total number of GTPP Requests that were not responded to by CGFs. **NOTE:** This statistic is not displayed if the cgf_address optional keyword is used.
LCS-MT-CDR transmission failure percent	The failure percentage of DRT requests. This is calculated as (Total LCS-MT-CDR Trans failures/(Total LCS-MT-CDR Trans Failures + Total LCS-MT-CDR accepted) *100).
Total LCS-MO-CDR transmission	The total number of GTPP Requests sent to the CGF. **NOTE:** This counter does not include requests re-transmitted to the CGF.
Total LCS-MO-CDR retransmission	The total number of GTPP Requests retransmitted to the CGF. **NOTE:** This counter does not include the requests that were originally transmitted to the CGF.
Total LCS-MO-CDR accepted	The total number of LCS-MO-CDRs accepted by the CGF.
Total LCS-MO-CDR transmission failures	The total number of GTPP Requests that were not responded to by CGFs. **NOTE:** This statistic is not displayed if the cgf_address optional keyword is used.
LCS-MO-CDR transmission failure percent	The failure percentage of DRT requests. This is calculated as (Total LCS-MO-CDR Trans failures/(Total LCS-MO-CDR Trans Failures + Total LCS-MO-CDR accepted) *100).
Charging Characteristics Statistics	
Hot	The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "1", representing "hot" billing.
Normal	The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "8", representing "normal" billing.
Prepaid	The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "4", representing "prepaid billing.
Flat	The number of times that PDP Context Requests were processed with a charging characteristic profile index value of "2", representing "flat-rate" billing.
Unknown	The number of times that PDP Context Requests were processed with an unknown charging characteristic profile index value.
CGF Specific Statistics	
Data Record Transfer Requests Sent	
Send	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet". **NOTE:** This counter counts "Send Data Record Packet" with length more than 0.
Possibly Duplicate	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send possibly duplicated Data Record Packet".

Field	Description
Cancel	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Cancel Data Record Packet".
Release	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Release Data Record Packet".
Empty	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet". **NOTE:** This counter counts "Send Data Record Packet" with length equal to 0.
Data Record Transfer Requests Retried	
Send	The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet". **NOTE:** This counter counts "Send Data Record Packet" with length more than 0.
Possibly Duplicate	The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Send possibly duplicated Data Record Packet".
Cancel	The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Cancel Data Record Packet".
Release	The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Release Data Record Packet".
Empty	The total number of re-transmitted "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet". **NOTE:** This counter counts "Send Data Record Packet" with length equal to 0.
Data Record Transfer Requests Success	
Send	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet" for which a response from the CGF was received. **NOTE:** This counter counts "Send Data Record Packet" with length more than 0.
Possibly Duplicate	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send possibly duplicated Data Record Packet" for which a response from the CGF was received.
Cancel	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Cancel Data Record Packet" for which a response from the CGF was received.
Release	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Release Data Record Packet" for which a response from the CGF was received.
Empty	The total number of "Data Record Transfer Requests" sent with the Packet transfer command "Send Data Record Packet" for which a response from the CGF was received. **NOTE:** This counter counts "Send Data Record Packet" with length equal to 0.
Data Record Transfer Response Cause	

Field	Description
Accepted	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 128 (80H, Request accepted).
Not Fulfilled	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 255 (FFH, Request not fulfilled).
Already Fulfilled	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 253 (FDH, Request already fulfilled).
Dup Already Fulfilled	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 252 (FCH, Request related to possibly duplicated packets already fulfilled).
Invalid Msg Format	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 193 (C1H, Invalid message format).
Mandatory IE Missing	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 202 (CAH, Mandatory IE missing).
Service not supported	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 200 (C8H, Service not supported).
Version not supported	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 198 (C6, Version not supported).
Mandatory IE incorrect	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 201 (C9H, Mandatory IE incorrect).
Optional IE incorrect	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 203 (CBH, Optional IE incorrect).
No Resources	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 199 (C7H, No resources available).
System Failure	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 204 (CCH, System failure).
CDR Decode Error	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 177. The cause value "CDR decoding error" is primarily intended to inform the CDR generating node that the receiving node can not decode the CDR.
Seq No incorrect	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code of 254.
Unknown Cause	The total number of Data Record Transfer Response messages received from the CGF that indicated a cause code which is other than mentioned above.
GTPP Echo Messages	
Echo Req Sent	The total number of Echo Request messages transmitted to the CGF.
Echo Req Rcvd	The total number of Echo Request messages received from the CGF.

Field	Description
Echo Rsp Rcvd	The total number of Echo Response messages received from the CGF.
Echo Rsp Sent	The total number of Echo Response messages transmitted to the CGF.
Redirection Req/Rsp Messages	
Redirection Req Rcvd	The total number of Redirection Request messages received from the CGF.
Redirection Rsp Sent	The total number of Redirection Response messages transmitted to the CGF.
Redirection Request Cause	
Trans Buffer full	The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 60 (3CH, The transmit buffers are becoming full).
Recv Buffer Full	The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 61 (3DH, The receive buffers are becoming full).
Other Node Down	The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 62 (3EH, Another node is about to go down).
Self Node down	The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 63 (3FH, This node is about to go down).
System Failure	The total number of Redirection Request messages received from the CGF(s) containing a cause information element of 59 (3BH, System failure).
Redirection Response Cause	
Accepted	The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 128 (80H, Request accepted).
Service Not Supported	The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 200 (C8H, Service not supported).
System Failure	The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 204 (CCH, System failure).
Mandatory IE Incorrect	The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 201 (C9H, Mandatory IE incorrect).
Mandatory IE Missing	The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 202 (CAH, Mandatory IE missing).
Optional IE incorrect	The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 203 (CBH, Optional IE incorrect).
Invalid Msg Format	The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 193 (C1H, Invalid message format).
Version Not Supported	The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 198 (C6H, Version not supported).

Field	Description
No Resources	The total number of Redirection Response messages transmitted to the CGF(s) containing a cause information element of 199 (C7H, No resources available).
Node Alive Req/Rsp Messages	
Node Alive Req Rcvd	The total number of Node Alive Request messages received.
Node Alive Rsp Sent	The total number of Node Alive Response messages transmitted.
Node Alive Req Sent	The total number of Node Alive Request messages sent.
Node Alive Rsp Rcvd	The total number of Node Alive Response messages received.
Invalid messages received	
Invalid Sequence Number	The total number of requests received from a pre-configured CGF, with sequence number that is not in the system's buffers.
Round Trip Time	This section shows average latency on Ga/Gz interface per CGF.
Last DRT Round Trip Time	Total time taken in milliseconds for round trip of previous data record transfer message.
Average DRT Round Trip Time	Average time taken in milliseconds for round trip of all data record transfer messages.

show gtpp group name default

Table 307: show configuration access-link

Field	Description
TAC Always present	Displays "Yes" or "No" to indicate whether TAC is always present in the ULI field of the PGW-CDR.
Last User Location Information present	Displays "Yes" or "No" to indicate Last User Location Information.

show gtpp storage-server statistics

Table 308: show gtpp storage-server statistics Command Output Descriptions

Field	Description
Store Requests (GTPP Requests)	
Sent	The total number of GTPP Requests Messages sent by AAAProxy to GSS for storage. Each GTPP Request corresponds to one Store request to GSS. Therefore, each store request may contain one or more GCDR.

Field	Description
Retried	The total number of GTPP Requests Messages re-sent by AAAProxy to GSS for storage.
Success	The total number of GTPP Requests Messages successfully sent by AAAProxy to GSS for storage.
Failed	The total number of GTPP Requests Messages that failed to be sent by AAAProxy to GSS for storage.
Store Requests (GCDRs)	
Sent	The total number of G-CDRs in the GTPP Requests sent for "store".
Retried	The total number of G-CDRs in the GTPP Requests re-sent for "store".
Success	The total number of G-CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of G-CDRs in the GTPP Requests that failed to be sent for "store".
Store Requests (MCDRs)	
Sent	The total number of M-CDRs in the GTPP Requests sent for "store".
Retried	The total number of M-CDRs in the GTPP Requests re-sent for "store".
Success	The total number of M-CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of M-CDRs in the GTPP Requests that failed to be sent for "store".
Store Requests (SCDRs)	
Sent	The total number of S-CDRs in the GTPP Requests sent for "store".
Retried	The total number of S-CDRs in the GTPP Requests re-sent for "store".
Success	The total number of S-CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of S-CDRs in the GTPP Requests that failed to be sent for "store".
Store Requests (S-SMO-CDRs)	
Sent	The total number of S-SMO-CDRs in the GTPP Requests sent for "store".
Retried	The total number of S-SMO-CDRs in the GTPP Requests re-sent for "store".
Success	The total number of S-SMO-CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of S-SMO-CDRs in the GTPP Requests that failed to be sent for "store".
Store Requests (S-SMT-CDRs)	
Sent	The total number of S-SMT-CDRs in the GTPP Requests sent for "store".
Retried	The total number of S-SMT-CDRs in the GTPP Requests re-sent for "store".
Success	The total number of S-SMT-CDRs in the GTPP Requests successfully sent for "store".

Field	Description
Failed	The total number of S-SMT-CDRs in the GTPP Requests that failed to be sent for "store".
Store Requests (LCS-MT-CDRs)	
Sent	The total number of LCS-MT-CDRs in the GTPP Requests sent for "store".
Retried	The total number of LCS-MT-CDRs in the GTPP Requests re-sent for "store".
Success	The total number of LCS-MT-CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of LCS-MT-CDRs in the GTPP Requests that failed to be sent for "store".
Store Requests (LCS-MO-CDRs)	
Sent	The total number of LCS-MO-CDRs in the GTPP Requests sent for "store".
Retried	The total number of LCS-MO-CDRs in the GTPP Requests re-sent for "store".
Success	The total number of LCS-MO-CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of LCS-MO-CDRs in the GTPP Requests that failed to be sent for "store".
Store Requests(GMBMSCDRs)	
Sent	The total number of GMBMS CDRs in the GTPP Requests sent for "store".
Retried	The total number of GMBMS CDRs in the GTPP Requests re-sent for "store".
Success	The total number of GMBMS CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of GMBMS CDRs in the GTPP Requests that failed to be sent for "store".
Store Requests(SMBMSCDRs)	
Sent	The total number of SMBMS CDRs in the GTPP Requests sent for "store".
Retried	The total number of SMBMS CDRs in the GTPP Requests re-sent for "store".
Success	The total number of SMBMS CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of SMBMS CDRs in the GTPP Requests that failed to be sent for "store".
Store Requests (SGWCDRs)	
Sent	The total number of S-GW CDRs in the GTPP Requests sent for "store".
Retried	The total number of S-GW CDRs in the GTPP Requests re-sent for "store".
Success	The total number of S-GW CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of S-GW CDRs in the GTPP Requests that failed to be sent for "store".

Field	Description
Store Requests (WLANCDRs)	
Sent	The total number of WLAN CDRs in the GTPP Requests sent for "store".
Retried	The total number of WLAN CDRs in the GTPP Requests re-sent for "store".
Success	The total number of WLAN CDRs in the GTPP Requests successfully sent for "store".
Failed	The total number of WLAN CDRs in the GTPP Requests that failed to be sent for "store".
AAAProxy Recover Requests	
Sent	The total number of AAA Proxy Recover Requests sent by the AAA Proxy to the GSS. These requests are sent when the AAA Proxy is restarted after an outage.
Retried	The total number of AAA Proxy Recover Requests re-sent by the AAA Proxy to the GSS.
Success	The total number of AAA Proxy Recover Requests successfully sent by the AAA Proxy to the GSS.
Failed	The total number of AAA Proxy Recover Requests that failed to be sent by the AAA Proxy to the GSS.
Get Next Requests	
Sent	The total number of Get Next requests sent by the AAA Proxy to the GSS. The AAA Proxy maintains a limited buffer. When the buffer gets filled because of a delay in the CGF response, the AAA proxy starts sending the request to the GSS. To get these requests from the GSS, the AAA Proxy sends Get Next Requests to the GSS.
Retried	The total number of Get Next requests re-sent by the AAA Proxy to the GSS.
Success	The total number of Get Next requests successfully sent by the AAA Proxy to the GSS.
Failed	The total number of Get Next requests that failed to be sent by the AAA Proxy to the GSS.
Update CGF Requests	
Sent	The total number of requests sent by the AAA Proxy to the GSS to indicate a change in the status of the CGFs (i.e. from up to down or vice versa).
Retried	The total number of requests re-sent by the AAA Proxy to the GSS to indicate a change in the status of the CGFs
Success	The total number of requests successfully sent by the AAA Proxy to the GSS to indicate a change in the status of the CGFs
Failed	The total number of requests that failed to be sent by the AAA Proxy to the GSS to indicate a change in the status of the CGFs
AAAMgr Recover Requests	

Field	Description
Sent	The total number of AAAMGR Recovery Requests sent by the system to the GSS. These requests are sent when a AAA Mgr software task is restarted after an outage.
Retried	The total number of AAAMGR Recovery Requests re-sent by the system to the GSS.
Success	The total number of AAAMGR Recovery Requests successfully sent by the system to the GSS.
Failed	The total number of AAAMGR Recovery Requests that failed to be sent by the system to the GSS.
Clear DataBase Requests	
Sent	The total number of Clear Database Requests sent by the AAA Proxy to the GSS. These requests are sent after the AAA Proxy discovers that the GSS has come up again after a period of dormancy (i.e. the GSS moves from "down" to "up" state) so as to bring the GSS in sync with the state that the AAA Proxy is in.
Retried	The total number of Clear Database Requests re-sent by the AAA Proxy to the GSS.
Success	The total number of Clear Database Requests successfully sent by the AAA Proxy to the GSS.
Failed	The total number of Clear Database Requests that failed to be sent by the AAA Proxy to the GSS.
GCDR Purge Requests	
Received	The total number of G-CDR Purge Request messages received by the storage server. This request is sent by the GSS notifying the AAA Proxy of the purging of GTPP Requests due to buffer overflow.
Responded	The total number of responses sent from the AAA Proxy to the GSS in response to "purge Requests".
Generated File Requests	
Received	The total number of Generate File Request messages received by the storage server. This request is sent by the GSS notifying the AAA Proxy of the generation of unAcked files. The GTPP Requests purged by the GSS as a result of buffer overflow are moved to a file. This request indicates the completion of the moving of purged G-CDRs to the file.
Responded	The total number of responses sent by the AAA Proxy to the GSS for the "Generated File Requests" received.
Notification Received	
Outstanding GCDRs	The total number of notification for outstanding G-CDRs.
Responded	The total number notifications received and responded for outstanding G-CDRs.
Outstanding GCDRs cleared	The total number of notification for cleared outstanding G-CDRs.

Field	Description
Responded	The total number notifications received and responded for clearing outstanding G-CDRs.
CPU Usage Overlimit	The total number of notification received for CPU usage overlimit.
Responded	The total number notifications received and responded for CPU usage overlimit.
CPU Usage Normal	The total number of notification received for normal usage of CPU.
Responded	The total number of notification received and responded for normal usage of CPU.
Disk Usage Overlimit	The total number of notification received for disk usage overlimit.
Responded	The total number notifications received and responded for disk usage overlimit.
Disk Usage Normal	The total number of notification received for disk usage is in normal limit.
Responded	The total number notifications received and responded for disk usage in normal limit.
Cluster State Change	The total number of notification received for change in Cluster node status.
Responded	The total number notifications received and responded for change in Cluster node status.
Cluster Switchover	The total number of notification received for Cluster node switchover.
Responded	The total number notifications received and responded for Cluster node switchover.
Cluster Disk Path Failure	The total number of notification received for failure in Cluster disk path failure.
Responded	The total number notifications received and responded for failure in Cluster disk path failure.
Cluster Disk Path Normal	The total number of notification received for change in Cluster disk path from failure to normal.
Responded	The total number notifications received and responded for change in Cluster disk path from failure to normal.
Cluster Interconnect Failure	The total number of notification received for failure of interconnection between Cluster nodes.
Responded	The total number notifications received and responded for failure of interconnection between Cluster nodes.
Cluster Interconnect Normal	The total number of notification received for change in interconnection between Cluster nodes from failure to normal.
Responded	The total number notifications received and responded for change in interconnection between Cluster nodes from failure to normal.
Cluster Interface Failure	The total number of notification received for failure of interface of Cluster node.
Responded	The total number notifications received and responded for failure of Cluster node interface.

Field	Description
Cluster Interface Normal	The total number of notification received for change in status of Cluster node interface from failure to normal.
Responded	The total number notifications received and responded for change in status of Cluster node interface from failure to normal.
Cluster Memory Low	The total number of notification received for low memory at Cluster node.
Responded	The total number notifications received and responded for low memory at Cluster node.
Cluster Memory Normal	The total number of notification received for change in status of low memory to normal memory at Cluster node.
Responded	The total number notifications received and responded for change in status of low memory to normal memory at Cluster node.
Storage Server Counter Requests	
Sent	The total number of times the AAA Proxy sent "Storage Server Counter" requests to the GSS. This request is sent when "show gtpp storage-server counter" CLI is executed.
Failed	The total number of times that the AAA Proxy failed to be send "Storage Server Counter" requests to the GSS.
Success	The total number of times the AAA Proxy successfully sent "Storage Server Counter" requests to the GSS.
Storage Server Status Requests	
Sent	The total number of times the AAA Proxy sent "Storage Server Status" requests to the GSS. This request is sent when "show gtpp storage-server status" CLI is executed.
Failed	The total number of times that the AAA Proxy failed to be send "Storage Server Status" requests to the GSS.
Success	The total number of times the AAA Proxy successfully sent "Storage Server Status" requests to the GSS.
Fetch Requests	
Sent	The total number of "Fetch Requests" sent by the AAA Proxy to the GSS. This request is sent to discover the status of a particular GTPP Request (i.e. if it has been successfully stored but not sent to CGF, or if it is successfully stored and sent to CGF, or if it has not been received by GSS at all).
Retried	The total number of "Fetch Requests" re-sent by the AAA Proxy to the GSS.
Success	The total number of "Fetch Requests" successfully sent by the AAA Proxy to the GSS.
Failed	The total number of "Fetch Requests" that failed to be sent by the AAA Proxy to the GSS.
Echo Requests	

Field	Description
Sent	The total number of Echo requests sent by the AAA Proxy to the GSS.
Success	The total number of Echo requests successfully sent by the AAA Proxy to the GSS.
Commit Requests	
Sent	The total number of "commit requests" sent by the AAA Proxy to the GSS. This request is sent as a result of executing the "gtpp force-save" Exec mode command.
Success	The total number of "commit requests" successfully sent by the AAA Proxy to the GSS.
Update Requests	
Sent	The total number of requests sent by the AAA Proxy to the GSS to indicate the success of a request from the CGF.
Invalid Request	
Received	The total number of invalid requests sent by the GSS to the AAA Proxy (i.e. when a GSS is reconfigured, all the requests from the old GSS are marked as invalid).
Message Statistics	
Total Req Sent	The total number of requests sent to GSS.
Total Store Req Sent	The total number of requests sent to GSS to store G-CDRs.
Total Rsp Rcvd	The total number of requests responded to GSS.
Total Store Req Sent	The total number of requests to store G-CDRs responded.
Total Notif Msg Rcvd	The total number of notification messages received.
Total Notif Rsp Sent	The total number of notification messages responded.
Total Req Sent Failure	The total number of requests failed during sent.
Invalid Socket State	The total number of requests failed during sent due to invalid socket state.
MED/Socket Tx Failure	The total number of requests failed during sent due to Tx failure of mediation or socket.
Store Response Time Statistics	Statistical information of response time for STORE messages.
Get Next Response Time Statistics	Statistical information of response time of GET NEXT messages.
GCDR distribution in DRT Messages	Distribution of G-CDRs in Data Request Transfer (DRT) messages.

show gtpp storage-server counters

Table 309: show gtpp storage-server counters Command Output Descriptions

Field	Description
Archived GTPP Requests	The total number of GTPP Requests archived with the GSS that have been responded to by the CGF.
Archived Unack GTPP Requests	The total number of GTPP Requests archived with the GSS that have not yet been responded to by the CGF.
Archived GCDRs	The total number of G-CDRs archived in "Acknowledged GTPPRequests".
Archived Unack GCDRs	The total number of G-CDRs archived in "Unacknowledged GTPP Requests".

show gtpp storage-server local file counters

Table 310: show gtpp storage-server local file counters Command Output Descriptions

Field	Description
GTPP Req pending write	The total number of pending GTPP requests to write files to the hard disk..
GTPP Req pending response	The total number responses sent to GTPP requests.
File related counters	
Current file CDR count	The total number of files compressed.
Files pending sync	The number of files that were not able to be compressed.
Compr files pending sync	The number of files waiting to be synced.
Compression in progress	The number of files being compressed.

show gtpp storage-server local file statistics

Table 311: show gtpp storage-server local file statistics Command Output Descriptions

Field	Description
Total CDR written	The total number of GTPP CDR files written to the hard disk.
Total File Rotations	The total number of file rotation processes completed.
File Rotation Type	

Field	Description
CDR-Count-limit	The total number of CDR files that have been rotated.
Time-limit	Identifies the time limit for file rotation..
Forced (0 CDRs)	Identifies the total number of zero-cdr files created at the local storage due to enabling of "force-file-rotation" trigger.
Others	Total number of file rotations happened due to triggers not listed in this table when for local CDR files.
File Compression	
Compression Success	The total number of files compressed.
Compression Failures	The number of files that were not able to be compressed.

show gtpp storage-server status

Table 312: show gtpp storage server status Command Output Descriptions

Field	Description
Configuration	
Execution Mode	Execution mode of the G-CDRs.
File Format	Specifies the file format used for CDRs.
Max GCDRs per filet	Maximum number of G-CDRs per file.
Notification Type	Type of notification.
Poll Interval (min)	Poll interval in Minutes.
Resource Monitor	
Outstanding GCDRs File Period (min)	Outstanding G-CDRs file period in minutes.
CPU Usage(%)	CPU usage in percentage.
Available Disk Gss Datafile Path (GB)	Threshold value for available disk size for path or partition on GSS node where CDR files are generated and stored by GSS Filegen application. Example: /sharedgss
Available Disk Gss Install Path (GB)	Threshold value for available disk size for path or partition on GSS node where basic components of GSS like bin directory, config files, postgres bin directory and local log files are present. Example: /gss

Field	Description
Available Disk Gss Database Path (GB)	Threshold value for available disk size for path or partition on GSS node where postgres database is installed. Example: /sharedpostgres **Note** It is possible that gss and postgres are installed on only one partition, i.e. sharedgss.
Available Memory (MB)	Available memory at a given time.
Resource Monitor Status	
Outstanding GCDRs File Period (min)	Number of outstanding G-CDR files during a given period of time (in minutes).
State	State of the G-CDR collection.
CPU Usage (%)	CPU usage in percentage.
State	State of the CPU.
Available Disk Gss Datafile Path (GB) State	Measured or current value for disk size for path or partition on GSS node where CDR files are generated and stored by GSS Filegen application. Example: /sharedgss If Measured or current value for disk size (GB) falls below configured limit (Threshold value), then Alarm is generated.
Available Disk Gss Install Path (GB) State	Measured or current value for disk size for path or partition on GSS node where basic components of gss like bin directory, config files and postgres bin directory and local log files are present. Example : /gss If Measured or current value for disk size (GB) falls below configured limit (Threshold value), then Alarm is generated.
Available Disk Gss Database Path (GB) State	Measured or current value for available disk size for path or partition on GSS node where postgres database is installed. Example: /sharedpostgres If Measured or current value for disk size (GB) falls below configured limit (Threshold value), then Alarm is generated.
Available Memory (MB)	Amount of memory available for additional G-CDR files.
State:	Condition of the available memory.
Cluster Status	
Cluster Name	Name of the gss cluster.
Online Cluster Node	Name of cluster node(s) that are online at the status collection time.

Field	Description
Cluster Node List	Name(s) of the node(s) included in the cluster.

show gtpp storage-server streaming file statistics

Table 313: show gtpp storage-server streaming file statistics Command Output Descriptions

Field	Description
Total CDR written	Total number of streaming CDRs written into the RAM-Disk when gtpp storage-server "streaming" mode was enabled.
Total CDR sent to remote	Total number of streaming CDRs sent to CGF from the HDD once the CGF/GTPP is up.
Total Files Failed	During streaming if the CDR file is corrupted, the file will not stream to CGF and renamed to ***.fail**. This counters indicates the total number of such failed files.
Total File Rotations	Total number of file rotations based on File Size, CDR count, time-limit when "streaming" mode was enabled. The file rotation triggers are configurable in GTPP Group Configuration mode.
File Rotation Type	
File-Size-limit	Total number of file rotations happened due to "File-Size-limit" trigger when "streaming" mode was enabled.
CDR-Count-limit	Total number of file rotations happened due to "CDR-Count-limit" trigger when "streaming" mode was enabled.
Time-limit	Total number of file rotations happened due to "Time-limit" trigger when "streaming" mode was enabled.
Forced (0 CDRs)	Identifies the total number of zero-cdr files created at the local storage due to enabling of "force-file-rotation" trigger.
Others	Total number of file rotations happened due to triggers not listed in this table when "streaming" mode was enabled.
Automatic File Transfer Statistics	
Total Gtpp-Groups transferred	Total number of GTPP groups for which file transfer was initiated.
Total Files transferred	Total number of files that are transferred.
File Transfer Status	Indicates the file transfer status i.e. Transfer Not initiated, Transfer Success, Transfer Stopped.
Total file transfer initiated count	Total number of times the file transfer was initiated.
Total file transfer stopped count	Total number of times the file transfer was stopped.

show gtpp storage-server streaming file statistics verbose

Table 314: show gtpp storage-server streaming file statistics verbose Command Output Descriptions

Field	Description
Accumulated Statistics:	
Total CDR written	Total number of streaming CDRs written into the RAM-Disk when gtpp storage-server "streaming" mode was enabled.
Total CDR sent to remote	Total number of streaming CDRs sent to CGF from the HDD once the CGF/GTPP is up.
Total CDR accepted	Total number of CDRs that are acknowledged by CGF (successfully streamed by the ASR 5000).
Total CDR req already fulfilled	Total number of CDR requests that are already acknowledged by CGF. **NOTE:** When streaming is in progress from a file, the AAA proxy may fail. When the AAA proxy is recovered, requests will not be sent from files that are acknowledged by CGF. Instead, the counter is incremented.
Total Files sent to remote	Total number of CDR files sent to GTPP Storage Sever and acknowledged by CGF. **NOTE:** When streaming is in progress from a file, the AAA proxy may fail. When the AAA proxy is recovered, requests will not be sent from files that are acknowledged by CGF. Instead, the counter is incremented.
Total Files Failed	During streaming if the CDR file is corrupted, the file will not stream to CGF and renamed to ***.fail**. This counters indicates the total number of such failed files.
Total File Rotations	Total number of file rotations based on File Size, CDR count, time-limit when "streaming" mode was enabled. The file rotation triggers are configurable in GTPP Group Configuration mode.
File Rotation Type	
File-Size-limit	Total number of file rotations happened due to "File-Size-limit" trigger when "streaming" mode was enabled.
CDR-Count-limit	Total number of file rotations happened due to "CDR-Count-limit" trigger when "streaming" mode was enabled.
Time-limit	Total number of file rotations happened due to "Time-limit" trigger when "streaming" mode was enabled.
Forced (0 CDRs)	Identifies the total number of zero-cdr files created at the local storage due to enabling of "force-file-rotation" trigger.
Others	Total number of file rotations happened due to triggers not listed in this table when "streaming" mode was enabled.
CDR distribution in DRT Messages	

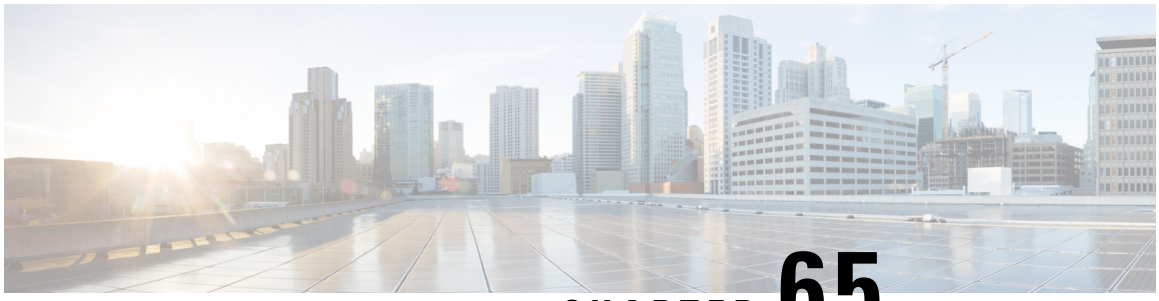
Field	Description
0:	Total number of Data Request Transfer (DRT) requests sent with no CDRs.
1:	Total number of Data Request Transfer (DRT) requests sent with one CDR.
2..5:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 2 to 5.
6..10:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 6 to 10.
11..15:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 11 to 15.
16..20:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 16 to 20.
21..40:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 21 to 40.
41..60:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 41 to 60.
61..80:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 61 to 80.
81..100:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 81 to 100.
101..150:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 101 to 150.
151..200:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 151 to 200.
201..254:	Total number of Data Request Transfer (DRT) requests sent where each request contains CDRs from 201 to 254.
255:	Total number of Data Request Transfer (DRT) requests sent where each request contains 255 CDRs.

show gtpp storage-server streaming file counters all

Table 315: show gtpp storage-server streaming file counters all Command Output Descriptions

Field	Description
GTPP Req pending write	Total number of CDR request queued up and not yet stored in RAM-Disk when "streaming" mode was enabled.

Field	Description
GTPP Req pending response	Total number of GTPP request yet to send acknowledgement to the AAAMgr after storing the CDRs successfully in RAM-Disk when "streaming" mode was enabled.
File related counters	
Current file CDR count	Total number of CDRs stored in RAM-disk file which is not yet synced to the HDD when "streaming" mode was enabled.
Files pending sync	Total number of files waiting for the sync response from HDD when "streaming" mode was enabled.
Current Pending CDRs in HDD	Total number of CDRs written into the hard-disk (Indicates the CDR count of rotated files) when "streaming" mode was enabled.
Current Pending Files in HDD	Total number of files stored in hard-disk when "streaming" mode was enabled.



CHAPTER 65

show gtpu-service

This chapter includes the **show gtpu-service** command output tables.

- show gtpu-service { name | all }, on page 1225
- show gtpu statistics, on page 1226

show gtpu-service { name | all }

Table 316: show gtpu-service all Command Output Descriptions

Field	Description
Service name	The name of the service configured in the named context.
Context	The name of the context where the service is configured.
State	The status of the service, i.e., "Initiated".
Echo Interval	The duration between the sending of GTP-U echo messages.
Sequence Number	Identifies if the sequence number is added to every GTP-U packet.
Include UDP Port Ext.Hdr	Indicates if an extension header, in the GTP-U packet header, allowing for error indication messages will be added.
Max-retransmissions	The number of user data packet request message retransmissions that can be sent before an error condition is established.
Retransmission Timeout	The number of seconds between the re-sending of GTP-U echo messages
IPSEC Tunnel Idle Timeout	The number of seconds an IPSec tunnel is idle before tunnel deletion is triggered.
Allow Error-Indication	Indicates if the error indication will be allowed or suppressed upon the receipt of a user data packet for a non-existent session.
Address List	Identifies the IP address used to transmit/receive GTP-U packets. Also indicates, if configured, the type of bearer traffic to be associated with the bind address (non-ims media only, ims-media only or all).

Field	Description
GTPU UDP Checksum	Indicates if the UDP checksum in UPD header of GTP-U packet is enabled/disabled and if it is optimized. Possible values are: • Disabled • Enabled - Attempt Optimize Default Mode • Enabled - No Optimize
Path Failure Detection on gtp echo msgs	Identifies if the path failure detection is enabled upon reaching the maximum number of echo retransmissions.
Path Failure Clear Trap	Identifies the configuration of the **path-failure clear-trap** command. **Echo** indicates that the path-failure trap will be cleared only on receipt of an echo message from the particular peer. **Non-echo** indicates that the path-failure trap will be cleared on receipt of the first control plane message for that GTPU peer allocation.
GTPU Source-port Configuration	: Use Standard Port
GTPU Source-port Offset	The offset configured for the GTPU source port.
GTPU Peer Statistics Threshold	The maximum number of GTPU peers supported. The default value is 16000.

show gtpu statistics

Table 317: Show gtpu Statistics Command Output Descriptions

Counter	Description
Session Stats	
Current	The total number of current sessions set up using GTPU service.
Current (IMS-media)	The total number of current (IMS-media) sessions set up using GTPU service
Total Setup	The total number of sessions set up using GTPU service.
Total Setup (IMS-media)	The total number of sessions set up (IMS-media) using GTPU service.
Current gtpu v0 sessions	The total number of current GTP-0 sessions.

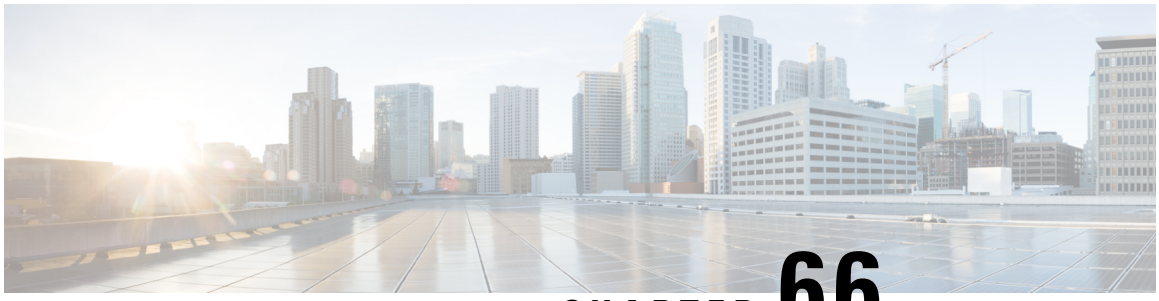
Counter	Description
Current gtpu v1 sessions	The total number of current GTP-1 sessions.
Total Data Stats	
Uplink Packets	The total number of uplink packets.
Uplink Bytes	The total number of uplink bytes.
Downlink Packets	The total number of downlink packets.
Downlink Bytes	The total number of downlink bytes.
Packets Discarded	The total number of discarded packets.
Bytes Discarded	The total number of discarded bytes.
Uplink Packets (IMS-media)	The total number of uplink packets (IMS-media).
Uplink Bytes (IMS-media)	The total number of uplink bytes (IMS-media).
Downlink Packets (IMS-media)	The total number of downlink packets (IMS-media).
Downlink Bytes (IMS-media)	The total number of downlink bytes (IMS-media).
Packets Discarded (IMS-media)	The total number of discarded packets (IMS-media).
Bytes Discarded (IMS-media)	The total number of discarded bytes (IMS-media).
QoS Stats	
QCI <n>	
Uplink Packets	The total number of QCI <n> uplink packets.
Uplink Bytes	The total number of QCI <n> uplink bytes.
Downlink Packets	The total number of QCI <n> downlink packets.
Downlink Bytes	The total number of QCI <n> downlink bytes.
Packets Discarded	The total number of discarded QCI <n> packets.
Bytes Discarded	The total number of discarded QCI <n> bytes.
Non-Std QCI(Non-GBR)	
Uplink Packets	The total number of non-standard QCI, non-GBR uplink packets.
Uplink Bytes	The total number of non-standard QCI, non-GBR uplink bytes.
Downlink Packets	The total number of non-standard QCI, non-GBR downlink packets.

Counter	Description
Downlink Bytes	The total number of non-standard QCI, non-GBR downlink bytes.
Packets Discarded	The total number of discarded non-standard QCI, non-GBR packets.
Bytes Discarded	The total number of discarded non-standard QCI, non-GBR bytes.
Non-Std QCI(GBR)	
Uplink Packets	The total number of non-standard QCI (GBR) uplink packets.
Uplink Bytes	The total number of non-standard QCI (GBR) uplink bytes.
Downlink Packets	The total number of non-standard QCI (GBR) downlink packets.
Downlink Bytes	The total number of non-standard QCI (GBR) downlink bytes.
Packets Discarded	The total number of discarded non-standard QCI (GBR) packets.
Bytes Discarded	The total number of discarded non-standard QCI (GBR) bytes.
Total GBR QCI'S	
Total uplink packets GBR QCI's	The total number of GBR QCI (s) uplink packets.
Total uplink Bytes GBR QCI's	The total number of GBR QCI (s) uplink bytes.
Total Downlink packets GBR QCI's	The total number of GBR QCI (s) downlink packets.
Total Downlink Bytes GBR QCI's	The total number of GBR QCI (s) downlink bytes.
Total uplink packets Non-GBR QCI's	The total number of non-GBR QCI (s) uplink packets.
Total uplink Bytes Non-GBR QCI's	The total number of non-GBR QCI (s) uplink bytes.
Total Downlink packets Non-GBR QCI's	The total number of non-GBR QCI (s) downlink packets.
Total Downlink Bytes Non-GBR QCI's	The total number of non-GBR QCI (s) downlink bytes.
Path Management Messages	
Echo Request Rx	The total number of GTPU echo requests received.
Echo Response Rx	The total number of GTPU echo responses received.

Counter	Description
Echo Request Tx	The total number of GTPU echo requests transmitted.
Echo Response Tx	The total number of GTPU echo responses transmitted.
SuppExtnHdr Tx	Total GTPU messages with supported extension headers transmitted.
SuppExtnHdr Rx	Total GTPU messages with supported extension headers received.
Peer Stats	
Total GTPU Peers	Total number of GTPU Peers available in the system.
Total GTPU Peers with Stats	The total number of GTPU Peers available in the system with statistics.
Tunnel Management Messages	
Error Indication Tx	The number of Error Indication messages transmitted.
Error Indication Rx	The number of Error Indication messages received.
Error Indication Rx Discarded	The total number of error indications discarded.
Optimization Stats	
Total Packets Input	Total number of packets input.
Total Packets Optimized	Total number of packets optimized.
Total TCP Packets Input	The total number of TCP packets input.
Total TCP Packets Optimized	The total number of TCP packets optimized.
Total UDP Packets Input	The total number of UDP packets input.
Total UDP Packets Optimized	The total number of UDP packets optimized.
Total Fragments Input	The total number of fragments input.
IPSec Data Stats	
Discards Due To IPSec Tunnel Not Present	
Packets Discarded	Number of discarded IPSec Tunnel packets.
Bytes Discarded	Number of discarded IPSec Tunnel bytes.
Err-Ind Tx Discarded	Number of discarded IPSec Tunnel error Indication messages that are sent.

Note In CUPS, the "Packets Discarded" statistics will be the aggregate of packets dropped at the Session manager and packets dropped at VPP. As VPP handles majority packets, the packet drops at VPP can only be categorized broadly under these statistics.

You can view specific packet drop reasons only for packets dropped at session manager. Packets dropped at VPP are categorized under Packets Discarded counter in the **show gtpu statistics** CLI.



CHAPTER 66

show hardware

This chapter includes the **show hardware** command output tables.

Important The nomenclature appearing in the outputs of **show hardware** commands vary based on platform (VPC, ASR 5000, ASR 5500), card type, date of manufacture, and the StarOS release.

- show hardware (VPC-DI), on page 1231
- show hardware (VPC-SI), on page 1233
- show hardware card (ASR 5000), on page 1234
- show hardware card (ASR 5500), on page 1237
- show hardware inventory (ASR 5x00), on page 1241
- show hardware version (ASR 5000), on page 1241
- show hardware version (ASR 5500), on page 1242
- show hardware version (VPC-DI), on page 1243

show hardware (VPC-DI)

In a VPC-DI instance, card numbers correspond to the virtual slot numbers assigned to the virtual machines (VMs) that run StarOS within the virtual chassis created by hypervisor templates.

Table 318: show hardware Command Output Descriptions (VPC-DI)

Field	Description
Control Function and Service Function Cards	
Card <number>	Virtual slot number of the specified card. Slots 1 and 2 = CF; Slots 3 – 48 = SF.
Card Type	Control Function Virtual Card or 1-Port Service Function Virtual Card.
CPU Packages	Number of vCPUs.
CPU nodes	Number of CPU nodes.
CPU Cores/Threads	Number of cores/threads.

Field	Description
Memory	vMemory in Megabytes
Platform	Hypervisor type.
CFE/Diags	Common Firmware Environment/Diagnostic firmware.
Network Interfaces	
cpeth0	VPC-DI network communication port.
Address	MAC address.
Device	Device type.
ID	VPC-DI identifier (hexadecimal).
Driver	Driver type.
RxQ(s)/RINGSZ/COALESCE	Receive queue information from hypervisor.
TxQ(s)/RINGSZ/COALESCE	Transmit queue information from hypervisor.
loeth0	**CF only:** LOCAL management port (Console).
Address	MAC address.
Device	Device type.
ID	VPC-DI identifier (hexadecimal).
Driver	Driver type.
RxQ(s)/RINGSZ/COALESCE	Receive queue information from hypervisor.
TxQ(s)/RINGSZ/COALESCE	Transmit queue information from hypervisor.
port_*slot_port*	**SF only:** Service port.
Address	MAC address.
Device	Device type.
ID	VPC-DI identifier (hexadecimal).
Driver	Driver type. (alphanumeric string)
RxQ(s)/RINGSZ/COALESCE	Receive queue information from hypervisor.
TxQ(s)/RINGSZ/COALESCE	Transmit queue information from hypervisor.
Storage Devices	
Virtual Flash	Indicates whether or not the virtual /flash drive is Present.
Type	Virtual drive type (alphanumeric string).

Field	Description
Model	Virtual drive model (alphanumeric string).
Hard Drive 1	Indicates whether virtual Hard Drive 1 is Present.
Type	Virtual drive type (alphanumeric string).
Model	Virtual drive model (alphanumeric string).
Hard Drive 2	Indicates whether virtual Hard Drive 2 is Present.
USB 1	Indicates whether virtual USB port 1 is Present (must be configured via hypervisor).
USB 2	Indicates whether virtual USB port 2 is Present (must be configured via hypervisor).
CDROM 1	Indicates whether virtual a CDROM is Present (must be configured via hypervisor).
Type	CDROM drive type (alphanumeric string).
Model	CDROM drive model (alphanumeric string).
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.

show hardware (VPC-SI)

For VPC-SI, the output of this command displays the parameters of the virtual chassis created by the hypervisor in which the StarOS VM runs.

Table 319: show hardware Command Output Descriptions (VPC-SI)

Field	Description
System information	
Platform	Hypervisor type.
UUID/Serial Number	Cisco serial number
CPU Packages	Number of vCPUs.
CPU nodes	Number of CPU nodes.

Field	Description
CPU Cores/Threads	Number of cores/threads.
Memory	vMemory in Megabytes
Storage Devices	
Virtual Flash	Indicates whether or not the virtual /flash drive is Present.
Type	Virtual drive type (alphanumeric string).
Model	Virtual drive model (alphanumeric string).
Hard Drive 1	Indicates whether virtual Hard Drive 1 is Present.
Type	Virtual drive type (alphanumeric string).
Model	Virtual drive model (alphanumeric string).
Hard Drive 2	Indicates whether virtual Hard Drive 2 is Present.
USB 1	Indicates whether virtual USB port 1 is Present (must be configured via hypervisor).
USB 2	Indicates whether virtual USB port 2 is Present (must be configured via hypervisor).
CDROM 1	Indicates whether virtual a CDROM is Present (must be configured via hypervisor).
Type	CDROM drive type (alphanumeric string).
Model	CDROM drive model (alphanumeric string).
Network Interfaces	
loeth0	LOCAL management port IP address and port type.
port1_<10 through 21>	Traffic management port IP address and port type in parentheses.

show hardware card (ASR 5000)

Table 320: show hardware card Command Output Descriptions (ASR 5000)

Field	Description
Common to All Card Types	
Card <number>	Slot number of the specified card.
Card Type	Description of the card in the specified slot, for example "System Management Card".

Field	Description
Card Description	SMC, PSC*x*, FELC, GELC/GLC2, QGLC, XGLC, CLC/CLC2, OLC/OLC2, SPIO, RCC
Part Number	Legacy part number (xxx-xx-xxxx xx).
Serial Number	Legacy part number (alphanumeric string).
CLEI Code, Starent CLEI Code	Common Language Equipment Identifier (CLEI) code.
UDI Product ID	Unique Device Identifier (UDI) Product Identifier (PID).
UDI Version ID	UDI version.
UDI Serial Number	UDI serial number (alphanumeric string).
UDI CLEI Code	UDI Common Language Equipment Identifier (CLEI) code.
UDI Top Assembly Number	UDI for top-level assembly.
UDI TAN Revision	UDI Top Assembly Number (TAN) revision level.
UDI Deviation Number	UDI deviation number (DEVNUM).
MAC Addresses	Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx.
Switch Fabric Modes	Mode type – "control plane" and/or "switch fabric".
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
System Management Card	
Compact Flash	Status of PCMCIA flash memory card, for example "Present".
Type	Memory capacity of the Compact Flash card.
Model	Operational card type.
Serial Number	Serial number of this Compact Flash card.
PCMCIA1	Status of front panel Personal Computer Memory Card International Association (PCMCIA) card, for example "Not Present".
Hard Drive 1	Status of this hard drive, for example "Present".
Type	Drive capacity in Mbytes.

Field	Description
Model	Manufacturer and model number.
Serial Number	Serial number of the hard drive.
SRM	Status, Reset, and Monitoring firmware.
BIOS	Basic Input/Output System.
CIF FPGA	Chassis Information (CIF) Field Programmable Gate Array (FPGA) firmware.
CPU 0 Type/Memory	Socket: 0: <processor type>, <processor speed>: Chipset: <chipset_type>, <part_number>, <RAM>
CPU 0 DIMM-A1 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-B1 P/N	Dual In-line Memory Module part number.
CPU 0 CFE/Diags	Common Firmware Environment/Diagnostic firmware.
Packet Processing Card (PSC, PSC2, PSC3, PSCA, PPC)	
NPU Microcode	Firmware running on the Network Processing Unit (NPU).
Slave SCB	Firmware component that allows non-SMC cards to communicate with the SMC over the system control bus (SCB).
PSR, PSR2	Power, Status, and Reset firmware.
BIOS	Basic Input/Output System firmware.
DT FPGA, DT2 FPGA	Data Transport (DT) Field Programmable Gate Array (FPGA) firmware.
CPU 0 Type/Memory	Socket: 0, <processor type>, <processor speed>. Socket: 1, <processor type>, <processor speed>. Chipset: <components>.
CPU 0 DIMM-N0D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N0D1 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1D1 P/N	Dual In-line Memory Module part number.
CPU 1 Type/Memory	<processor type> <processor speed> <memory in MB>
CPU 0 CFE/Diags	Common Firmware Environment/Diagnostic firmware.
Line Cards (SPIO, RCC, FELC, GELC/GLC2, QGLC, XGLC, CLC/CLC2, OLC/OLC2)	
Slave SCB	Firmware component that allows non-SMC cards to communicate with the SMC over the system control bus (SCB).

Field	Description
FPGA	Field-Programmable Gate Array firmware.
SFP Info (Port 1 or 2)	Information about the Small Form-factor Pluggable (SFP) transceivers includes: Vendor Name, Vendor IEEE ID, P/N (part number), S/N (serial number, date.

show hardware card (ASR 5500)

Table 321: show hardware card Command Output Descriptions (ASR 5500)

Field	Description
Common to All Card Types	
Card <number>	Slot number of the specified card.
Card Type	Data Processing Card Management & 20x10Gb I/O Card Management v2 & 4x 100Gb I/O Card System Status Card Fabric & 2x200GB Storage Card
Description	Card type – DPC, DPC2, MIO, MIO2, SSC, FSC.
Starent Part Number	Legacy part number (xxx-xx-xxxx xx).
Cisco Part Number	Cisco part number.
CLEI Code	Common Language Equipment Identifier (CLEI) code.
UDI Serial Number	Unique Device Identifier (UDI) serial number (alphanumeric string).
UDI Product ID	UDI Product Identifier (PID) [alphanumeric string].
UDI Version ID	UDI version (alphanumeric string).
UDI Top Assem Num	UDI for top-level assembly.
Data Processing Card (DPC)	
Daughter Card #3	Daughter card number.
Card Type	DPC CCK Daughter Card (crypto).
Description	DPC_CRYPTO_DC.
Starent Part Number	Legacy part number (xxx-xx-xxxx xx).

Field	Description
UDI Serial Number	UDI serial number (alphanumeric string).
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
BCF	Board Control FPGA firmware.
CAF	Control and Availability FPGA firmware.
CPU 0 Type/Memory	Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed>
CPU 0 DIMM-N0C0D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N0C1D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N0C2D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1C0D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1C1D0 P/N	Dual In-line Memory Module part number.
CPU 0 DIMM-N1C2D0 P/N	Dual In-line Memory Module part number.
CPU 0 BIOS	Basic Input/Output System.
CPU 0 i82599	Intel 10GbE Controller firmware.
CPU 0 i82574	Intel Gigabit Ethernet Controller firmware.
CPU 0 CFE	Common Firmware Environment version.
CPU 1 Type/Memory	Socket 0: <processor type>, <processor speed> Socket 1: <processor type>, <processor speed>
CPU 1 DIMM-N0C0D0 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N0C1D1 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N0C2D2 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N1C0D0 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N1C1D1 P/N	Dual In-line Memory Module part number.
CPU 1 DIMM-N1C1D1 P/N	Dual In-line Memory Module part number.

Field	Description
CPU 1 BIOS	Basic Input/Output System.
CPU 1 i82599	Intel 10 GbE Controller firmware.
CPU 1 i82574	Intel Gigabit Controller firmware.
CPU 1 CFE	Common Firmware Environment version.
Management Input/Output (MIO)	
Daughter Card #<number>	Daughter card number.
Card Type	MIO 10x10Gb Daughter Card. MIO CCK Daughter Card (crypto).
Description	MDC MIO_CRYPTO_DC
Starent Part Number	Legacy part number (xxx-xx-xxxx xx)
Cisco Part Number	Cisco part number.
UDI Serial Number	Unique Device Identifier (UDI) serial number [alphanumeric string].
Midplane:	Chassis EPROM information.
Card Type	Midplane EPROM Card.
MAC Addresses	Media Access Controller hexadecimal starting address in format: xx-xx-xx-xx-xx-xx.
MEC:	Midplane EEPROM Card.
Description	MEC.
Cisco Part Number	Cisco part number (nn-nnnnn-nn Ln).
UDI Serial Number	Unique Device Identifier (UDI) serial number [alphanumeric string].
UDI Product ID	UDI Product Identifier (PID) [alphanumeric string].
UDI Version ID	UDI version (alphanumeric string).
Midplane:	
Description	Midplane.
Cisco Part Number	Cisco part number (nn-nnnnn-nn Ln).
UDI Serial Number	UDI serial number (alphanumeric string).
Chassis:	
Description	Chassis.

Field	Description
Cisco Part Number	Cisco part number (nn-nnnnn-nn Ln).
UDI Serial Number	UDI serial number (alphanumeric string).
UDI Product ID	Cisco Product Identifier (PID) [alphanumeric string].
UDI Version ID	UDI version (alphanumeric string).
UDI Top Assem Num	UDI for top-level assembly.
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
SDHC Flash	Secure Digital High Capacity on-board flash memory (/flash drive).
Type	Disk capacity in Mbytes.
Model	Generic-UltraFastMedia.
USB 1	Status of front panel USB port, for example. "Not Present".
SFP+ Module On Port <number>:	Information on the SFP+ transceiver in the specified port (10 through 29).
Transceiver Info	SFP+ transceiver type.
Vendor Info	Vendor Name and Vendor IEEE ID.
Part Info	Cisco PID and serial number.
System Status Card (SSC)	
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
BCF	Board Control FPGA firmware.
Fabric and Storage Card (FSC)	

Field	Description
Card Programmables	Indicates if the software on any of the programmable components on the card is not at the current revision. "up to date" – all software is current "out of date" – identifies one or more components do not have the most current software. "experimental/unreleased" – one or more components have experimental or unreleased software.
BCF	Board Control FPGA firmware.

show hardware inventory (ASR 5x00)

Table 322: show hardware inventory Command Output Descriptions

Field	Description
Slot	Slot number of the specified card.
Type	Descriptor of the card in the specified slot.
Part Number	Starent or Cisco part number.
Product ID / Version ID	Cisco PID and version identifier.
Serial Number	Serial number of the card.
CLEI code	Common Language Equipment Identifier (CLEI) code.
Fan Tray (ASR 5500 only)	Lower Rear Lower Front Upper Rear Upper Front

show hardware version (ASR 5000)

Table 323: show hardware version Command Output Descriptions (ASR 5000)

Field	Description
Slot	Slot number of the specified card.
Type	Descriptor of the card in the specified slot.
Packet Processing Card	

Field	Description
SSCB	Slave Serial Control Bus (SSCB) firmware.
PSR, PSR2	Power, Status, and Reset firmware.
BIOS A	Basic Input/Output System A.
BIOS B	Basic Input/Output System B.
DT, DT2	Data Transport (DT) FPGA firmware.
System Management Card	
SRM	Status, Reset, and Monitoring (SRM) firmware.
BIOS A	Basic Input/Output System A.
BIOS B	Basic Input/Output System B.
On-Card	Version of the firmware that is on the boot flash for the component.
CIF-FPGA Running	Chassis Information (CIF) FPGA firmware that is currently operational.
Line Cards	
SSCB	Slave Serial Control Bus (SSCB) firmware.
FPGA	Field Programmable Gate Array.
On-Card	Version of the firmware that is on the boot flash for the component.
WPOS Running	WinPath Operational Software
Diagnostic Revisions	
On-Card	Version of the firmware that is on the boot flash for the component.
CPU 0 Running	Firmware that is currently operational on this CPU.
Fan Tray Controller Version	
Upper Fan Tray	UFT controller firmware.
Lower Fan Tray	LFT controller firmware.

show hardware version (ASR 5500)

Table 324: show hardware version Command Output Descriptions (ASR 5500)

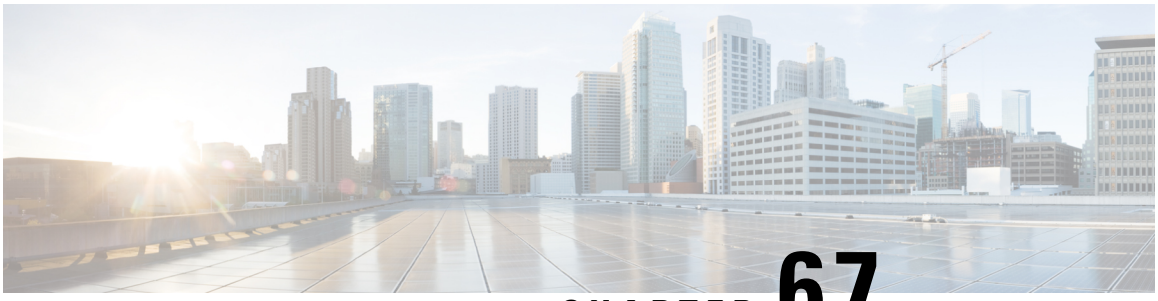
Field	Description
Slot	Slot number of the specified card.

Field	Description
Type	Descriptor of the card in the specified slot – DPC, DPC2, MIO, MIO2, SSC, FSC.
BCF	Board Control FPGA firmware.
CAF	Control and Availability FPGA firmware.
CAF Rcry	CAF Recovery.
DCF A	Daughter Card FPGA A firmware.
DCF B	Daughter Card FPGA B firmware.
CPU	CPU number.
BIOS A	Basic Input/Output System A.
BIOS B	Basic Input/Output System B.
82599 A	Intel 10GbE Controller firmware.
82574 A	Intel Gigabit Ethernet Controller firmware.
PLX8618	PCIe Switch PROM.
N9485 A	Serial Attached SCSI Controller A, SPI (SCSI Parallel interface) Flash.
N9485 B	Serial Attached SCSI Controller B, SPI Flash.
CFE Flsh	Common Firmware Environment on /flash.
Fan Tray Controller Version	
Upper Fan Tray	UFT controller firmware (front and rear).
Lower Fan Tray	LFT controller firmware (front and rear).

show hardware version (VPC-DI)

Table 325: show hardware version (VPC-DI) Command Output Descriptions (VPC-DI)

Field	Description
Slot	Slot number of the specified card.
Type	Descriptor of the card in the specified slot – CFC or SFC.
CFE Flash	Version number of Common Firmware Environment.



CHAPTER 67

show hd-storage-policy

This chapter includes the **show hd-storage-policy** command output tables.

- show hd-storage-policy counters all, on page 1245
- show hd-storage-policy statistics all, on page 1245

show hd-storage-policy counters all

Table 326: show hd-storage-policy counters all Command Output Descriptions

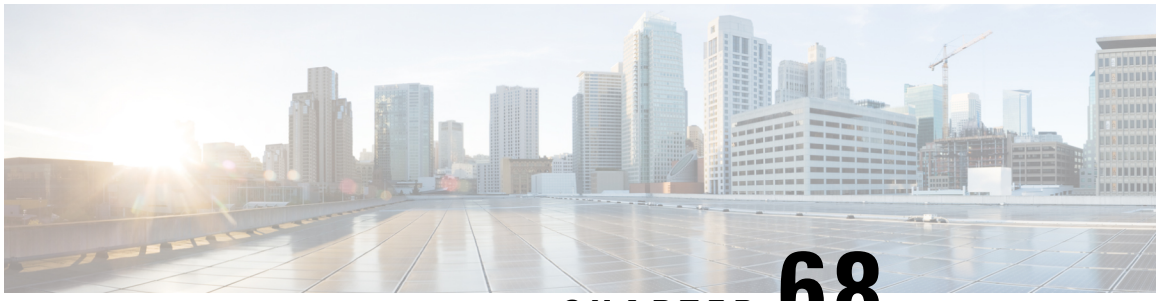
Field	Description
HD Storage Policy	The name of the HD storage policy configured on the system.
Diameter Counters	
File related counters	
Current ACR file record count	The total number of ACR file records for this policy currently stored on the HDD.
Current ACR file Size	The current ACR file size on the HDD for this policy.
Current ACR Files Synched to HDD	The total number of ACR files rotated and sent to the hard disk drive from the time the system is operational.

show hd-storage-policy statistics all

Table 327: show hd-storage-policy statistics all Command Output Descriptions

Field	Description
HD Storage Policy	The name of the HD storage policy configured on the system.
Diameter Statistics	
Total ACR written	The total number of active charging records written to the HD storage device for this policy.

Field	Description
Total ACR File Rotations	The total number of times files were rotated.
File Rotation Type	
ACR-File-Size-limit	The file size limit, in megabytes. When exceeded, file rotation occurs.
ACR-Record-Count-limit	The record count limit. When exceeded, file rotation occurs.
ACR-Time-limit	The time limit, in seconds. When exceeded, file rotation occurs.
ACR-Manual-File-Rotation	The total number of times file rotation was initiated manually.
ACR-Others	The total number or ACR rotations for reasons other than above. If incremented, this counter generally indicates an error condition.



CHAPTER 68

show hd raid verbose

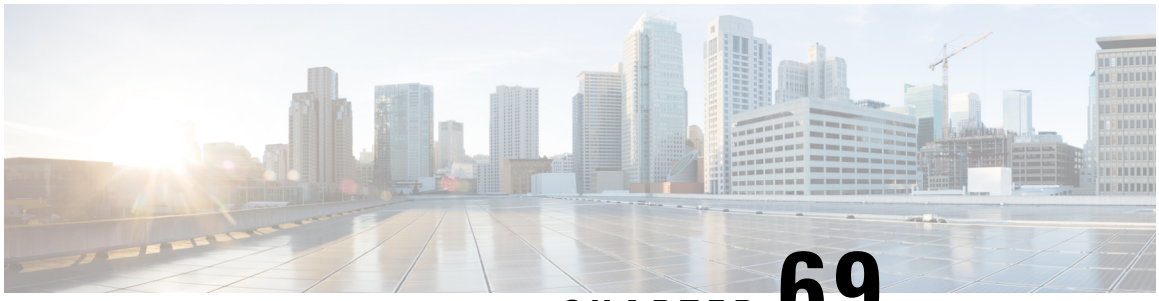
- show hd raid verbose, on page 1247

show hd raid verbose

Table 328: show hd raid verbose Command Output Descriptions

Field	Description
HD RAID	
State	The following conditions apply to the RAID function: Available (clean): At least one disk is readyAvailable (active): Disk resynchronizingNot Available
Degraded	The following conditions apply: No: Both disks are readyYes: One disk is ready
UUID	Universal Identification number
Size	Drive size in bytes
Action	The following conditions apply: Idle: Neither resynchronizing nor rebuilding RAIDRecovering (dd% done) RebuildingResynching (dd% done)Checking (dd% done)Repairing (dd% done)
Disk	Disk name

Field	Description
	The following conditions apply to the disk: State: In-sync componentSpare component: Rebuilding RAIDValid image of UUID: Different imageNot used: Set by AdminFaulty componentInvalid partition or imageUnknown partition or image Created Date image created Updated Date image updated Events Interval event count Model Disk model number Serial Number Disk serial number Location Disk location Size Disk size in bytes Partitions Total number of partitions Partition Partition size in bytes and sectors for each partition



CHAPTER 69

show henbgw

Important In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

This chapter includes the **show henbgw** command output tables.

- show henbgw-access-service all, on page 1249
- show henbgw-access-service henb-association full, on page 1250
- show henbgw-access-service statistics verbose, on page 1251
- show henbgw-network-service all, on page 1259

show henbgw-access-service all

Table 329: show henbgw-access-service all Command Output Descriptions

Field	Description
Service name	The name used to identify the HeNB-GW Access service to the system. **Important** At a time only one HeNB-GW Access Service can be configured per system.
Context name	The name of the system context in which the HeNB-GW Access service is defined.
Status	The status of the configured HeNB-GW Access Service, e.g. Started or Not Started.
SCTP IP Address	The IP address used to transmit SCTP messages from HeNBs to the HeNB-GW.
SCTP Port	The HeNB-GW uses this port to listen for SCTP messages from HeNBs.
MME Code	The HeNB-GW Access Service uses MME Code which is a configurable option used to send HENB prior to 17.0 release in S1 Setup Resp.

Field	Description
MME Group	The HeNB-GW Access Service uses this MME group ID to identify the MME for communication. This configurable option used to be sent to HENB prior to 17.0 in S1 Setup Resp.
PLMN Id	The Public Land Mobile Network ID configured for this HeNB-GW Access service. It consists of the MCC and MNC (see below).
MCC	The Mobile Country Code defined for use with this HeNB-GW Access service. It consists of the first 3 digits of the Available Radio Network PLMN ID.
MNC	The Mobile Network Code defined for use with this HeNB-GW Access service. It consists of the last 3 digits of the Available Radio Network PLMN ID.
S1-U Relay	Identifies if the S1-U Relay is configured or not for this HeNB-GW Access Service. If S1-U Relay is disabled, the data path is established directly between HeNB and S-GW.

show henbgw-access-service henb-association full

Table 330: show henbgw-access-service henb-association full peer address peer_addr Command Output Descriptions

Field	Description
SessMgr	Session Manager instance used for the entrance of S1AP signaling messages from access side.
Peerid	ID of the associated peer(s) to the HeNB-GW Access Service.
Global HENB ID	Globally Unique ID of HENB.
HENB Name	The name used to identify the Home eNodeB coonected to the HeNB-GW Access service.
HENBGW Access Service Name	The name used to identify the HeNB-GW Access service to the system.
HENBGW Access Service Address	The IP address used to bind the HeNB-GW Access service to the system.
HENBGW ACCESS Service Port	The IP Port associated to the IP address of the configured HeNB-GW Access service to the system.
HENB IP Address(s)	IP address(s) assigned to the connected Home eNode B(s).
HENB Port	Port(s) associated to the HeNB's IP address(s)
Paging DRX	Paging Drx value received from HeNB in S1 Setup Request.
Supported TAI(s)	TAI of HeNB received.

Field	Description
CSG ID(s)	CSG ID of HeNB received.

show henbgw-access-service statistics verbose

Table 331: show henbgw-access-service verbose Command Output Descriptions

Field	Description
SCTP Statistics: Transmitted SCTP Data	
Init Chunks	The total SCTP packets with INIT transmitted over SCTP interface by this HeNBGW.
Init Ack Chunks	The total SCTP packets with INIT-ACK transmitted over SCTP interface by this HeNBGW.
Shutdown Chunks	The total SCTP packets with SHUTDOWN transmitted over SCTP interface by this HeNBGW.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK transmitted over SCTP interface by this HeNBGW.
Cookie Chunks	The total SCTP packets with COOKIE transmitted over SCTP interface by this HeNBGW.
Cookie Ack Chunks	The total SCTP packets with COOKIE-ACK transmitted over SCTP interface by this HeNBGW.
Data Chunks	The total SCTP packets with DATA transmitted over SCTP interface by this HeNBGW.
Data Ack Chunks	The total SCTP packets with DATA-ACK transmitted over SCTP interface by this HeNBGW.
Shutdown Complete Chunks	The total SCTP packets with SHUTDOWN-COMPLETE transmitted over SCTP interface by this HeNBGW.
Heartbeat Chunks	The total SCTP packets with HEARTBEAT transmitted over SCTP interface by this HeNBGW.
HeartBeat Ack Chunks	The total SCTP packets with HEARTBEAT-ACK transmitted over SCTP interface by thisHeNBGW.
Abort Chunks	The total SCTP packets with ABORT transmitted over SCTP interface by this HeNBGW.
Error Chunks	The total SCTP packets with ERROR transmitted over SCTP interface by this HeNBGW.
SCTP Statistics: Received SCTP Data	

Field	Description
Init Chunks	This sub-group displays the statistics of the total data received over SCTP interface and processed by this HeNBGW.
Init Ack Chunks	The total SCTP packets with INIT-ACK received over SCTP interface by this HeNBGW.
Shutdown Chunks	The total SCTP packets with SHUTDOWN received over SCTP interface by this HeNBGW.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK received over SCTP interface by this HeNBGW.
Cookie Chunks	The total SCTP packets with COOKIE received over SCTP interface by this HeNBGW.
Cookie Ack Chunks	The total SCTP packets with COOKIE-ACK received over SCTP interface by this HeNBGW.
Data Chunks	The total SCTP packets with DATA received over SCTP interface by this HeNBGW.
Data Ack Chunks	The total SCTP packets with DATA-ACK received over SCTP interface by this HeNBGW.
Shutdown Complete Chunks	The total SCTP packets with SHUTDOWN-COMPLETE received over SCTP interface by this HeNBGW.
Heartbeat Chunks	The total SCTP packets with HEARTBEAT received over SCTP interface by this MMEmanager.
HeartBeat Ack Chunks	The total SCTP packets with HEARTBEAT-ACK received over SCTP interface by this HeNBGW.
Abort Chunks	The total SCTP packets with ABORT received over SCTP interface by this HeNBGW.
Error Chunks	The total SCTP packets with ERROR received over SCTP interface by this HeNBGW.
SCTP Statistics: Retransmitted SCTP Data	
Init Chunks	The total SCTP packets with INIT retransmitted over SCTP interface by this HeNBGW.
Shutdown Chunks	The total SCTP packets with SHUTDOWN retransmitted over SCTP interface by this HeNBGW.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK retransmitted over SCTP interface by this HeNBGW.
Cookie Chunks	The total SCTP packets with COOKIE retransmitted over SCTP interface by this HeNBGW.

Field	Description
Data Chunks	The total SCTP packets with DATA transmitted over SCTP interface by this HeNBGW.
Total Bytes Sent	The total bytes processed and sent over SCTP interface by this HeNBGW.
Total Bytes Received	The total bytes received over SCTP interface by this HeNBGW for processing.
Total Packets Sent	The total packets processed and sent over SCTP interface by this HeNBGW.
Total Packets Received	The total packets received over SCTP interface by this HeNBGW for processing.
S1AP Statistics: Transmitted S1AP Data	
S1 Setup Resp	The total number of S1 SETUP RESPONSE messages for S1 setup procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
S1 Setup Fail	The total number of S1 SETUP FAILURE messages for S1 setup procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Reset	The total number of S1 RESET messages for S1 reset procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Reset Ack	The total number of S1 RESET-ACK messages for S1 reset procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Overload Start	The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Overload Stop	The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
MME Dir Info Transfer	The total number of MME DIRECT INFORMATION TRANSFER messages for MME Direct Information Transfer procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Paging	The total number of PAGING messages for paging procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
eNB Config Update Ack	The total number of ENB CONFIGURATION UPDATE ACK messages for eNodeB Configuration Update procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
eNB Config Update Fail	The total number of ENB CONFIGURATION UPDATE FAILURE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.

Field	Description
S1AP Msg Encode Fail	The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
E-RAB Setup Req	The total number of E-RAB setup request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
E-RAB Modify Req	The total number of E-RAB modify request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
E-RAB Release Command	The total number of E-RAB release request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Initial Ctxt Setup Req	The total number of initial context setup request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
UE Ctxt Release Command	The total number of initial UE context release command messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
UE Context Modify Req	The total number of UE context modify request messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Downlink NAS Transport	The total number of NAS Transport in downlink messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Error Ind	The total number of S1AP messages with error-indication processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Handover Command	The total number of S1AP messages with handover command processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Handover Prep Fail	The total number of S1AP messages generated for handover preparation failure procedure and transmitted over S1AP interface by this HeNBGW to eNodeB.
Handover Request	The total number of S1AP messages with handover request processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Handover Cancel Ack	The total number of HANDOVER_CANCEL_ACK messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Path Switch Request Ack	The total number of PATH_SWITCH_REQ_ACK messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Path Switch Req Fail	The total number of PATH_SWITCH_REQ_FAIL messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
Downlink S1 CDMA2000	The total number of CDMA2000 request messages processed and transmitted over S1AP interface by S1 tunneling to interact with cdma2000 network in downlink direction by this HeNBGW to eNodeB.

Field	Description
Trace Start	The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace started for specific session by this HeNBGW to eNodeB.
Deactivate Trace	The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace deactivated for specific session by this HeNBGW to eNodeB.
MME Status Transfer	The total number of messages processed and transmitted over S1AP interface to indicate the MME status by this HeNBGW to eNodeB.
Loc Report Control	The total number of LOCATION REPORT CONTROL messages sent by the MME to the eNodeB requesting the current location of the UE.
MME Config Update	The total number of MME CONFIGURATION UPDATE messages sent by the MME to the eNodeB for the purpose of updating the Transport Network Layer (TNL) association. The TNL association is required for the MME and eNodeB to interoperate correctly across the S1 interface.
S1AP Encode Fail	The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
MME Config Transfer	The total number of MME CONFIGURATION TRANSFER messages sent by the MME to the eNodeB for the purpose of transferring RAN configuration information.
Kill Request	The total number of KILL REQUEST messages sent by the MME to the eNodeB.
Downlink Non-UE LPPaTpt	The total number of non-UE downlink transport messages sent by the MME to the eNodeB for LPPa (LTE Positioning Protocol annex).
Downlink UE LPPaTpt	The total number of UE downlink transport messages sent by the MME to the eNodeB for LPPa.
S1AP Statistics: Received S1AP Data	
S1 Setup Req	The total number of S1 SETUP REQUEST messages for S1 setup procedure received over S1AP interface by this HeNBGW from eNodeB.
Reset	The total number of S1 RESET messages for S1 reset procedure received over S1AP interface by this HeNBGW from eNodeB.
Reset Ack	The total number of S1 RESET-ACK messages for S1 reset procedure received over S1-P interface by this HeNBGW from eNodeB.
eNB Dir Info Transfer	The total number of ENB DIRECT INFORMATION TRANSFER messages for eNodeB Direct Information Transfer procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.

Field	Description
eNB Config Update	The total number of ENB CONFIGURATION UPDATE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this HeNBGW to eNodeB.
S1AP Msg Decode Failure	The total number of failure occurred during S1AP control message decoding procedure by eNodeB and S1AP DECODE FAILURE messages received over S1AP interface by this HeNBGW from eNodeB.
S1AP Msg Unexpected	The total number of failure occurred due to unexpected events during S1AP control message procedure at eNodeB and S1AP UNEXPECTED EVENT messages received over S1AP interface by this HeNBGW from eNodeB.
E-RAB Setup Resp	The total number of E-RAB setup request response messages received over S1AP interface by this HeNBGW from eNodeB.
E-RAB Modify Resp	The total number of E-RAB modify request response messages received over S1AP interface by this HeNBGW from eNodeB.
E-RAB Release Resp	The total number of E-RAB release request response messages received over S1AP interface by this HeNBGW from eNodeB.
E-RAB Release Ind	The total number of E-RAB release indicator messages received over S1AP interface by this HeNBGW from eNodeB.
Initial Ctxt Setup Resp	The total number of initial context setup request response messages received over S1AP interface by this HeNBGW from eNodeB.
Initial Ctxt Setup Fail	The total number of initial UE context setup failure messages received over S1AP interface by this HeNBGW from eNodeB.
UE Context Release Req	The total number of initial UE context release command messages received over S1AP interface by this HeNBGW from eNodeB.
UE Ctxt Release Comp	The total number of UE context release request messages received over S1AP interface by this HeNBGW from eNodeB.
UE Context Modify Resp	The total number of UE context modify request messages received over S1AP interface by this HeNBGW from eNodeB.
UE Ctxt Modify Fail	The total number of UE context modify request failure messages received over S1AP interface by this HeNBGW from eNodeB.
Initial UE Message	The total number of initial UE messages received over S1AP interface by this HeNBGW from eNodeB.
Uplink NAS Transport	The total number of NAS Transport in Uplink direction messages received over S1AP interface by this HeNBGW from eNodeB.
NAS Non-Delivery Ind	The total number of S1AP messages for NAS non delivery indication received over S1AP interface by this HeNBGW from eNodeB.
Error Indication	The total number of S1AP messages with error-indication received over S1AP interface by this HeNBGW from eNodeB.

Field	Description
Handover Request Ack	The total number of ACK messages for handover request received over S1AP interface by this HeNBGW from eNodeB.
Handover Cancel	The total number of handover cancel messages received over S1AP interface by this HeNBGW from eNodeB.
Handover Required	The total number of handover required messages received over S1AP interface by this HeNBGW from eNodeB.
Handover Fail	The total number of HANDOVER_FAILURE messages received over S1AP interface by this HeNBGW from eNodeB.
Handover Notify	The total number of HANDOVER_NOTIFY messages received over S1AP interface by this HeNBGW from eNodeB.
Path Switch Req	The total number of PATH_SWITCH_REQ messages received over S1AP interface by this HeNBGW from eNodeB.
eNB Status Transfer	The total number of messages received for eNodeB status transfer message over S1AP interface by this HeNBGW from eNodeB.
UE Capability Info Ind	The total number of messages with UE capability information indication received over S1AP interface by this HeNBGW from eNodeB.
Uplink S1 CDMA2000	The total number of response messages for S1 tunneling with cdma2000 network in uplink direction received over S1AP interface by this HeNBGW from eNodeB.
Trace Failure Ind	The total number of response messages with Session Trace failure indication for specific session received over S1AP interface by this HeNBGW from eNodeB.
Location Report	The total number of LOCATION REPORT messages sent by the eNodeB to the MME providing the UE's location.
Loc Report Fail Ind	The total number of LOCATION REPORT FAILURE INDICATION messages sent by the eNodeB to the MME indicating that a LOCATION REPORT CONTROL procedure has failed due to an interaction with a handover procedure.
S1AP Decode Fail	The total number of response message indicating S1AP decode failure received over S1AP interface by this HeNBGW from eNodeB.
MME Config Update Fail	The total number of MME CONFIGURATION UPDATE FAILURE messages sent by the eNodeB to the MME indicating an S1-MME configuration update failure.
MME Config Update Ack	The total number of MME CONFIGURATION UPDATE ACKNOWLEDGEMENT messages sent by the eNodeB indicating the receipt of the Transport Network Layer (TNL) association information.
S1AP Unexpected Event	The total number of message indicating failure due to unexpected event received over S1AP interface by this HeNBGW from eNodeB.

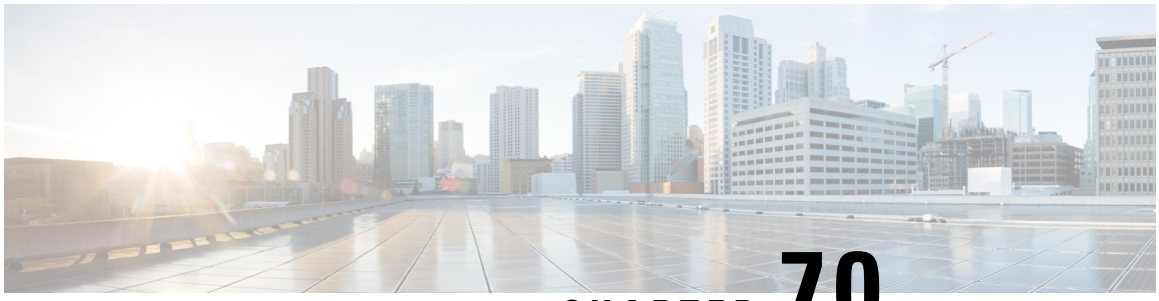
Field	Description
eNB Config Transfer	The total number of ENB CONFIGURATION TRANSFER message received by the MME from the eNodeB for the purpose of transferring RAN configuration information.
Uplink Non-UE LPPaTpt	The total number of non-UE uplink transport messages received by the MME from the eNodeB for LPPa (LTE Positioning Protocol annex).
Uplink UE LPPaTpt	The total number of UE uplink transport messages received by the MME from the eNodeB for LPPa.
Kill Response	The total number of CMAS Kill Response messages received by the MME from the eNodeB. This message is sent by the eNodeB to indicate the list of warning areas where cancellation of the broadcast of the identified message was successful and unsuccessful.
Radio Network Error Statistics	
Unknown MME UE S1AP Id	The total number of times an MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB.
Unknown ENB UE S1AP Id	The total number of times an ENB UE S1AP ID was not included in an error indication message received by the MME from the eNodeB.
Unknown UE S1AP Id Pair	The total number of times an ENB and MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB.
Protocol Error Statistics	
Transfer Syntax Error	The total number of messages received by the MME from the eNodeB containing a Transfer Syntax Error.
Semantic Error	The total number of messages received by the MME from the eNodeB containing a Semantic Error.
Message Not Compatible	The total number of messages received by the MME from the eNodeB that were not compatible with the receiver state.
Abstract Syntax Error	This sub-group displays abstract syntax error statistics for S1AP messages received by the MME from the eNodeB.
Reject	The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "reject".
Ignore And Notify	The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "ignore and notify".
Falsely Constr Msg	The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error because the message contained IEs or IE groups in the wrong order or with too many occurrences.
Total eNodeB Associations	The total number of eNodeB associations

Field	Description
License Exceeded	Total number of messages discarded due to license getting exceeded.

show henbgw-network-service all

Table 332: show henbgw-network-service all Command Output Descriptions

Field	Description
Service name	The name used to identify the HeNB-GW Network service to the system. **Important** At a time only one HeNB-GW Network Service can be configured per system.
Context name	The name of the system context in which the HeNB-GW Network service is defined.
Status	The status of the configured HeNB-GW Network Service, e.g. Started or Not Started.
Logical eNodeB	Displays the configured MCC, MNC, and Macro eNodeB or Home eNodeB ID configured for this Logical eNodeB. More configuration details pertaining to this Logical eNodeB are listed below: **Important** This information is listed for each individual Logical eNodeB, since multiple Logical eNodeBs can be configured per HeNB-GW Network service.
SCTP Port	The HeNB-GW uses this port to communicate with the MME(s) over S1-MME interface
SCTP IP Address	The IP address used by HeNB-GW for establishing S1 associations with MME(s).
TAI List DB	The name of the TAI database used to configure the list of TAI(s) supported by the Logical eNodeB instance
MME Pool Name	The MME pool name used to associate an MME Pool with the Logical eNodeB instance.



CHAPTER 70

show hnbgw

Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

This chapter includes the **show hnbgw** command output tables.

- show hnbgw access-control-db, on page 1261
- show hnbgw access-control-db imsi, on page 1262
- show hnbgw counters, on page 1262
- show hnbgw counters, on page 1263
- show hnbgw counters hnbgw-service, on page 1265
- show hnbgw counters hnbid, on page 1266
- show hnbgw disconnect-reasons, on page 1267
- show hnbgw-global, on page 1272
- show hnbgw-service, on page 1273
- show hnbgw sessions all, on page 1280
- show hnbgw sessions full, on page 1281
- show hnbgw statistics paging-only, on page 1284

show hnbgw access-control-db

Table 333: show hnbgw access-control-db Command Output Descriptions

Field	Description
Total Number of IMSIs	The total number of IMSIs available in White List of Access Control database on HNB-GW service instance.
Number of Registered IMSIs	The total number of IMSIs from Access Control database are registered on HNB-GW service instance.

Field	Description
Number of IMSIs undergoing Relocation	The total number of IMSIs from Access Control database are under the process of relocation on HNB-GW service instance. **Important** From StarOS 14.0 onward, this counter is deprecated.
Number of IMSIs marked for Purging	The total number of IMSIs from Access Control database are marked for purging from database on HNB-GW service instance.

show hnbgw access-control-db imsi

Table 334: show hnbgw access-control-db imsi Command Output Descriptions

Field	Description
IMSI	Indicates the IMSI for which statistics queried in White List of Access Control database on HNB-GW service instance.
Owner Location Area Code (LAC)	Indicates the Location Area Code (LAC) of the owner of specific IMSI registered in Access Control database on HNB-GW service instance.
Undergoing Relocation	Indicates whether queried IMSI is going through relocation procedure or not.
HNBs having IMSI in whitelist	Indicates the total number of HNBs where specific IMSI is in White List in Access Control database on HNB-GW service instance.
Core Network Id	Indicates the core Network ID of specific IMSI.
IMSI Purge Timer	This group indicates status of IMSI purge timer for Access Control database.
State	Indicates the status of Access Control database purge process.
Start Time	Indicates the configured time for start of purge process on Access Control database for specific IMSI.
End Time	Indicates the configured time for completion of purge process on Access Control database for specific IMSI.

show hnbgw counters

Note Show command output described in table below is not supported in StarOS Release 14.0 and onward.

Table 335: show hnbgw counters Command Output Descriptions

Field	Description
Number of registered HNBs	The total number of HNB devices (Open and Closed) registered with this HNB-GW service.
Number of registered Open HNBs	The total number of Open HNB devices registered with this HNB-GW service.
Number of registered Closed HNBs	The total number of Closed HNB devices registered with this HNB-GW service.
Number of registered UEs	The total number of User Equipment devices registered with this HNB-GW service through open and closed HNBs.
Number of UEs registered from Open HNBs	The total number of User Equipment devices registered with this HNB-GW service through open HNBs.
Number of UEs registered from Closed HNBs	The total number of User Equipment devices registered with this HNB-GW service through closed HNBs.
Number of UEs with IuPS connection	The total number of User Equipment devices that have established a connection with the Packet Switched network.
Number of UEs with IuCS connection	The total number of User Equipment devices that have established a connection with the Circuit Switched network
Number of UEs with IuPS and IuCS connection	The total number of User Equipment devices that have established connections to both the Packet Switched and Circuit Switched networks.
Number of Idle UEs	The total number of User Equipment devices that have no active connections to either the Packet Switched or Circuit Switched networks.

show hnbgw counters



Note Show command output described in table below is supported in StarOS Release 14.0 and onward only.

Table 336: show hnbgw counters Command Output Descriptions 1

Field	Description
Registered HNBs	This group dispalys the total number of Closed, Hybrid, and Open HNBs registered with HNB-GW services.
Closed HNBs	The total number of Closed HNB devices registered with this HNB-GW service.
Hybrid HNBs	The total number of Hybrid HNB devices registered with this HNB-GW service.
Open HNBs	The total number of Open HNB devices registered with this HNB-GW service.

Field	Description
Registered UEs	This group displays the total number of User Equipment devices registered with this HNB-GW service through Closed, Hyrbids, and Open HNBs.
Closed HNB UEs	The total number of User Equipment devices registered with this HNB-GW service through Closed HNBs.
Hybrid HNB UEs	The total number of User Equipment devices registered with this HNB-GW service through Hybrid HNBs.
Open HNB UEs	The total number of User Equipment devices registered with this HNB-GW service through Open HNBs.
UEs with IuPS connection	This group displays the total number of User Equipment devices that have established a connection with the Packet Switched network through Closed, Hybrid, and Open HNBs.
Closed HNB UEs	The total number of User Equipment devices that have established a connection with the Packet Switched network through Closed HNBs.
Hybrid HNB UEs	The total number of User Equipment devices that have established a connection with the Packet Switched network through Hybrid HNBs.
Open HNB UEs	The total number of User Equipment devices that have established a connection with the Packet Switched network through Open HNBs.
UEs with IuCS connection	This group displays the total number of User Equipment devices that have established a connection with the Circuit Switched network through Closed, Hybrid, and Open HNBs.
Closed HNB UEs	The total number of User Equipment devices that have established a connection with the Circuit Switched network through Closed HNBs.
Hybrid HNB UEs	The total number of User Equipment devices that have established a connection with the Circuit Switched network through Hybrid HNBs.
Open HNB UEs	The total number of User Equipment devices that have established a connection with the Circuit Switched network through Open HNBs.
UEs with IuPS and IuCS connection	This group displays the total number of User Equipment devices that have established connections to both the CN; i.e. PS and CS through Closed, Hybrid, and Open HNBs.
Closed HNB UEs	The total number of User Equipment devices that have established connections to both the CN; i.e. PS and CS through Closed HNBs.
Hybrid HNB UEs	The total number of User Equipment devices that have established connections to both the CN; i.e. PS and CS through Hybrid HNBs.
Open HNB UEs	The total number of User Equipment devices that have established connections to both the CN; i.e. PS and CS through Open HNBs.
Idle UEs	This group displays the total number of User Equipment devices that have no active connections to either of the Packet Switched or Circuit Switched networks and registered through Closed, Hybrid, and Open HNBs..

Field	Description
Closed HNB UEs	The total number of User Equipment devices that have no active connections to either of the Packet Switched or Circuit Switched networks and registered through Closed HNBs.
Hybrid HNB UEs	The total number of User Equipment devices that have no active connections to either of the Packet Switched or Circuit Switched networks and registered through Hybrid HNBs.
Open HNB UEs	The total number of User Equipment devices that have no active connections to either of the Packet Switched or Circuit Switched networks and registered through Open HNBs.
PS Rab connections	This group displays the total number of RAB connections established with PS network through Closed, Hybrid, and Open HNBs.
Closed HNB PS Rabs	The total number of RABs connections etablished in PS CN through through Closed HNBs.
Hybrid HNB PS Rabs	The total number of RABs connections etablished in PS CN through through Hybrid HNBs.
Open HNB PS Rabs	The total number of RABs connections etablished in PS CN through through Open HNBs.
CS Rab connections	This group displays the total number of RAB connections established with CS network through Closed, Hybrid, and Open HNBs.
Closed HNB PS Rabs	The total number of RABs connections etablished in CS CN through through Closed HNBs.
Hybrid HNB PS Rabs	The total number of RABs connections etablished in CS CN through through Hybrid HNBs.
Open HNB PS Rabs	The total number of RABs connections etablished in CS CN through through Open HNBs.

show hnbgw counters hnbgw-service

Table 337: show hnbgw counters hnbgw-serivce Command Output Descriptions

Field	Description
HNBGW Service	The name that identifies this HNB-GW service.
Number of registered HNBs	The total number of HNB devices (Open and Closed) registered with this HNB-GW service.
Number of registered Open HNBs	The total number of Open HNB devices registered with this HNB-GW service.
Number of registered Closed HNBs	The total number of Closed HNB devices registered with this HNB-GW service.

Field	Description
Number of registered UEs	The total number of User Equipment devices registered with this HNB-GW service through open and closed HNBs.
Number of UEs registered from Open HNBs	The total number of User Equipment devices registered with this HNB-GW service through open HNBs.
Number of UEs registered from Closed HNBs	The total number of User Equipment devices registered with this HNB-GW service through closed HNBs.
Number of UEs with IuPS connection	The total number of User Equipment devices that have a Packet Switched network connection to a SGSN via this HNB-GW service.
Number of UEs with IuCS connection	The total number of User Equipment devices that have established a Circuit Switched network connection to a MSC via this HNB-GW service.
Number of UEs with IuPS and IuCS connection	The total number of User Equipment devices that have established Packet Switched (SGSN) and Circuit Switched (MSC) network connections via this HNB-GW service.
Number of Idle UEs	The total number of User Equipment devices that do not have an active connection to a Packet Switched (SGSN) or Circuit Switched (MSC) network.

show hnbgw counters hnbid

Table 338: show hnbgw counters hnbid Command Output Descriptions

Field	Description
HNB Id	The HNB device ID sent to the HNB-GW during registration.
Number of registered UEs	The number of User Equipment devices that have registered with this HNB.
Number of UEs with IuPS connection	The number of User Equipment devices that have established a connection to a SGSN via the Packet Switched network.
Number of UEs with IuCS connection	The number of User Equipment devices that have established a connection to a MSC via the Circuit Switched network.
Number of UEs with IuPS and IuCS connection	The number of User Equipment devices that have established connections to an MSC via the Circuit Switched interface and an SGSN via the Packet Switched network.
Number of Idle UEs	The number of User Equipment devices that do not have an active connection to Packet Switched (SGSN) or Circuit Switched (MSC) networks.

show hnbgw disconnect-reasons

Table 339: show hnbgw disconnect-reasons Command Output Descriptions

Field	Description
HNB	This group displays the detailed disconnect reasons at the HNB-GW for particular HNB.
HNB Re-Registered over same SCTP Association	Total number of HNBs disconnected on HNB-GW as HNB tried to re-registration over same SCTP association between HNB and HNB-GW.
Duplicate HNB Registration	Total number of HNBs disconnected on HNB-GW as duplicate registration was tried for same HNB.
Admin Disconnect	Total number of HNBs disconnected on a HNB-GW due to administrative decision like removal of service, subscriber or result of clearing subscriber session through Exec mode.
Miscellaneous	Total number of HNBs disconnected on a HNB-GW due to miscellaneous or unknown reasons, the reason not mentioned in this table.
HNB Terminated SCTP Association	Total number of HNBs disconnected on a HNB-GW as HNB terminated the SCTP association with HNB-GW.
SCTP Idle Timeout	Total number of HNBs disconnected on a HNB-GW as HNB was idle for long time and timer for SCTP idle duration triggered the termination after timeout duration expired.
Access Accept Message had issue	Total number of HNBs disconnected on a HNB-GW due to some error in Access Accept message format or missing value or parameters.
Access Reject	Total number of HNBs disconnected on a HNB-GW as HNB access was rejected by HNB-GW.
Unauthorised Location	Total number of HNB registration requests rejected on an HNB-GW due to mismach of Macro LAC configured on the HNB-GW.
Open Access Mode disabled	Total number of HNBs disconnected on a HNB-GW as AAA server has sent the Access Accept message with access mode for particular HNB as 2 but Open Access Mode is disabled on HNB-GW.
Hybrid Access Mode disabled	Total number of HNBs disconnected on a HNB-GW as HNB requesting registration is of Hybrid mode but Hybrid Access Mode is disabled on HNB-GW.
Configuration Issue	Total number of HNBs disconnected on a HNB-GW due to some error or misconfiguration found in configuration on HNB or on HNB-GW for particular HNB.
Deregister from HNB	Total number of HNBs disconnected on a HNB-GW as HNB sent de-registration request to HNB-GW.
Deregister Radius DM	Total number of HNBs disconnected on a HNB-GW as AAA server sent the Disconnect message to deregister the HNB with HNB-GW.
Cleared due to SCTP timeouts	Total number of HNBs disconnected on a HNB-GW as timer for SCTP idle duration triggered the clearing of session after timeout duration expired.

Field	Description
Access mode mismatch	Total number of HNBs disconnected on a HNB-GW as there is mismatch in value sent by AAA server in Access-Accept message for access mode and configuration allowed on HNB-GW.
UE	This group displays the detailed disconnect reasons at the HNB-GW for particular UE.
Duplicate UE Registration	Total number of UEs disconnected on HNB-GW as duplicate registration was tried for same UE.
UE Relocated to another HNB	Total number of UEs disconnected on a HNB-GW as same UR relocated to another HNB.
UE Register Reject - Miscellaneous	Total number of UEs registration rejected on a HNB-GW due to miscellaneous or unknown reasons, the reason not mentioned in this table.
UE Deregister from HNB	Total number of UEs disconnected on a HNB-GW as UE deregisters it self from associated HNB.
RUA Connect after COA	Total number of UEs disconnected on a HNB-GW as RANAP User Adaptation connected after Change of Authorization from AAA server.
HNB Removed	Total number of UEs disconnected on a HNB-GW as particular associated HNB is removed from HNB-GW.
UE Idle time out	Total number of UEs disconnected on a HNB-GW as UE was idle for long time and timer for idle duration triggered the termination after timeout duration expired.
Auth Failure - UE Register Rejected	Total number of UEs disconnected on a HNB-GW as AAA server has sent the Authentication Failure and UE registration is rejected.
UE Reg reject - Max UEs per Open HNB Limit	Total number of UEs disconnected on a HNB-GW as number of UEs connected through an Open HNB exceeds the limit of maximum UEs allowed for particular Open HNB on HNB-GW in Open Access mode.
UE Reg rej - Max non-access-ctrl UEs per Hybrid HNB	Total number of UEs disconnected on a HNB-GW as number of non-access type UEs connected through a Hybrid HNB exceeds the limit of maximum UEs allowed for particular Hybrid HNB on HNB-GW in Hybrid Access mode.
Miscellaneous	Total number of UEs disconnected on a HNB-GW due to miscellaneous or unknown reasons, the reason not mentioned in this table.
Stale UE Session cleared on Relocation arrival	Total number of stale UEs sessions cleared on a HNB-GW due to relocation arrival with particular HNB.
IuCS	This group displays the detailed disconnect reasons at the HNB-GW for particular IuCS connection.
UE Deregistered	Total number of IuCS association disconnected on HNB-GW as de-registration procedure was initiated for UE.
Miscellaneous	Total number of IuCS association disconnected on a HNB-GW and CN due to miscellaneous or unknown reasons, the reason not mentioned in this table.
Relocation Failure from HNB	Total number of IuCS association disconnected due to relocation failure message received from HNB.

Field	Description
Connect over Connect	Total number of IuCS association disconnected on a HNB-GW as same connection tried over the same association.
RUA Disconnect	Total number of IuCS association disconnected on a HNB-GW due to RANAP User Adaptation disconnected.
SCCP Released	Total number of IuCS association disconnected on a HNB-GW as SCCP association is release between HNB-GW and associated CN.
HNB Reset	Total number of IuCS association disconnected on a HNB-GW due to trigger of RESET procedure from HNB.
Admin Disconnect	Total number of IuCS disconnected on a HNB-GW due to administrative decision like removal of service, subscriber or result of clearing subscriber session through Exec mode.
Iar Expiry	Total number of IuCS disconnected on a HNB-GW due to expiry of Iar timer.
Common-ID IMSI check failed	Total number of IuCS disconnected on a HNB-GW due to failure in IMSI and common id check of UE.
MSC Reset/Unreachable	Total number of IuCS association disconnected on a HNB-GW due to trigger of RESET procedure from MSC or MSC is not reachable in CN.
IuPS	This group displays the detailed disconnect reasons at the HNB-GW for particular IuPS connection.
UE Deregistered	Total number of IuPS association disconnected on HNB-GW as de-registration procedure was initiated for UE.
Miscellaneous	Total number of IuPS association disconnected on a HNB-GW and CN due to miscellaneous or unknown reasons, the reason not mentioned in this table.
Relocation Failure from HNB	Total number of IuPS association disconnected due to relocation failure message received from HNB.
Connect over Connect	Total number of IuPS association disconnected on a HNB-GW as same connection tried over the same association.
RUA Disconnect	Total number of IuPS association disconnected on a HNB-GW due to RANAP User Adaptation disconnected.
SCCP Released	Total number of IuPS association disconnected on a HNB-GW as SCCP association is release between HNB-GW and associated CN.
HNB Reset	Total number of IuPS association disconnected on a HNB-GW due to trigger of RESET procedure from HNB.
Admin Disconnect	Total number of IuPS disconnected on a HNB-GW due to administrative decision like removal of service or any entity, subscriber or result of clearing subscriber session through Exec mode.
Iar Expiry	Total number of IuPS disconnected on a HNB-GW due to expiry of Iar timer.
Common-ID IMSI check failed	Total number of IuPS disconnected on a HNB-GW due to failure in IMSI and common id check of UE.

Field	Description
SGSN Reset/Unreachable	Total number of IuPS association disconnected on a HNB-GW due to trigger of RESET procedure from SGSN or SGSN is not reachable in CN.
GTPU Path Failure towards HNB	Total number of IuPS association disconnected on a HNB-GW due to failure of GTP-U path towards HNB.
CS-RAB	This group displays the detailed disconnect reasons at the HNB-GW for particular RAB in CS domain.
Issue in RAB Asst Req Message	Total number of RABs disconnected on HNB-GW due to issue in RAB AssignmentRequest message from MSC to HNB-GW.
Issue in Reloc Req Message	Total number of RABs disconnected on HNB-GW due to issue in RAB RelocationRequest message.
Config Issue	Total number of RABs disconnected on a HNB-GW due to some error or misconfiguration found in configuration in CS domain or on HNB-GW for particular CN.
AAL2 Channel Establish failure	Total number of RABs disconnected on a HNB-GW due to failure in AAL2 channel establishment between MSC and HNB-GW in particular CS domain.
Issue in RAB Assgt Resp Message	Total number of RABs disconnected on a HNB-GW due to issues in RAB Assignment Response message from HNB-GW to MSC in particular CS domain.
HNB Failed RAB in RAB Assgt Resp Message	Total number of RABs disconnected on a HNB-GW as RAB establishment failed between HNB and HNB-GW and response received in RAB Assignment Response message from HNB-GW to MSC in particular CS domain.
HNB Failed RAB in Reloc Request Ack Message	Total number of RABs disconnected on a HNB-GW as RAB Relocation failed between HNB and HNB-GW and response received in RAB Relocation Request Ack message from HNB-GW to MSC in particular CS domain.
Issue in Reloc Req Ack Message	Total number of RABs disconnected on a HNB-GW due to issues in RAB Relocation Request Ack message from HNB-GW to MSC in particular CS domain.
CN Initiated RAB Release	Total number of RABs disconnected on a HNB-GW as CN node (MSC) initiated the RAB release procedure in particular CS domain.
RAB Assignment Timer Expiry	Total number of RABs disconnected on a HNB-GW due to expiry of RAB Assignment timer duration.
RAB Release Timer Expiry	Total number of RABs disconnected on a HNB-GW due to expiry of RAB Release Timer duration.
AAL2 Connection Released	Total number of RABs disconnected on a HNB-GW due to release of AAL2 connections.
IU went down	Total number of RABs disconnected on a HNB-GW due failure of IuCS interface.
Admin Disconnect	Total number of RABs disconnected on a HNB-GW due to administrative decision like removal of service or any entity, subscriber or result of clearing subscriber session through Exec mode.
Dropped - RAB Assgt Req Decoding failed	Total number of RABs disconnected on a HNB-GW due to failure in decoding of RAB Assignment Request message from HNB-GW to MSC in particular CS domain.
Miscellaneous	Total number of RABs disconnected on a HNB-GW and CN due to miscellaneous or unknown reasons, the reason not mentioned in this table.

Field	Description
PS-RAB	This group displays the detailed disconnect reasons at the HNB-GW for particular RAB in PS domain.
Issue in RAB Asst Req Message	Total number of RABs disconnected on HNB-GW due to issue in RAB AssignmentRequest message from SGSN to HNB-GW.
Issue in Reloc Req Message	Total number of RABs disconnected on HNB-GW due to issue in RAB RelocationRequest message.
Config Issue	Total number of RABs disconnected on a HNB-GW due to some error or misconfiguration found in configuration in PS domain or on HNB-GW for particular CN.
Issue in RAB Assgt Resp Message	Total number of RABs disconnected on a HNB-GW due to issues in RAB Assignment Response message from HNB-GW to SGSN in particular PS domain.
HNB Failed the RAB in RAB Assgt Resp Message	Total number of RABs disconnected on a HNB-GW as RAB establishment failed between HNB and HNB-GW and response received in RAB Assignment Response message from HNB-GW to SGSN in particular PS domain.
HNB Failed the RAB in Reloc Request Ack Message	Total number of RABs disconnected on a HNB-GW as RAB Relocation failed between HNB and HNB-GW and response received in RAB Relocation Request Ack message from HNB-GW to SGSN in particular PS domain.
Issue in Reloc Req Ack Message	Total number of RABs disconnected on a HNB-GW due to issues in RAB Relocation Request Ack message from HNB-GW to SGSN in particular PS domain.
CN Initiated RAB Release	Total number of RABs disconnected on a HNB-GW as CN node (SGSN) initiated the RAB release procedure in particular PS domain.
RAB Assignment Timer Expiry	Total number of RABs disconnected on a HNB-GW due to expiry of RAB Assignment timer duration.
IU went down	Total number of RABs disconnected on a HNB-GW due failure of IuPS interface.
Admin Disconnect	Total number of RABs disconnected on a HNB-GW due to administrative decision like removal of service or any entity, subscriber or result of clearing subscriber session through Exec mode.
Dropped - RAB Assgt Req Decoding failed	Total number of RABs disconnected on a HNB-GW due to failure in decoding of RAB Assignment Request message from HNB-GW to SGSN in particular PS domain.
Miscellaneous	Total number of RABs disconnected on a HNB-GW and CN due to miscellaneous or unknown reasons, the reason not mentioned in this table.
GTPU CN Error Indication	Total number of RABs disconnected on a HNB-GW and CN due to CN Error Indication in GTP-U message.
GTPU CN Path Failure	Total number of RABs disconnected on a HNB-GW and CN due to CN Path Failure in GTP-U message.
GTPU HNB Error Indication	Total number of RABs disconnected on a HNB-GW and CN due to HNB Error Indication GTP-U message.
GTPU HNB Path Failure	Total number of RABs disconnected on a HNB-GW and CN due to HNB Path Failure in GTP-U message.

show hnbgw-global

Table 340: show hnbgw-global Command Output Descriptions

Field	Description
NNSF TIMER for Paging in IuFlex	Indicates the duration set in seconds for NAS Node Selection Function (NNSF) timer (T-NNSF) which is used by the HNB-GW to store the IMSI and the relevant *CN Global-ID* in the short term after Paging. This timer is used for IuFlex feature support. Default timer value is 30 seconds.
IMSI Purge Timeout	Indicates the timeout duration set in minutes for to store the IMSI and the relevant information after which IMSI information will be purged from HNB-GW db. This timer is used for IuFlex feature support. Default timeout value is 1440 minutes.
SCTP ALPHA-RTO	The retransmission timeout attempt set for initial phase for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 5 attempts.
SCTP BETA-RTO	The retransmission timeout attempt set for second phase for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 10 attempts.
SCTP MAX-RETX-INIT	Indicates the maximum number of SCTP INIT messages retransmitted for SCTP communication between HNB and HNB-GW.
SCTP MAX-RETX-PATH	Indicates the maximum number of SCTP PATH messages retransmitted for SCTP communication between HNB and HNB-GW.
SCTP MAX-RETX-ASSOC	Indicates the maximum number of SCTP ASSOC messages retransmitted for SCTP communication between HNB and HNB-GW.
SCTP MAX-IN-STRMS	Indicates the maximum number of incoming SCTP streams allowed on HNB-GW for SCTP communication between HNB and HNB-GW
SCTP MAX-OUT-STRMS	Indicates the maximum number of outgoing SCTP streams allowed from HNB-GW for SCTP communication between HNB and HNB-GW **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
Paging Optimization Policy	Displays configuration of the Paging Optimization policy for Open Access support on an HNB-GW service instance.
Page Open HNBs	Indicates the status of paging optimization configuration for open HNBs, with and without paging-area, in an HNB-GW service instance. Possible configuration is: • Always • Never

Field	Description
Page Open HNB Where UE Registered	Indicates the status of paging optimization configuration for open HNBs, with and without paging-area, and UEs registered in an HNB-GW service instance. Possible settings are: • Disabled • Enabled

show hnbgw-service

Table 341: show hnbgw-service all Command Output Descriptions

Field	Description
Service name	The name used to identify the HNB-GW service to the system.
Context name	The name of the system context in which the HNB-GW service is defined.
SCTP IP Address	The IP address used to transmit SCTP messages from HNBs to the HNB-GW.
SCTP Port	The HNB-GW uses this port to listen for SCTP messages from HNBs.
GTP-U Service	The defined GTP-U service name(s) associated with the HNB-GW service in a Packet Switched network instance. The GTP-U service(s) are used for GTP-U tunneling towards the HNB-GW access network.
CBS Service	The defined CBS service name(s) associated with the HNB-GW service. Cell broadcasting services are used for simultaneous delivery of messages to multiple users in a specified area, primarily for emergencies and alerting services.
RTP MUX	Indicates if RTP multiplexing is enabled or disabled. If enabled, multiple subscriber voice packets can be multiplexed and sent as one RTP packet towards the HNB-GW. This is explicitly negotiated between the HNB and the HNB-GW during HNB Registration.
RTP MUX Port	This is the RTP multiplexing port number used for used in the binding-id in the RAB request sent to the HNB by the HNB-GW during voice call setup. The HNB will send RTP data (packetized voice) to this MUX port number.
RTP Pool	This is the IP pool used to allocate IP address to subscriber in the RAB request by the HNB-GW as the transport layer endpoint. The HNB will send RTP data (packetized voice) to IP address allocated from this pool.
RTCP report interval	Indicates if the RTCP (Real time Transport Control Protocol) report interval is enabled or not. RTCP enables the receiver to detect if there is any packet loss and to compensate for any delay jitter. RTP and RTCP protocols work independently of the underlying Transport layer and Network layer protocols.

Field	Description
HNBGW Initiated Ranap Reset	Indicates if the HNB-GW Initiated RANAP Reset function is enabled or disabled. **Important** From StarOS 14.0 onward, this counter is moved to show cs-network and show ps-network command outputs.
Ranap Reset Ack Timer	The timer value, in seconds, that defines how long the HNB-GW waits for a RESET ACK message from the SGSN or MSC after transmitting a RESET message. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. **Important** From StarOS 14.0 onward, this counter is moved to show cs-network and show ps-network command outputs.
Ranap Reset Maximum Retransmissions	Sets the maximum number of retries allowed for the HNB-GW to transmit a RANAP RESET message to the SGSN or MSC if the RESET ACK timer expires. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. **Important** From StarOS 14.0 onward, this counter is moved to show cs-network and show ps-network command outputs.
Ranap Reset Guard Timer	The timer that the HNB-GW starts after receiving a RESET message from the core network. While this timer is running, the HNB-GW discards any new RESET messages that it receives. **Important** From StarOS 14.0 onward, this counter is moved to show cs-network and show ps-network command outputs.
SCTP HEARTBEAT Timeout	The timeout duration set in milliseconds for SCTP heartbeat transmission between HNB and HNB-GW. Default value is 3000 milliseconds. After this duration retransmission will start.
SCTP RTO-MIN Timeout	The minimum retransmission timeout duration set in milliseconds for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 1000 milliseconds.
SCTP RTO-MAX Timeout	The maximum retransmission timeout duration set in milliseconds for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 10000 milliseconds.
SCTP RTO-INITIAL Timeout	The initial retransmission timeout duration set in milliseconds for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 10000 milliseconds.

Field	Description
SCTP ALPHA-RTO	The retransmission timeout attempt set for initial phase for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 5 attempts. **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
SCTP BETA-RTO	The retransmission timeout attempt set for second phase for SCTP heartbeat retransmission between HNB and HNB-GW. Default value is 10 attempts. **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
SCTP CHECKSUM-TYPE	Indicates the checksum type set for SCTP communication between HNB and HNB-GW. Default checksum type is **CRC32**.
SCTP COOKIE-LIFE	Indicates the life duration set for SCTP Cookies for SCTP communication between HNB and HNB-GW. Default value is 60000 msecs.
SCTP MAX-RETX-INIT	Indicates the maximum number of SCTP INIT messages retransmitted for SCTP communication between HNB and HNB-GW. **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
SCTP MAX-RETX-PATH	Indicates the maximum number of SCTP PATH messages retransmitted for SCTP communication between HNB and HNB-GW. **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
SCTP MAX-RETX-ASSOC	Indicates the maximum number of SCTP ASSOC messages retransmitted for SCTP communication between HNB and HNB-GW. **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
SCTP MTU-SIZE-MIN	Indicates the minimum transmission unit size set for MTU for SCTP communication between HNB and HNB-GW. Default value is 508 bytes.
SCTP MTU-SIZE-MAX	Indicates the minimum transmission unit size set for MTU for SCTP communication between HNB and HNB-GW. Default value is 1500 bytes.
SCTP MTU-SIZE-INITIAL	Indicates the initial transmission unit size set for MTU for SCTP communication between HNB and HNB-GW. Default value is 508 bytes.
SCTP SACK-FREQUENCY	Indicates the frequency of set for Selective Acknowledgement (SACK) messages for SCTP communication between HNB and HNB-GW

Field	Description
SCTP SACK-PERIOD	Indicates the Selective Acknowledgement (SACK) period between two SACK messages set for SCTP communication between HNB and HNB-GW
SCTP MAX-IN-STRMS	Indicates the maximum number of incoming SCTP streams allowed on HNB-GW for SCTP communication between HNB and HNB-GW **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
SCTP MAX-OUT-STRMS	Indicates the maximum number of outgoing SCTP streams allowed from HNB-GW for SCTP communication between HNB and HNB-GW **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
SCTP Connection Timeout	Indicates the timeout duration set for SCTP communication between HNB and HNB-GW after which reconnection procedure will start. Default value is 10 secs.
UE Registration Timeout	Indicates the timeout duration set for UE registration between UE and HNB-GW after which re-registration procedure will start. Default value is 120 secs.
NNSF TIMER for Paging in IuFlex	Indicates the duration set in seconds for NAS Node Selection Function (NNSF) timer (T-NNSF) which is used by the HNB-GW to store the IMSI and the relevant *CN Global-ID* in the short term after Paging. This timer is used for IuFlex feature support. Default timer value is 30 seconds. **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
IMSI Purge Timeout	Indicates the timeout duration set in minutes for to store the IMSI and the relevant information after which IMSI information will be purged from HNB-GW db. This timer is used for IuFlex feature support. Default timeout value is 1440 minutes. **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
Incoming handover for CS domain	Indicates the status of incoming handover permission/restriction set in HNB-GW service instance for incoming handover of an MS via SRNS Relocation procedure for CS core network domain. Possible values are: • Disabled • Enabled

Field	Description
Incoming handover for PS domain	Indicates the status of incoming handover permission/restriction set in HNB-GW service instance for incoming handover of an MS via SRNS Relocation procedure for PS core network domain. Possible values are: • Disabled • Enabled
HNB Access-Mode mismatch handling	Access mode received in HNB Reg request and access mode received in access accept can be different. If there is mismatch based on this flag, HNB is rejected or accepted with access mode received from AAA.
HNB-id Leading Character Discard	
Open HNB Support	Indicates the status of Open Access support on an HNB-GW service instance. Possible values are: • Disabled • Enabled
Maximum UEs Allowed Per Open HNB	Indicates the total number of UEs allowed to register through an open HNB when Open Access support is enabled on an HNB-GW service instance. Possible range is between 1 through 32 where default value is 16.
Paging Optimization Policy	Displays configuration of the Paging Optimization policy for Open Access support on an HNB-GW service instance. **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
Page Open HNBs	Indicates the status of paging optimization configuration for open HNBs, with and without paging-area, in an HNB-GW service instance. Possible configuration is: • Always • Never **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.
Page Open HNB Where UE Registered	Indicates the status of paging optimization configuration for open HNBs, with and without paging-area, and UEs registered in an HNB-GW service instance. Possible settings are: • Disabled • Enabled **Important** From StarOS 14.0 onward, this counter is moved to show hnbgw-global command outputs.

Field	Description
Hybrid HNB support	Indicates the status of Hybrid Access support on an HNB-GW service instance. Possible values are: • Disabled • Enabled
Maximum non-access-controlled UEs allowed per Hybrid HNB	Indicates the total number of non access controlled UEs allowed to register through a hybrid HNB on an HNB-GW service instance. Maximum allowed number is 1000.
Available Radio Network PLMN	The Public Land Mobile Network ID configured for this HNB-GW service. It consists of the MCC and MNC (see below).
MCC	The Mobile Country Code defined for use with this HNB-GW service. It consists of the first 3 digits of the Available Radio Network PLMN ID.
MNC	The Mobile Network Code defined for use with this HNB-GW service. It consists of the last 3 digits of the Available Radio Network PLMN ID.
RNC-Id	The Radio Network Controller ID provided to HNBs for use by the core network for this HNB-GW service. It is configured under the PLMN-ID.
Macro Coverage IE Absent Action	The action, accept or reject, to be taken if macro coverage inforamtion IE is absent in HNB location information.
Authorised Macro LAI	The information pertaining to following parameters for macro LAC authorization: • MCC • MNC • LAC Range
Lac	The defined Location Area Identifier provided to HNBs during registration with this HNB-GW service. The LAC signifies which location area this HNB-GW service belongs to, and is configured under the PLMN-ID. **Important** From StarOS 14.0 onward, this counter is deprecated.
Rac	The Routing Area Identifier provided to HNBs during registration with this HNB-GW service. The RAC signifies the routing area that this HNB-GW service belongs to and is configured under the PLMN-ID **Important** From StarOS 14.0 onward, this counter is deprecated.
PS Network Name	The PS-network to be used for selecting the packet-switched core-network (i.e., SGSN) and its point-code. **Important** From StarOS 14.0 onward, this counter is deprecated.

Field	Description
CS Network Name	The CS-network to be used for selecting circuit-switched core-network (i.e., MSC) and its point-code. **Important** From StarOS 14.0 onward, this counter is deprecated.
Service Status	The current operating status of this HNB-GW service. If the status does not read 'enabled' HNB-GW functionality is not available.
Security GW service Address	The IP address of the HNB-Security Gateway associated with this HNB-GW service. Security Gateway configurations are used when the IPsec GW is co-located with the HNB-GW service on the chassis. If the services are co-located, the SeGW IP address will be used as the IPsec tunnel endpoint by HNBs.
Security Gateway Context	Specifies the context name in which Security Gateway service is configured.
Crypto-template	Specifies the Crypto-Map template being used by the HNB-GW service for secure IPsec IKEv2 tunneling for the configured Iuh (HNB to HNB-GW) interface. The Crypto-Map template is used only if the HNB-GW and SeGW are co-located on the chassis.
Service in IPSec	Specifies whether specific HNB-GW service is started in secure IPsec IKEv2 tunneling for the configured Iuh (HNB to HNB-GW) interface.
Newcall Policy	Indicates the policy for action on new calls coming on this HNB-GW service instance. Possible actions are: • Accept • Reject
Paging	
CS Domain: Handle unknown IMSI	Indicates that the configuration for "Handle unknown IMSI" has been provided or not in the Paging Manager in CS domain.
CS Domain: Page last known HNB timeout	Indicates the timeout configured for paging the last know HNB in the CS doamin. Default timeout value for CS domain is 3 seconds.
CS Domain: Fanout Paging timeout	Indicates the timeout configured for fanout paging in CS doamin. Default timeout value for CS doamin is 5 seconds.
PS Domain: Handle unknown IMSI	Indicates that the configuration for "Handle unknown IMSI" has been provided or not in the Paging Manager in PS domain.
PS Domain: Page last known HNB timeout	Indicates the timeout configured for paging the last know HNB in the PS doamin. Default timeout value for CS domain is 6 seconds
PS Domain: Fanout Paging timeout	Indicates the timeout configured for fanout paging in CS doamin. Default timeout value for CS doamin is 10 seconds.
IP QoS DSCP marking	This group indicates the DSCP marking used for egress traffic for various protocols used on IuH and Iu interface in a HNB-GW service instance.

Field	Description
Traffic egress on Iuh	Indicates the DSCP marking used for egress traffic for various protocols used on IuH interface in a HNB-GW service instance.
Traffic egress on Iu	Indicates the DSCP marking used for egress traffic towards CN for various protocols used on Iu-CS/Iu-PS interface in a HNB-GW service instance.

show hnbgw sessions all

Table 342: show hnbgw sessions all Command Output Descriptions

Field	Description
vvvv	Displays service and session state information. This column displays a code consisting of six characters. From left-to-right, the first character represents the **Access Technology** that the subscriber is using. The possible access technologies are: • **F**: FEMTO UTRAN • **.**: Other/Unknown From left-to-right, the second character represents the **Session Type**. The possible HNB Session types are: • **H**: HNB • **U**: UE From left-to-right, the third character represents the **HNB State**. The possible HNB states are: • **R**: Registered • **D**: Deregistered • **I**: Idle • **d**: Disconnecting • **u**: Unknown From left-to-right, the fourth character represents the session **Network Type**. The possible network types are: • **I**: IP • **S**: IPSEC • **u**: Unknown
HNBID	The HNB identification (HNBID) number used for this session.

Field	Description
USERNAME	The subscriber's user name.
IP	The IP address assigned to the subscriber.
TIME-IDLE	The amount of time that the subscriber session has been idle either in an active or dormant state.
Total subscribers matching specified criteria	The total number of subscribers using HNB sessions.

show hnbgw sessions full

Table 343: show hnbgw sessions full Command Output Descriptions

Field	Description
	This is the first row which indicates the name of the HNB(s) registered for this HNB-GW session.
Card/Cpu	Indicates the card and CPU ID used for this session.
Sessmgr Instance	The session manager instances for this HNB-GW session used.
Access Tech	Indicates the accessing technology. Possible access technologies are: • **F**: FEMTO UTRAN • **.**: Other/Unknown
Network Type	Indicates the network service used for the subscriber session. The possible network types are: • **I**: IP • **S**: IPSEC • **u**: Unknown
Status	Indicates the session status. Possible HNB status are: • Online/Active • Offline/Inactive
Access Type	Indicates the session type for this subscriber. The possible access types are: • hnbgw • Unknown

Field	Description
HNB Id	The HNB identification (HNBID) number used for this session in Femto UTRAN network.
state	Indicates the state of the HNBs. Possible HNB states are: • Registered • Deregistered
Service Name	Indicates the name of the HNB-GW service which is used by this session instance to display the information.
HNB Local Id	The HNB identification (HNBID) number used locally for this session on HNB-GW.
HNB IP address	Indicates the primary IP address of the HNB in the session. In HNB-GW session this is the primary IP address of Femto CPE.
idle time	The time period that the subscriber session has been idle, either in an active or dormant state.
source context	The name of a configured source context from which the subscriber initiates a session.
callid	Indicates the identity number of call used by this instance of HNB-GW service.
PLMN-ID	The Public Land Mobile Network ID configured for this HNB-GW service. It consists of the MCC and MNC.
LAC	The defined Location Area Identifier provided to HNBs during registration with this HNB-GW service. The LAC signifies which location area this HNB-GW service belongs to, and is configured under the PLMN-ID.
RAC	The Routing Area Identifier provided to HNBs during registration with this HNB-GW service. The RAC signifies the routing area that this HNB-GW service belongs to and is configured under the PLMN-ID
RNC-ID	Indicates the Radio Network Controller ID provided to HNBs for use by the core network for this HNB-GW service. It is configured under the PLMN-ID
Cell ID	The cell identifier provided to HNBs during registration with this HNB-GW service. The cell id signifies the geographical location of HNB-GW session user belongs to.
Service Area Code	This identify a SA (Service Area) within a LA (Location Area) used during this HNB-GW session.

Field	Description
Access Mode	Indicates the access mode used by HNBs for this HNB-GW session. Possible access modes are: • Closed: Indicates that HNB is connected to HNB-GW using Closed Access mode in this session. • Hybrid: Indicates that HNB is connected to HNB-GW using Hybrid Access mode in this session. • Open: Indicates that HNB is connected to HNB-GW using Open Access mode in this session. This counter is applicable for HNB access mode.
IMSI White List	This group displays the White List IMSI database on HNB-GW.
IMSI #	Indicates the IMSI number entered in White List and have clear access to HNB-GW.
Registered IMSI List	This group displays the list of IMSIs registered on HNB-GW. This group is not supported in StarOs 14.0 and onward.
IMSI #	Indicates the IMSI number which is currently registered with HNB-GW service session instance.
Context Id	Indicates the identity number of the context used by specific IMSI.
Registration	Indicates the status of registration of IMSI on HNB-GW.
IuPS connection	Indicates the availability of Iu-PS connection for specific registered IMSI on HNB-GW.
Sessmgr Instance	Indicates the SessManager instance used by specific IMSI for Iu-PS or Iu-CS connection.
callid	Indicates the identity number of call used by specific IMSI for Iu-PS or Iu-CS connection on this instance of SessManager.
IuCS connection	Indicates the availability of Iu-CS connection for specific registered IMSI on HNB-GW.
IuPS connection	Indicates the availability of Iu-PS connection for specific registered IMSI on HNB-GW.
Registered UE List	This group displays the list of IMSIs registered on HNB-GW. This group is supported in StarOs 14.0 and onward.
UE #	Indicates the UE identifier which is currently registered with HNB-GW service session instance.
IMSI #	Indicates the IMSI number which is currently registered with HNB-GW service session instance.
Context Id	Indicates the identity number of the context used by specific IMSI.

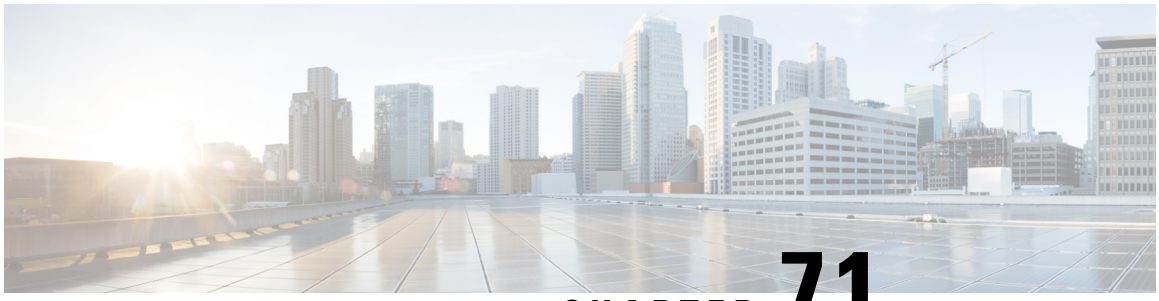
Field	Description
Registration	Indicates the status of registration of IMSI on HNB-GW.
Type	Indicates the type of UE which is registered in this UE list having specific IMSI on HNB-GW. Possible type of UEs are: • Access-Controlled • Non-Access Controlled
IuCS connection	Indicates the availability of Iu-CS connection for specific registered IMSI on HNB-GW.
IuPS connection	Indicates the availability of Iu-PS connection for specific registered IMSI on HNB-GW.
Registered UE Summary	This group displays the summary of Registered UE based on access control type on HNB-GW.
Access-Controlled	Indicates the total number of Access-Controlled UEs currently registered with HNB-GW service session instance.
Non-Access-Controlled	Indicates the total number of Non-Access-Controlled UEs currently registered with HNB-GW service session instance.

show hnbgw statistics paging-only

Table 344: show hnbgw statistics paging-only Command Output Descriptions

Field	Description
CS Domain Paging	
Total paging RX	Number of total paging messages received in CS domain.
Paging for unknown IMSI - Received	Number of paging messages received for unknown IMSI.
Paging for unknown IMSI - Handled	Number of paging messages handled for unknown IMSI.
Paging for unknown IMSI - Dropped	Number of paging messages dropped for unknown IMSI.
Paging for unknown IMSI - Success	Number of successful paging messages for unknown IMSI.
Paging for unknown IMSI - Failure	Number of failed paging messages for unknown IMSI.
Paging for last-registered-hnb - Attempted	Number of paging messages attempted for last registered HNB.
Paging for last-registered-hnb - Success	Number of successful paging messages for last registered HNB.
Paging for last-registered-hnb - Failure	Number of failed paging messages for last registered HNB.
Paging for last-registered-hnb - Skipped	Number of skipped paging messages for last registered HNB.
Paging for last-known-LA - Attempted	Number of attempted paging messages for last known location area..

Field	Description
Paging for last-known-LA - Success	Number of successful paging messages for last known location area.
Paging for last-known-LA - Failure	Number of failed paging messages for last known location area.
Paging for last-known-LA - Dropped	Number of dropped paging messages for last known location area.
PS Doamin Paging	
Total paging RX	Number of total paging messages received in PS domain.
Paging for unknown IMSI - Received	Number of paging messages received for unknown IMSI.
Paging for unknown IMSI - Handled	Number of paging messages handled for unknown IMSI.
Paging for unknown IMSI - Dropped	Number of paging messages dropped for unknown IMSI.
Paging for unknown IMSI - Success	Number of successful paging messages for unknown IMSI.
Paging for unknown IMSI - Failure	Number of failed paging messages for unknown IMSI.
Paging for last-registered-hnb - Attempted	Number of paging messages attempted for last registered HNB.
Paging for last-registered-hnb - Success	Number of successful paging messages for last registered HNB.
Paging for last-registered-hnb - Failure	Number of failed paging messages for last registered HNB.
Paging for last-registered-hnb - Skipped	Number of skipped paging messages for last registered HNB.
Paging for last-known-LA - Attempted	Number of attempted paging messages for last known location area..
Paging for last-known-LA - Success	Number of successful paging messages for last known location area.
Paging for last-known-LA - Failure	Number of failed paging messages for last known location area.
Paging for last-known-LA - Dropped	Number of dropped paging messages for last known location area.



CHAPTER 71

show hss-peer-service

This chapter includes the **show hss-peer-service** command output tables.

- show hss-peer-service service name <name>, on page 1287
- show hss-peer-service session full, on page 1289
- show hss-peer-service statistics all, on page 1291

show hss-peer-service service name <name>

Table 345: show hss-peer-service service name <name> Command Output Descriptions

Field	Description
Service name	The name of the HSS peer service configured and running on the system.
Context	The name of the VPN context in which HSS peer service configured and running on the system.
Status	Indicates whether the HSS peer service is started or not.
Diameter hss-endpoint	The Diameter endpoint name configured in the HSS peer service configuration mode for the S6a HSS interface.
Diameter eir-endpoint	The Diameter endpoint name configured in the HSS peer service configuration mode for the S13 EIR interface.
Diameter hss-dictionary	The name of Diameter dictionary configured for messaging which is to be used for HSS peer service sessions.
Update-Dictionary-AVPs	The release of 3GPP 29.272 that is configured to be used for the HSS peer service, either 3gpp-r10, 3gpp-r9, or N/A if **diameter update-dictionary-avps** command is not configured.
Request timeout	The timeout duration in seconds set for heartbeat checking of Diameter requests with the HSS server.
Request Auth-vectors	The number of authentication vectors the MME requests in an Authentication-Information-Request (AIR) message to the HSS for each UE requiring authentication.

Field	Description
Zone Code format	Displays how the MME is to interpret the zone-code received from the HSS. This field displays the setting, as configured using the **zone-code-format** command in the HSS Peer Service configuration mode. The possible values are "octet-string" (default) and "ascii-string".
Notify-Req-Msg	Displays if the MME is configured to send Notify-Request-Messages to the HSS. Possible values are Enable and Disable.
Destination Realm	Displays the configuration of the **dynamic-destination-realm** HSS Peer Service command. Possible values are "Configured Peer Realm" (default) or "Dynamic Realm".
Failure-Handling	This group shows the configuration/settings of failure handling actions on various type of Diameter messages for different type of failure.
Message Type	The type of Diameter messages configured for failure handling on specific type of failure or error. The following types of Diameter messages can be configured for failure handling: • Authentication-Information-Request • Check-Identity-Request • Notify-Request • Purge-UE-Request • Update-Location-Request
Failure Type	The type of message failures to trigger the failure handing actions on specific Diameter messages. The following types of failure can be handled for different types of diameter messages: • Diameter Result Code (3000 to 9999) single or a range of code. • Request Timeout
Action	The type of action to be taken of a type of failure for specific type of Diameter messages. The following types of action can be configured for different types of diameter message failures: • Continue • Retry-and-terminate • Terminate

show hss-peer-service session full

Table 346: show hss-peer-service session full Command Output Descriptions

Field	Description
HSS	
Peer	The HSS peer name.
Mode	The mode of the session.
Callid	The EPS subscriber's call identity in 8 digit hex number of the connected call to an HSS peer service session.
NAI	The network access identifier (NAI) of MME-HSS session on the HSS peer service.
MDN	The mobile directory number (MDN) of the MME-HSS session on the HSS peer service.
Service Name	The name of HSS peer service for which statistics are displayed.
State	The status of MME-HSS session on the HSS peer service.
Pending Requests	The status of pending request between the MME and the HSS over the S6a interface during this MME-HSS session on the HSS peer service.
API Requests	
Open	The number of api sessions opened.
Close	The number of api sessions closed.
Update Locations	The number of ULR messages initiated by the MME or SGSN application.
Purge UE	The number of Purge Request messages initiated by the MME or SGSN application.
Authenticate	The number of AIR messages initiated by the MME or SGSN application.
Notify	The number of Notify Request messages initiated by the MME or SGSN application.
Identity Check	The number of MICR messages initiated by the MME or SGSN application.
Recoveries	The number of api session recoveries initiated.
Micro Checkpoint	Not used.
Full Checkpoint	Note used.
User Data Query	The number of user data requests sent by the MME or SGSN application.
API Successes	
Open	The number of api sessions opened successfully.
Close	The number of api sessions closed successfully.

Field	Description
Update Locations	The number of ULR messages successfully sent by the MME or SGSN application.
Purge UE	The number of Purge Request messages successfully sent by the MME or SGSN application.
Authenticate	The number of AIR messages successfully sent by the MME or SGSN application.
Notify	The number of Notify Request messages successfully sent by the MME or SGSN application.
Identity Check	The number of MICR messages successfully sent by the MME or SGSN application.
Recoveries	The number of api sessions recovered successfully.
Micro Checkpoint	Not used.
Full Checkpoint	Not used.
User Data Query	Not used.
API Errors	
Open	The number of api sessions which encountered an error when opened.
Close	The number of api sessions which encountered an error when closed.
Update Locations	The number of ULR messages that failed to be sent by the MME or SGSN application.
Purge UE	The number of Purge Request messages that failed to be sent by the MME or SGSN application.
Authenticate	The number of AIR messages that failed to be sent by the MME or SGSN application.
Notify	The number of Notify Request messages that failed to be sent by the MME or SGSN application.
Identity Check	The number of MICR messages that failed to be sent by the MME or SGSN application.
Recoveries	The number of api sessions that failed recovering.
Micro Checkpoint	Not used.
Full Checkpoint	Not used.
User Data Query	The number of user data request that couldn not be processed.
Server Requests	
Update Locations	The number of ULR messages created at the session level.
Purge UE	The number of Purge Request messages created at the session level.
Authenticate	The number of AIR messages created at the session level.
Notify	The number of Notify Request messages created at the session level.

Field	Description
Identity Check	The number of MICR messages created at the session level.
User Data Req	Not used.
Server Successes	
Update Locations	The number of ULR messages successfully sent.
Purge UE	The number of Purge Request messages successfully sent.
Authenticate	The number of AIR messages successfully sent.
Notify	The number of Notify Request messages successfully sent.
Identity Check	The number of MICR messages successfully sent.
User Data Req	Not used.
Server Errors	
Update Locations	The number of ULR messages which could not be sent. The peer is unavailable, down, or the session could not be opened.
Purge UE	The number of Purge Request messages which could not be sent. The peer is unavailable, down, or the session could not be opened.
Authenticate	The number of AIR messages which could not be sent. The peer is unavailable, down, or the session could not be opened.
Notify	The number of Notify Request messages which could not be sent. The peer is unavailable, down, or the session could not be opened.
Identity Check	The number of MICR messages which could not be sent. The peer is unavailable, down, or the session could not be opened.
User Data Req	Not used.

show hss-peer-service statistics all

Table 347: show hss-peer-service statistics all Command Output Descriptions

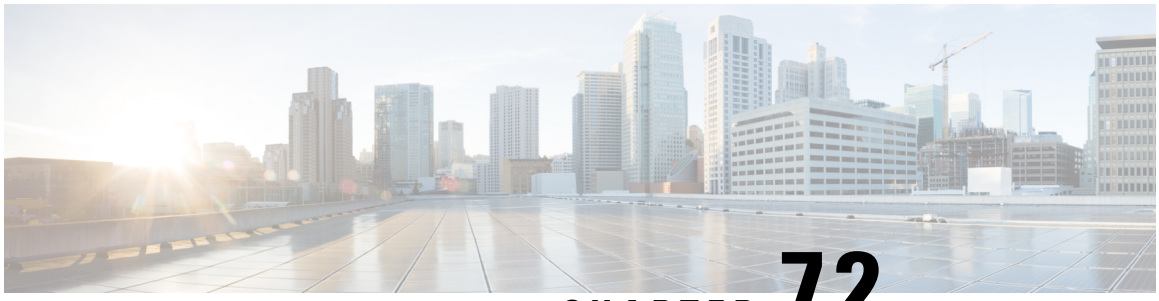
Field	Description
HSS Statistics for all services	
Session Stats	
Total Current Sessions	The total number of sessions currently accessing the HSS peer service.
Session Failovers	The total number of session failovers occurring on the SS peer service.

Field	Description
Total Starts	The total number os sessions started on the HSS peer service.
Total Session Updates	The total number of sessions updated on the HSS peer service.
Total Terminated	The total number of sessions that were terminated on the HSS peer service.
Message Stats	
UL Request	The total number of Update Location Request messages sent by the HSS peer service to the HSS.
UL Answer	The total number of Update Location Answer messages received by the HSS peer service from the HSS.
ULR Retries	The total number of Update Location Request Retry messages sent by the HSS peer service to the HSS.
ULA Timeouts	The total number of Update Location Answer Timeout messages received by the HSS peer service from the HSS.
ULA Dropped	The total number of Update Location Answer Dropped messages received by the HSS peer service from the HSS.
PU Request	The total number of Purge UE Request messages sent by the HSS peer service to the HSS.
PU Answer	The total number of Purge UE Answer messages received by the HSS peer service from the HSS.
PUR Retries	The total number of Purge UE Request Retry messages sent by the HSS peer service to the HSS.
PUA Timeouts	The total number of Purge UE Answer Timeout messages received by the HSS peer service from the HSS.
PUA Dropped	The total number of Purge UE Answer Dropped messages received by the HSS peer service from the HSS.
AI Request	The total number of Authentication Information Request messages sent by the HSS peer service to the HSS.
AI Answer	The total number of Authentication Information Answer messages received by the HSS peer service from the HSS.
AIR Retries	The total number of Authentication Information Request Retry messages sent by the HSS peer service to the HSS.
AIA Timeouts	The total number of Authentication Information Answer Timeout messages received by the HSS peer service from the HSS.
AIA Dropped	The total number of Authentication Information Answer Dropped messages received by the HSS peer service from the HSS.

Field	Description
CL Request	The total number of Cancel Location Request messages sent by the HSS peer service to the HSS.
CL Answer	The total number of Cancel Location Answer messages received by the HSS peer service from the HSS.
CLR Retries	The total number of Cancel Location Request Retry messages sent by the HSS peer service to the HSS.
CLA Timeouts	The total number of Cancel Location Answer Timeout messages received by the HSS peer service from the HSS.
CLA Dropped	The total number of Cancel Location Answer Dropped messages received by the HSS peer service from the HSS.
ISD Request	The total number of Insert Subscriber Data Request messages received by the HSS peer service from the HSS.
ISD Answer	The total number of Insert Subscriber Data Answer messages sent by the HSS peer service to the HSS.
ISDR Retries	The total number of Insert Subscriber Data Request Retry messages received by the HSS peer service from the HSS.
ISDA Timeouts	The total number of Insert Subscriber Data Answer Timeout messages sent by the HSS peer service to the HSS.
ISDA Dropped	The total number of Insert Subscriber Data Answer Dropped messages sent by the HSS peer service to the HSS.
DSD Request	The total number of Delete Subscriber Data Request messages received by the HSS peer service from the HSS.
DSD Answer	The total number of Delete Subscriber Data Answer messages sent by the HSS peer service to the HSS.
DSDR Retries	The total number of Delete Subscriber Data Request Retry messages received by the HSS peer service from the HSS.
DSDA Timeouts	The total number of Delete Subscriber Data Answer Timeout messages sent by the HSS peer service to the HSS.
DSDA Dropped	The total number of Delete Subscriber Data Answer Dropped messages sent by the HSS peer service to the HSS.
R Request	The total number of Reset Request messages received by the HSS peer service from the HSS.
R Answer	The total number of Reset Answer messages sent by the HSS peer service to the HSS.
RR Retries	The total number of Reset Request Retry messages received by the HSS peer service from the HSS.

Field	Description
RA Timeouts	The total number of Reset Answer Timeout messages sent by the HSS peer service to the HSS.
RA Dropped	The total number of Reset Answer Dropped messages sent by the HSS peer service to the HSS.
N Request	The total number of Notify Request messages sent by the HSS peer service to the HSS.
N Answer	The total number of Notify Answer messages received by the HSS peer service from the HSS.
NR Retries	The total number of Notify Request Retry messages sent by the HSS peer service to the HSS.
NA Timeouts	The total number of Notify Answer Timeout messages received by the HSS peer service from the HSS.
NA Dropped	The total number of Notify Answer Dropped messages received by the HSS peer service from the HSS.
MIC Request	The total number of Mobile Identity Check Request messages sent by the HSS peer service to the HSS.
MIC Answer	The total number of Mobile Identity Check Answer messages received by the HSS peer service from the HSS.
MICR Retries	The total number of Mobile Identity Check Request Retry messages sent by the HSS peer service to the HSS.
MICA Timeouts	The total number of Mobile Identity Check Answer Timeout messages received by the HSS peer service from the HSS.
MICA Dropped	The total number of Mobile Identity Check Answer Dropped messages received by the HSS peer service to the HSS.
Message Error Stats	
Unable To Comply	The total number of Update Location Answer messages containing the result code "Unable To Comply" received by the HSS peer service from the HSS.
Auth Data Unavailable	The total number of Update Location Answer messages containing the result code "Auth Data Unavailable" received by the HSS peer service from the HSS.
User Unknown	The total number of Update Location Answer messages containing the result code "User Unknown" received by the HSS peer service from the HSS.
Equipment Unknown	The total number of Update Location Answer messages containing the result code "Equipment Unknown" received by the HSS peer service from the HSS.
Unknown EPS Subscription	The total number of Update Location Answer messages containing the result code "Unknown EPS Subscription" received by the HSS peer service from the HSS.

Field	Description
RAT Not Allowed	The total number of Update Location Answer messages containing the result code "RAT Not Allowed" received by the HSS peer service from the HSS.
Authorization Rejected	The total number of Update Location Answer messages containing the result code "Authorization Rejected" received by the HSS peer service from the HSS.
Roaming Not Allowed	The total number of Update Location Answer messages containing the result code "Roaming Not Allowed" received by the HSS peer service from the HSS.
Other Errors	The total number of Update Location Answer messages containing the result code "Other Errors" received by the HSS peer service from the HSS.
Subscription-Data Stats	
Skip Subscription Data	The Skip Subscription Data statistic is incremented when the ULR is sent with the skip-subscription-data flag set.
Subscription-Data Not Received	The Subscription-Data Not Received statistic is incremented if the HSS does not send the subscription data in the ULA when skip-subscription-data flag is set in ULR. The difference between the Skip Subscription Data and Subscription-Data Not Received gives us the number of times HSS does not honour the skip-subscription-data flag.
Location Message Stats	
Asynchronous ISDR Req	
Asynchronous ISDR Dropped	This counter pegs the asynchronous ISD request dropped.
Asynchronous ISDA	
Aynchronous ISDA Dropped	
ISDR Req with Current Location	This statistics is updated when ISDR is received with the Current Location bit set in the IDR flags.
ISDA with Cached Location	This statistics is updated when an ISDR is responded with the current location information immediately from the cache, before the location validity timer expires.



CHAPTER 72

show ims-authorization

This chapter describes the outputs of the **show ims-authorization** command.

- show ims-authorization policy-control statistics, on page 1297
- show ims-authorization policy-gate status full, on page 1307
- show ims-authorization policy-gate counters all, on page 1308
- show ims-authorization servers, on page 1309
- show ims-authorization service name, on page 1310
- show ims-authorization service name p-cscf all, on page 1312
- show ims-authorization service statistics, on page 1313
- show ims-authorization sessions full all, on page 1318

show ims-authorization policy-control statistics

Table 348: show ims-authorization policy-control statistics Command Output Descriptions

Field	Description
DPCA Session Stats	
Total Current Sessions	The total number of DPCA session currently running on this system.
Total IMSA Adds	The total number of IP multimedia subsystem applications (IMSAs) added to service.
Total DPCA Starts	The total number of Diameter Policy Control Applications (DPCAs) started.
Total Fallback Sessions	The total number of Diameter Policy Control Application (DPCA) sessions successfully fallback to PCRF after being with local-policy.
Total Secondary Create	The total number of secondary contexts created. **Important** This field is no longer available in 14.0 and later releases.
Total Secondary Terminate	The total number of secondary contexts deleted. **Important** This field is no longer available in 14.0 and later releases.

Field	Description
Total Session Updates	The total number of updates applied for session/s. **Important** This field is not available in 14.0 release.
Total Terminated	The total number of Diameter Policy Control Application sessions terminated.
DPCA Session Failovers	The total number of Diameter Policy Control Application sessions failed.
DPCA Message Stats	
Total messages Received	Total policy control messages received for IMS authorization policy control.
Total Messages Sent	Total messages sent to IMS authorization policy control server.
Total CCR	Total Credit Control Request (CCR) messages received.
Total CCA	Total Credit Control Answer (CCA) messages sent in response to CCRs.
CCR-Initial	Total number of initial CCR messages received.
CCA-Initial	Total number of initial CCA messages sent in response to initial CCR messages.
CCA-Initial Accept	Total number of initial CCA messages accepted in response to initial CCR messages.
CCA-Initial Reject	Total number of initial CCA messages rejected in response to initial CCR messages.
CCA-Initial Dropped	Total number of CCA-I messages which are dropped due to S-GW restoration, DPCA is off or not present or if the IMSA session is in preservation mode.
CCA-Initial Timeouts	Total number of initial CCA messages timed out in response to initial CCR messages.
CCR-Update	Total number of Credit Control Request (CCR) messages received after initial CCR for update.
CCA-Update	Total Credit Control Answer (CCA) messages sent in response to update CCRs.
CCA-Update Timeouts	Total Credit Control Answer (CCA) messages sent in response to update CCRs but timed out.
CCA-Update Errors	Total number of errors in parsing the CCA-Update Message.
CCA-Update Dropped	Total number of CCA-U messages which are dropped due to S-GW restoration, DPCA is off or not present or if the IMSA session is in preservation mode.
CCR-Final	Total number of final CCR messages received to end application.
CCA-Final	Total number of final CCA messages sent in response to final CCR messages to end session/s.
CCA-Final Timeouts	Total number of final CCA messages sent in response to final CCR messages to end session/s but timed out.
CCA-Final Errors	Total number of errors in parsing the CCA-Terminate Message.

Field	Description
CCA-Final Dropped	Total number of CCA-T messages which are dropped due to S-GW restoration, DPCA is off or not present or if the IMSA session is in preservation mode.
ASR	Total number of Abort-Session-Requests (ASRs) received.
ASA	Total number of Abort-Session-Accept (ASA) messages sent in response to Abort-Session-Requests (ASRs).
RAR	Total number of Re-Auth-Requests (RARs) received for re-authorization.
RAA	Total number of Re-Auth-Requests (RARs) answered with Re-Auth-Answer (RAA) message.
RAR-CCR collision	Total number of Re-Auth-Request (RAR) messages received from PCRF when there is any outstanding Credit Control Request (CCR) message.
IRAT RAR Reject	The total number of DPCA Re-Auth-Accept messages sent in response to Re-Auth-Request (RAR) messages received from PCRF during S2b handoff.
CCA Parse Failure	
CCA-Initial Failure	This is the counter incremented when failure cb is invoked for CCR-Initial due to parse error at diabase.
CCA-Update Failure	This is the counter incremented when failure cb is invoked for CCR-Update due to parse error at diabase.
CCA-Final Failure	This is the counter incremented when failure cb is invoked for CCR-Final due to parse error at diabase
SGW Restoration	
RAR Reject	The total number of RAR messages that were not processed during S-GW restoration. That is, the total number of RAR messages from the PCRF, that were rejected with result-code 5012 (UNABLE_TO_COMPLY).
RAR Accepted	
Rule Removals	The total number of times the P-GW accepted RAR with rule removals from the PCRF during S-GW Restoration.
Session Release	The total number of times the P-GW accepted RAR with Session Release Cause from the PCRF during S-GW Restoration.
CCA-U Dropped	The total number of times that the P-GW dropped CCA-U during S-GW Restoration.
CCA-U Accepted	
Rule Removals	The total number of times that the P-GW accepted CCA-U with rule removals from the PCRF during S-GW Restoration.
Session Release	The total number of times the P-GW accepted CCA-U with Session Release Cause from the PCRF during S-GW Restoration.

Field	Description
Internal Updates Dropped	
Revalidation Timeout	The total number of DPCA messages that were not sent towards PCRF due to the expiry of revalidation timer when S-GW is down.
Pending Updates	The total number of CCR-Us that were dropped when S-GW is down and update is received from SM/ECS.
Sync Request	The total number of messages that were dropped when S-GW is down and the session sync request is received.
SGW Restoration Reported	
RAA Sent	The total number of times S-GW restoration reported in RAA to the PCRF during S-GW Restoration.
CCR-U Sent	The total number of times that S-GW restoration reported in CCR-U to the PCRF during S-GW Restoration.
DPCA Message Error Stats	
Diameter Protocol Errs	Total number of errors related to Diameter protocol.
Bad Answers	Total number of errors related to invalid response/answers.
Unknown Session Reqs	Total number of errors related to unknown session requests.
Unknown Command Code	Total number of errors related to unknown command codes.
Unsupported Command Code	Total number of errors related to unsupported command codes.
Unk Failure Handling	Total number of errors related to unknown handling of failures.
DPCA Termination Cause Stats	
Diameter Logout	Total number of DPCA session termination due to Diameter logout.
Service Not Provided	Total number of DPCA session termination due to unavailability of service.
Bad Answer	Total number of DPCA sessions terminated due to invalid/bad response reason.
Administrative	Total number of DPCA sessions terminated due to administrative reasons.
Link Broken	Total number of DPCA sessions terminated due to link broken.
Auth Expired	Total number of DPCA sessions terminated due to authorization expired.
User moved	Total number of DPCA sessions terminated as subscriber/user moved to unknown/non-service area.
Session Timeout	Total number of DPCA sessions terminated due to timed out reason.
Auth Rejected	Total number of DPCA sessions terminated due to authorization rejected.

Field	Description
Other Errors	Total number of DPCA sessions terminated due to unknown reasons or reasons not listed in this list.
DPCA Experimental Result Code Stats:	Statistics of the number of times the specific Experimental-Result-Code value was received in the Diameter Gx Credit-Control-Answer (CCA) from the PCRF per IMSA service.
Error Initial Parameters	The number of times DIAMETER_ERROR_INITIAL_PARAMETERS (5140) Experimental-Result-Code value was received in the Diameter Gx CCA.
Error Trigger Event	The number of times DIAMETER_ERROR_TRIGGER_EVENT (5141) Experimental-Result-Code value was received in the Diameter Gx CCA.
Bearer Not Authorized	The number of times DIAMETER_ERROR_BEARER_NOT_AUTHORIZED (5143) Experimental-Result-Code value was received in the Diameter Gx CCA.
Traffic Mapping Rejected	The number of times DIAMETER_ERROR_TRAFFIC_MAPPING_INFO_REJECTED (5144) Experimental-Result-Code value was received in the Diameter Gx CCA.
PCC Rule Event	The number of times DIAMETER_PCC_RULE_EVENT (5142) Experimental-Result-Code value was sent in the Diameter Gx Re-Auth-Request (RAR).
Conflicting Request	This error is used when the PCRF cannot accept the UE-initiated resource request as a network-initiated resource allocation is already in progress with packet filters that cover the packet filters in the received UE-initiated resource request.
Bearer Event	This error is used when a PCC rule for some reason cannot be enforced or modified successfully in a network initiated procedure.
Bad Exp Result Code	The number of times an unknown Experimental-Result-Code value (apart form the ones recognized in CCA that are listed above PCC Rule Event) was received in the Diameter CCA.
PCRF Too Busy	This error is used when the PCRF is unable to process the CCR message due to transient failures.
Pending-Trans-Sent	The total number of times the Experimental Result Code DIAMETER_PENDING_TRANSACTION (4198) is sent to the server.
Pending-Trans-rcvd	The total number of times the Experimental Result Code DIAMETER_PENDING_TRANSACTION (4198) is received from the server.
Session Recovery Req	The total number of times the session recovery request experimental result code is received from PCRF.
Diameter Overload Control	The total number of times the Experimental-Result-code (5198 - DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY) is received from the PCRF. This result code is used to indicate that all the nodes connected behind the Diameter Agent are overloaded and that the client (ePDG and P-GW) should not attempt the message on the alternate connection.

Field	Description
Newer Session Detected	The total number of times the Experimental-Result-code (5199 - DIAMETER_NEWER_SESSION_DETECTED) is received from the PCRF. When the response message is received with 5199 result code, the Diameter application does not retry to a secondary AAA server. If the Experimental Result-Code 5199 is received in Assume Positive mode, then the current call is terminated.
Gx APN Change	The total number of times the Experimental-Result-code (5999 - DIAMETER_GX_APN_CHANGE) is received from the PCRF. This result code is sent when Virtual APN is selected through PCRF.
Diameter Overload Control Stats:	
CCA-Initial	The total number of times the Experimental-Result-code (5198 - DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY) is received in CCA-I.
CCA-Update	The total number of times the Experimental-Result-code (5198 - DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY) is received in CCA-U.
CCA-Terminate	The total number of times the Experimental-Result-code (5198 - DIAMETER_OVERLOAD_RETRY_NOT_ALLOWED_TO_ANY) is received in CCA-T.
Session Sync Request Stats:	
RAR	The total number of times the RARs in which the session sync request is received.
CCA	The total number of times the CCAs in which the session sync request is received.
DPCA FH Retry Server On Event **Important** The counters under "DPCA FH Retry Server On Event" will not be incremented if the message is sent or received after session recovery/ICSR switchover.	
CCR-Update	The total number of times the CCR-U is sent out after Failure-Handling action "**continue retry-server-on-event**" is applied.
CCR-Terminate	The total number of times the CCR-T is sent out after Failure-Handling action "**continue retry-server-on-event**" is applied.
RAR	The total number of times the RAR is received after Failure-Handling action "**continue retry-server-on-event**" is applied.
Session Release Cause	
CCA	
Unspecified Reason	The total number of IP CAN sessions terminated because of Session Release Cause "Unspecified Reason" received in CCA.

Field	Description
UE Subscription Changed	The total number of IP CAN sessions terminated because of Session Release Cause "UE Subscription Changed" received in CCA.
Insuffcnt Srvr Resource	The total number of IP CAN sessions terminated because of Session Release Cause "Insufficient Server Resources" received in CCA.
RAR	
Unspecified Reason	The total number of IP CAN sessions terminated because of Session Release Cause "Unspecified Reason" received in RAR.
UE Subscription Changed	The total number of IP CAN sessions terminated because of Session Release Cause "UE Subscription Changed" received in RAR.
Insuffcnt Srvr Resource	The total number of IP CAN sessions terminated because of Session Release Cause "Insufficient Server Resources" received in CCA.
DPCA Failure Handling Stats	
Connection Based FH	
Total FH Triggered	Total number of times when ims-auth-service Failure Handling is triggered.
Total Message Timeouts	Total number of response message timeouts, i.e. PCRF failed to respond within the configured timeout value.
CCA-Initial	Response to the CCR-I message was timed out.
CCA-Update	Response to the CCR-U message was timed out.
CCA-Terminate	Response to the CCR-T message was timed out.
Total Message Send Errs	Total number of requests failed to be sent due to socket based send errors.
CCR-Initial	CCR-I failed to be sent due to socket based errors.
CCR-Update	CCR-U failed to be sent due to socket based errors.
CCR-Terminate	CCR-T failed to be sent due to socket based errors.
Result Code Based FH	
Configured Result Code	Failure handling being undertaken due to configured result code range.
CCA-Initial	Failure handling being undertaken due to configured result code range for CCA-Initial messages.
CCA-Update	Failure handling being undertaken due to configured result code range for CCA-Update messages.
CCA-Terminate	Failure handling being undertaken due to configured result code range for CCA-Terminate messages.

Field	Description
Unh and Unk Result Code	Failure handling being undertaken due to a result code which is neither defined in the diameter or customer specs.
CCA-Initial	Failure handling being undertaken due to unknown result code for CCA-Initial messages.
CCA-Update	Failure handling being undertaken due to unknown result code for CCA-Update messages.
CCA-Terminate	Failure handling being undertaken due to unknown result code for CCA-Terminate messages.
FH Behavior	
Continue	Total number of times the failure handling action "continue" has been undertaken.
Retry-And-Continue	Total number of times the failure handling action "retry-and-continue" has been undertaken.
CCR on Call Terminate	Total number of times the failure handling action "continue" has been undertaken and CCR-T has been sent to PCRF on call termination.
Continue-Without-Retry	Total number of times the failure handling action "continue-without-retry" has been undertaken. This failure action implies that the IMSA call will be continued without retrying to the secondary PCRF.
Continue-With-Fallback	Total number of times the failure handling action "continue-with-fallback" has been undertaken. This failure action implies that the IMSA call will be continued with the PCC rules defined in local policy.
Continue-With-Fallback Without Retry	Total number of times the failure handling action "continue-fallback-wo-retry" has been undertaken. This failure action implies that the IMSA call will be continued with the PCC rules defined in local policy without retrying to the secondary PCRF server.
Retry Server On Event	Total number of times the failure-handling action "continue retry-server-on-event" has been undertaken.
Retry and Terminate	
Retry-And-Terminate	Total number of times the failure handling action "retry-and-terminate" has been undertaken.
Retry Term without CCRT	Total number of times the failure handling action "retry-and-terminate" has been undertaken without sending CCR-T to PCRF on call termination.
Retry same server	Total number of times the failure handling action "retry-and-terminate" has been applied to retry to the same server within a configurable timer.
Termination	
Terminate	Total number of times the failure handling action "terminate" has been undertaken.
Terminate without CCRT	Total number of times the failure handling action "terminate" has been undertaken without sending CCR-T to PCRF on call termination.

Field	Description
Local Fallback Cause Stats	Displays the reason for fallback to local-policy.
Tx-expiry	Total number of the times the OCS server is unreachable due to Tx expiry.
Request-timeout	Total number of the times the OCS server is unreachable due to request timeout.
Diabase error	Total number of the times the OCS server is unreachable due to Diabase error.
Result-code error	Total number of the times the OCS server is unreachable due to Result code errors.
Peer Switches	
Attempted Switches	Total number of peer switches attempted.
Successful Switches	Total number of peer switches successful.
Switches-Tx timeout	Total number of peer switches due to timeout expiry.
Switches-RAR change	Total number of peer switches due to RAR from secondary server.
CCA Result Code Stats	
Result Code 2xxx	Total number of CCA messages that have been received with result code 2xxx for Gx.
Result Code 3xxx	Total number of CCA messages that have been received with result code 3xxx for Gx.
Result Code 4xxx	Total number of CCA messages that have been received with result code 4xxx for Gx.
Result Code 5xxx	Total number of CCA messages that have been received with result code 5xxx for Gx.
Other Result Code	Total number of CCA messages that have been received with other result codes for Gx.
Backpressure Stats	
CCR-I Backpressure Stats	
Messages	Total number of CCR-I messages that are in backpressure state.
Failures	Total number of times the application fails to create a CCR-I message due to no TCP connection when the messages are in backpressure state.
Sess-Id Recovery Failures	Total number of times the CCR-I message is sent before recovering the session ID when the call is running in proxy mode and session recovery happens.
CCR-U Backpressure Stats	
Messages	Total number of CCR-U messages that are in backpressure state.
Failures	Total number of times the application fails to create a CCR-U message due to no TCP connection when the messages are in backpressure state.
Max Retry	Total number of times the max retries have been attempted when the CCR-U message is in backpressure state.

Field	Description
Dropped Messages	Total number of CCR-U request messages that are dropped when there are already some messages in backpressure state.
Sess-Id Recovery Failures	Total number of times the CCR-U message is sent before recovering the session ID when the call is running in proxy mode and session recovery happens.
CCR-T Backpressure Stats	
Messages	Total number of CCR-T messages that are in backpressure state.
Failures	Total number of times the application fails to create a CCR-T message due to no TCP connection when the messages are in backpressure state.
Sess-Id Recovery Failures	Total number of times the CCR-T message is sent before recovering the session ID when the call is running in proxy mode and session recovery happens.
RAA Result Code Stats	
Result Code 2xxx	Total number of RAA messages that are received with the result-code between 2000 and 2999
Result Code 3xxx	Total number of RAA messages that are received with result-code between 3000 to 3999.
Result Code 4xxx	Total number of RAA messages that are received with result-code between 4000 to 4999.
Result Code 5xxx	Total number of RAA messages that are received with result-code between 5000 to 5999.
Other Result Code	Total number of RAA messages that are received with result-code other than the range of 2xxx to 5xxx.
Transient Errors: **Note** The CCA experimental result-code statistics will be displayed only for CUPS-enabled platforms.	
Responses in Queue	
Current Responses in Queue	Total number of out of order responses present in queue across all sessions at current time.
Purged Responses	Total number of responses purged without sending to the session manager.
Total Response in Queue	Total number of responses that are buffered in the queue.
Requests in Queue for LP	
Current Requests in Queue	Total number of requests present in the queue which are yet to be sent to Local Policy module.
Purged Requests	Total number of requests purged without sending to Local Policy.
Total Requests Fwd to LP	Total number of outstanding requests forwarded to Local Policy.
Session Recovery Failure	

Field	Description
Resource Limitation	Total number of times the rule installation failed due to the resource limitation i.e. when received string is more than expected size like redirecturllen more than 512.
Unknown Bearer ID	Total number of times the rule installation failed due to unknown bearer ID.
Invalid QCI	Total number of times the rule installation failed due to invalid QCI.
Invalid ARP	Total number of times the rule installation failed due to invalid ARP.
Bearer-Id in QoS	Total number of times the rule installation failed due to a mismatch in the bearer ID present in QoS flow.
Session Recovery Failure	
Activate-LP-Rule	Indicates the total number of times lp-activate-rules session recovery or ICSR recovery failed.

show ims-authorization policy-gate status full

Important This command is no longer an option in StarOS release 11.0 and beyond.

Table 349: show ims-authorization policy-gate status full Command Output Descriptions

Field	Description
CallID	Specifies Call Identifier.
IMSI	Specifies International Mobile Subscriber Identity (IMSI) of subscriber.
NSAPI	Specifies Network Service Access Point Identifier (NSAPI) to a single PDP context of the subscriber.
Charging Rule	Specifies dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service.
Precedence	Displays the precedence of the dynamic charging rule applicable to specific flow.
Flow Status	Specifies the status of flow with specific charging rule. Possible states are: • Open • Closed • Dormant

Field	Description
Flow Dir	Specifies the direction of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service. Possible states are: • Uplink • Downlink
Source Addr	Specifies the source IP address of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service.
Source Addr Mask	Specifies the masking of source IP address of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service.
Destination Addr	Specifies the destination IP address of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service.
Destination Addr Mask	Specifies the masking of destination IP address of flow with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service.
Source Port	Specifies the IP port of flow origin with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service.
Destination Port	Specifies the destination IP port of flow end with specific dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service.

show ims-authorization policy-gate counters all

Important This command is no longer an option in StarOS release 11.0 and beyond.

Table 350: show ims-authorization policy-gate counters all Command Output Descriptions

Field	Description
CallID	Specifies Call Identifier.
IMSI	Specifies International Mobile Subscriber Identity (IMSI) of subscriber.
NSAPI	Specifies Network Service Access Point Identifier (NSAPI) to a single PDP context of the subscriber.
Charging Rule	Specifies dynamic charging rule applicable for specific flow through a policy gate in IMS authorization service.

Field	Description
Gate State changed	Displays the change state of policy gate for specific subscriber flow. Possible values are: • 0: No change • 1: Changed
Uplink Pkts Statistics	Displays the statistics of packets in uplink direction.
Downlink Pkts Statistics	Displays the statistics of packets in downlink direction.
Pkts processed	Displays the total number of packets received and processed.
Bytes processed	Displays the total number of bytes received and processed.
Pkts dropped	Displays the total number of packets received but dropped.
Bytes dropped	Displays the total number of bytes received but dropped.

show ims-authorization servers

Table 351: show ims-authorization servers ims-auth-service Command Output Descriptions

Field	Description
Service Name	IMS authorization service name.
IMS Authorization Server	IMS authorization server name.
Server Type	IMS Authorization server type. It may be Policy, Charging, or both.
PCRF host	Identifies the Policy Control and Charging Rules Function (PCRF) host.
Operational State	Indicates operational state of the authorization server.
Server Session State	Indicates authorization server session state.
Server Statistics	Indicates authorization server session statistics.
Session Active	Total number of active authorization server sessions.
Session Opened	Total number of opened authorization server sessions.
Session Closed	Total number of closed authorization server sessions.
Sessions switched due to Tx Expiry	Total number of sessions switched due to transmission expiry.
Sessions switched due to reselection	Total number of sessions switched due to re-selection of authorization servers.
Server Up -> down indications	Total number of servers going to down state from up state.

Field	Description
Pending-Transactions	
RAA sent	Total number of times the Experimental Result Code DIAMETER_PENDING_TRANSACTION (4198) is sent to the server.
CCA rcvd	Total number of times the Experimental Result Code DIAMETER_PENDING_TRANSACTION (4198) is received from the server.
Session Recovery Request	
CCA rcvd	Total number of times the session recovery request is received in CCA.
CCR sent	Total number of times the subsequent CCR updates are sent in session recovery request.
Session Sync Request	
RAR rcvd	Total number of times the session sync request is received in RAR.
CCA rcvd	Total number of times the session sync request is received in CCA.
CCR sent	Total number of times the subsequent CCR updates are sent in session sync request.
Total servers matching specified criteria	Total number of servers matching the specified criteria.

show ims-authorization service name

Table 352: show ims-authorization service name Command Output Descriptions

Field	Description
IMS Authorization Service Name	Name of IMS authorization service name.
Context	Name of the context in which IMS authorization service is configured.
Service State	State of the IMS authorization service.
Service mode	Mode of IMS authorization service for policy and charging.
Binding Mechanism	Describes the mechanism on the control of bearer resources based on a binding mechanism that binds one or more service to a bearer.
QoS Update Timeout	Specifies the timeout duration in seconds to discard QoS update request. **NOTE:** QoS Update Timeout is no longer shown in StarOS release 11.0 and beyond.
Reauth Trigger	Specifies the Re-authorization trigger's status.
P-CSCF Discovery	Specifies the configured route-table applicable for Proxy-Call Session Control Function (P-CSCF) discovery.

Field	Description
P-CSCF Selection Table[*n*]	Specifies the configured selection table information for Proxy-Call Session Control Function (P-CSCF) server selection. This table includes information on the configured row precedence, primary and secondary IP address, and the weight. [*n*] indicates the selection table number.
Tertiary IPV4 Addr:	The IPv4 Tertiary Address.
Tertiary IPV6 Addr:	The IPv6 Tertiary Address.
Primary IPV4 Addr:	The IPv4 Primary Address.
Primary IPV6 Addr:	The IPv6 Primary Address.
Secondary IPV4 Addr:	The IPv4 Secondary Address.
Secondary IPV6 Addr:	The IPv4 Secondary Address.
Diameter Policy Control Specifies Diameter Policy Control related configuration and information.	
Endpoint	Specifies Diameter endpoint name for Diameter Policy Control.
Origin-Realm	Specifies Diameter origin domain name for Diameter Policy Control.
Dictionary	Specifies the configured applicable dictionary for Diameter Policy Control.
Update-Dictionary-Avps	Indicates whether the 3GPP Rel. 8 AVPs, 3GPP Rel. 9 AVPs are selected for encoding.
Supported Features	Displays the information about the supported features that are configured.
Request Timeout	Indicates the configured request timeout value.
Endpoint Peer Select	Indicates the configuration of endpoint peer selection at Diabase.
Extended-bw-nr	Enables the extended bandwidth with new radio feature support on Gx interface.
Reauth Trigger	Indicates the re-authorization trigger status.
Custom Reauth Trigger	Indicates enabled custom reauth event triggers.
Failure Handling	Specifies the configured mechanism for failure handling in Diameter Policy Control.
Peer Switch	Specifies the status of Peer switching for in Diameter Policy Control. **Important** This field has been deprecated in 8.1 and later releases.
Local Policy Service	Specifies the configured local policy service name.
Host Selection	Specifies host selection mechanism with selection table.

Field	Description
Host Reselection Subscriber Limit	Specifies the limit of subscriber bind to specific host origin to trigger re-selection of host.
Host Reselection Interval	Specifies time interval to trigger host re-selection for subscriber.
Sgsn Change Reporting	Specifies whether or not the feature, to report SGSN-Address AVP in CCR-I messages during GnGp scenario, is configured.
Session-Id Mismatch Clear Session	Specifies whether or not the feature, to delete session ID mismatched subscriber sessions during ICSR switchovers or process failures, is configured. For more information on this feature, see the *Gx Interface Support* chapter in the administration guide for the product you are deploying.
3GPP R9 Flow Direction Compliance	Specifies whether or not the feature, to enable Rel.9 changes for Flow-Description, TFT-Filter, and Packet-Filter-Content AVPs, is configured. For more information on this feature, see the *Gx Interface Support* chapter in the administration guide for the product you are deploying.
Host Selection Table[*n*]	Specifies the configured selection table information for host server selection. [*n*] indicates the selection table number.
Precedence	Specifies the precedence applicable.
Primary Host	Specifies the primary name/IP address the host.
Secondary Host multiple-pra	Specifies the secondary name/IP address of the host. Multiple Presence Reporting Area Information Reporting.
Charging Characteristics AVP in CCR (r8-gx-standard dict)	Specifies whether the r8-gx-standard dictionary is configured to send 3gpp-Charging-Characteristics AVP in CCR message.

show ims-authorization service name p-cscf all

Table 353: show ims-authorization service name p-cscf all Command Output Descriptions

Field	Description
Server	Name of the Proxy-Call Session Control Function (P-CSCF) server.
Active Sessions	Number of active PDN sessions served per allocated P-CSCF IPv4/IPv6 address pair (primary and secondary servers).
Total servers matching specified criteria	Displays the total number of servers matching the specified criteria.

show ims-authorization service statistics

Table 354: show ims-authorization service statistics Command Output Descriptions

Field	Description
IMS Auth Service Statistics Summary **Important** In StarOS release 14.0 and later, all these statistics will be incremented per control session (subscriber).	
Total Services	Total number of IMS authorization services running in the system.
Control Session Statistics	
Current Active	Total number of current sessions that are active.
Total Setup	Total number of sessions set up.
Auth Session	
Current Active	Total number of current sessions that are active.
Current Fallback Session	Total number of the sessions that are currently in local-fallback state.
Current PCRF Session	Total number of the sessions that are currently associated with PCRF.
Total Attempted	Total number of authorization sessions attempted.
Total Setup	Total number of sessions set up.
Total Failed	Total number of failed sessions.
Total Released	Total number of released sessions.
Total Fallback	Total number of sessions which fell back to the local policy.
Setup Failures	
Auth Failure	Total number of authorization failures.
PCRF Not Up	Total number of failures due to PCRF being down.
PCRF Selection Error	Total number of failures due to PCRF selection errors.
Table Change Init	Total number of failures due to table change initialization.
Server Discovery Failure	Total number of failures due to server discovery failure.
Session Releases	
Normal Released	Total number of normal session releases.
Abnormal Released	Total number of abnormal session releases.

Field	Description
Session Terminated	Total number of sessions aborted.
PCRF Down	Total number of sessions terminated when PCRF is not responding
Admin Release	Total number of sessions releases intitiated by Administrator.
Server Re-selection	Total number of sessions terminated due to the server reselection.
Unusual Release	Displays the unusual logs. This counter will be incremented in places where ASSERT is replaced with call drop. **Important** This counter will NOT be displayed if "service name" filter is given to the CLI command, as the counter is incremented per IMSA instance.
Initial Authorization	
Total Attempts	Total number of initial authorization attempts.
Total Successful	Total number of successful initial authorization attempts.
Total Failed	Total number of failed initial authorization attempts.
Authorization Failures	
Diameter Errors	Total number of authorization failures due to Diameter errors.
Policy Enforcement	Total number of authorization failures due to policy enforcement.
Validation Failure	Total number of authorization failures due to validation failure.
UE Not Served Reject	Total number of rejections due to PCRF reselection failures.
Re-Authorization	
Total Attempts	Total number of re-authorization attempts.
Total Successful	Total number of successful reauthorization attempts.
Total Failed	Total number of failed re-authorization attempts.
Local-Fallback	
CCRU received	Total number of CCR-Us received when the call is with local-policy.
RAR received	Total number of RARs received when the call is with local-policy.
Re-Authorization Failures	
Validation Failure	Total number of validation failures.
Re-Authorization Triggers	

Field	Description
SGSN Change	Total number of re-authorizations triggered due to change in SGSN for subscriber node.
PLMN Change	Total number of re-authorizations triggered due to change in Public Land Mobile Network (PLMN).
RAT Change	Total number of re-authorizations tittered due to change in Radio Access Type (RAT) of subscriber node.
TFT Change	Total number of re-authorizations triggered due to change in Traffic Flow Template (TFT) of subscriber session.
TFT Delete	Total number of re-authorizations triggered due to deletion of TFT of subscriber session. **NOTE:** TFT Delete is no longer shown in StarOS release 11.0 and beyond.
Bearer Recovery	Total number of re-authorizations triggered due to bearer or service recovery after loss of bearer or service.
Bearer Loss	Total number of re-authorizations triggered due to loss of bearer or service.
QoS Change	Total number of re-authorizations triggered due to change in Quality of Service (QoS) level/rating of subscribers.
Policy Failure	Total number of re-authorizations triggered due to failure of credit and charging policy.
IP-CAN Change	Total number of re-authorizations triggered due to IP-CAN changes.
Resources Limitation	Total number of re-authorizations triggered due to resource limitations.
Max Num of Bearers Rchd	Total number of re-authorizations triggered due to maximum number of bearers allowed.
QoS Chng Exceeding Auth	Total number of re-authorizations triggered due to QoS Change exceeding authorization.
RAI Change	Total number of re-authorizations triggered due to RAI changes.
User Location Change	Total number of re-authorizations triggered due to user location changes.
TAI Change	Total number of times P-GW has reported TAI_CHANGE (26) event trigger to PCRF. This field is added in support of TAI and ECGI Change Reporting feature.
ECGI Change	Total number of times P-GW has reported ECGI_CHANGE (27) event trigger to PCRF. This field is added in support of TAI and ECGI Change Reporting feature.
PCRF Triggered ReAuth	Total number of re-authorizations triggered due to PCRF triggered reauthorization.
Preservation Changed	Total number of re-authorizations triggered due to preservation changes.

Field	Description
Reactivation Changed	Total number of re-authorizations triggered due to reactivation changes.
Revalidation Timeout	Total number of re-authorization messages that are sent to PCRF because of "REVALIDATION_TIMEOUT" event trigger.
AN GW Changed	Total number of re-authorization messages that are sent to PCRF because of "AN_GW_CHANGE" event trigger.
Out Of Credit Reauth	Total number of re-authorization messages that are sent to PCRF because of "OUT_OF_CREDIT" event trigger.
Reallocation Of Credit	Total number of re-authorization messages that are sent to PCRF because of "REALLOCATION_OF_CREDIT" event trigger.
Def EPS Bearer QoS Chng	Total number of re-authorization messages that are sent to PCRF because of "DEFAULT_EPS_BEARER_QOS_CHANGE" event trigger.
Successful Resource Alloc	Total number of re-authorization messages that are sent to PCRF because of "SUCCESSFUL_RESOURCE_ALLOCATION" event trigger.
Usage Report	Total number of re-authorization messages that are sent to PCRF because of "USAGE_REPORT" event trigger.
Service Flow Detection	Total number of re-authorization messages that are sent to PCRF because of "SERVICE_FLOW_DETECTION" event trigger.
UE Timezone Change	Total number of re-authorization messages that are sent to PCRF because of "UE_TIME_ZONE_CHANGE" event trigger.
UE IP Address Allocate	Total number of re-authorization messages that are sent to PCRF because of "UE_IP_ADDRESS_ALLOCATE" event trigger.
UE IP Address Release	Total number of re-authorization messages that are sent to PCRF because of "UE_IP_ADDRESS_RELEASE" event trigger.
Resource Modification Req	Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "RESOURCE_MODIFICATION_REQUEST" event-trigger.
APN AMBR Modification Failure	Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "APN_AMBR_MODIFICATION_FAILURE" event trigger.
Def Bearer QOS Mod Failure	Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "DEFAULT_EPS_BEARER_QOS_MODIFICATION_FAILURE" event trigger.
Tethering Flow Detected	Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "TETHERING_FLOW_DETECTED" event trigger. **Important** This field is customer-specific. For more information, contact your local Cisco account representative.
Chrg Correlation Exchange	Total number of reauthorization messages (CCR-U) that are sent to PCRF because of "CHARGING_CORRELATION_EXCHANGE" event trigger.

Field	Description
Access Network Info Report	Total number of CCR-Us sent to PCRF because of " ACCESS_NETWORK_INFO_REPORT (45)" event trigger. This field is added in support of Network Provided Location Information (NPLI) Reporting feature.
Session Recovery	Total number of CCR-Us that were sent for session recovery.
Session Sync	Total number of CCR-Us sent for session synchronization.
DCCA Failure Report	Total number of reauthorization messages (CCR-U) that are sent to PCRF because of “Custom-Event-Trigger”.
Application Start	Total number of CCR-Us sent to PCRF to notify the start of a specific protocol or a group of protocols through the event trigger "APPLICATION_START". This field is added in support of ADC rules over Gx feature.
Application Stop	Total number of CCR-Us sent to PCRF to notify the stop of a specific protocol or a group of protocols through the event trigger "APPLICATION_STOP". This field is added in support of ADC rules over Gx feature.
Endpoint-Peer-Select	
Host Select Failure	Total number of host select failures.
Inactive Host	Total number of inactive hosts.
Packet Statistics **Important** Packet Statistics are no longer shown in StarOS release 11.0 and beyond.	
Uplink Pkts Processed	Total number of uplink packets processed.
Downlink Pkts Processed	Total number of downlink packets processed.
Uplink Bytes Processed	Total number of uplink bytes processed.
Downlink Bytes Processed	Total number of downlink bytes processed.
Uplink Pkts Dropped	Total number of uplink packets dropped.
Downlink Pkts Dropped	Total number of downlink packets dropped.
Uplink Bytes Dropped	Total number of uplink bytes dropped.
Downlink Bytes Dropped	Total number of downlink bytes dropped.

show ims-authorization sessions full all

Table 355: show ims-authorization sessions full all Command Output Descriptions

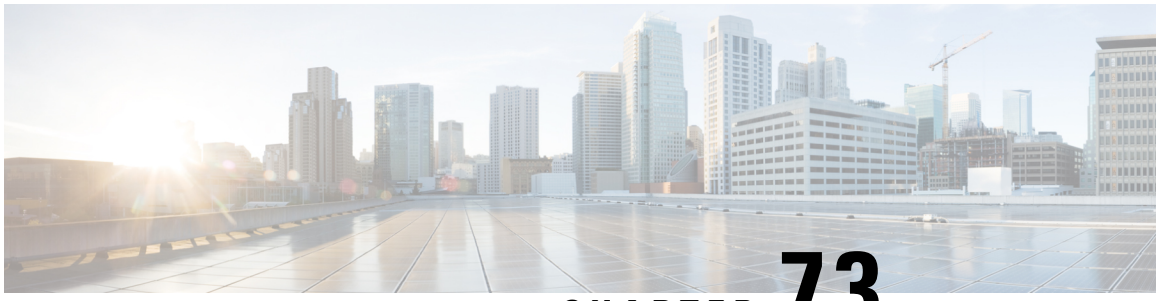
Field	Description
CallId	The call identifier.
Tertiary P-CSCF	The Tertiary P-CSF Address that are configured in IMSA.
Service Name	The IMS authorization service name.
IMSI	The International Mobile Subscriber Identity (IMSI) of subscriber.
Session ID	The session ID is of type UTF8String and is used to identify a specific session.
NSAPI	The Network Service Access Point Identifier (NSAPI) to a single PDP context of the subscriber.
Bearer Usage	Indicates the bearer usage for this session. **Important** This field is no longer available in 14.0 and later releases.
Bearer Type	Indicates the bearer type. **Important** This field is no longer available in 14.0 and later releases.
Bearer ID	Indicates the bearer identifier. **Important** This field is no longer available in 14.0 and later releases.
Context Type	Indicates the PDP context type: Primary or Secondary. **Important** This field is no longer available in 14.0 and later releases.
SGSN IP-Addr	IP address of the SGSN node.
APN	Indicates the Access Point Name (APN) for this service.
Bearer Control Mode	The bearer control mode: UE/NW **Important** Releases prior to 14.1, this field displays "None" for HA/MIPv6HA/PDSN service Gx calls. However, release 14.1 onwards, this field displays UE_ONLY for these calls.

Field	Description
State	Indicates the session state. Note that the state "Local fallback" will indicate that the IP CAN session has fallen back to local policy.
Primary PCRF Server	The primary Policy Control and Charging Rules Function (PCRF) server host name.
Secondary PCRF Server	The secondary PCRF server host name.
Primary P-CSCF	The primary Proxy-Call Session Control Function gateway address. **Important** In 15.0 and later releases, P-CSCF server address after session recovery is removed as P-CSCF addresses are required only during call establishment and not required at later stages of the session. Hence, the server address will not be displayed post session manager recovery.
Secondary P-CSCF	The secondary P-CSCF gateway address. **Important** In 15.0 and later releases, P-CSCF server address after session recovery is removed as P-CSCF addresses are required only during call establishment and not required at later stages of the session. Hence, the server address will not be displayed post session manager recovery.
UE IP Address	
UE IP Session Type	Specifies the type of the address assigned to the user. The possible valid values are IPv4, IPv6 and IPv4_IPv6.
IPv4 Address	Displays the IPv4 address assigned to the user.
IPv6 Address	Displays the IPv6 address assigned to the user.
Primary OCS **Important** In 16.0 and later releases, Primary OCS information such as Hostname, Port and Protocol are removed from the display as there is no value stored at IMSA module. When the downgrade occurs these fields will not be present and will be shown as NA.	
Hostname	Specifies the Primary-Event-Charging-Function-Name of type DiameterURI, or the address of primary online charging system.
Port	The port associated with the primary OCS.
Protocol	The protocol associated with the primary OCS.

Field	Description
Secondary OCS **Important** In 16.0 and later releases, Secondary OCS information such as Hostname, Port and Protocol are removed from the display as there is no value stored at IMSA module. When the downgrade occurs these fields will not be present and will be shown as NA.	
Hostname	Specifies the Secondary-Event-Charging-Function-Name of type DiameterURI, or the address of secondary online charging system.
Port	The port associated with the secondary OCS.
Protocol	The protocol associated with the secondary OCS.
Primary CCF **Important** In 16.0 and later releases, Primary CCF information such as Hostname, Port and Protocol are removed from the display as there is no value stored at IMSA module. When the downgrade occurs these fields will not be present and will be shown as NA.	
Hostname	Specifies the Primary-Charging-Collection-Function-Name of type DiameterURI or the address of primary offline charging system for the bearer.
Port	The port associated with the primary CCF.
Protocol	The protocol associated with the primary CCF.
Secondary CCF **Important** In 16.0 and later releases, Secondary CCF information such as Hostname, Port and Protocol are removed from the display as there is no value stored at IMSA module. When the downgrade occurs these fields will not be present and will be shown as NA.	
Hostname	Specifies the Secondary-Charging-Collection-Function-Name of type DiameterURI or the address of secondary offline charging system for the bearer.
Port	The port associated with the secondary CCF.
Protocol	The protocol associated with the secondary CCF.
Auth Decision	Parameters configured for authorization decision.
Event Triggers	Triggers for different events for Authorization decision.
Custom Event Triggers	This field indicates the registration of any custom event triggers. **Note** This field shows None when there is no custom event trigger.
Local Policy Enabled Event Triggers	This field indicates the list of event-triggers that are enabled from local-policy.

Field	Description
Event Report Indication	Specifies which type of changes will trigger an event report from the PCRF.
Negotiated Supported Features	Displays all the supported features that are actually applied to the session after negotiation with PCRF.
Negotiated QoS	Displays the negotiated QoS information for a specific session. **Note** When PCRF is down, the APN-AMBR value under the Negotiated QoS field in the **show ims-authorization sessions full all** output might not be the actual APN-AMBR applied to the subscriber as it could not be negotiated with PCRF. In this scenario, to check the applied APN-AMBR for the subscriber, verify the corresponding **show subscribers** command. For example, use the **show subscriber [saegw-only | pgw-only | ggsn-only] full [** *options* **]** command.
QoS Policy	Specifies QoS policy for specific session.
QoS Class	The QoS class applicable to this session.
APN AMBR Uplink(in bps)	The APN uplink AMBR, in bps.
APN AMBR Downlink(in bps)	The APN downlink AMBR, in bps.
MBR Uplink(in bps)	The maximum bandwidth for uplink direction, in bps.
MBR Downlink(in bps)	The maximum bandwidth for downlink direction, in bps.
GBR Uplink Bw(in bps)	The guaranteed bandwidth for uplink direction, in bps. **Important** This field will display "NA" for GBR values for non-GBR bearers.
GBR Downlink Bw(in bps)	The guaranteed bandwidth for downlink direction, in bps. **Important** This field will display "NA" for GBR values for non-GBR bearers.
Charging Rules	Dynamic charging rule applicable for specific session in IMSA service. **NOTE:** Charging Rules are no longer shown in StarOS release 11.0 and beyond.
Rule Name	Name of the applicable dynamic charging rule.
Precedence	Precedence of the applicable dynamic charging rule.
Revalidation Time	Specifies the time at which the next CCR-U will be sent out for the Re-validation Timeout EVENT TRIGGER.
Session Packet Statistics	Specifies the session data statistics. **NOTE:** Session Packet Statistics are no longer shown in StarOS release 11.0 and beyond.
Uplink Pkt Processed	Total number of packets processed in uplink direction.

Field	Description
Uplink Bytes Processed	Total number of bytes processed in uplink direction.
Uplink Pkt Dropped	Total number of packets dropped or not processed in uplink direction.
Uplink Bytes Dropped	Total number of bytes dropped or not processed in uplink direction.
Downlink Pkt Processed	Total number of packets processed in downlink direction.
Downlink Bytes Processed	Total number of bytes processed in downlink direction.
Downlink Pkt Dropped	Total number of packets dropped or not processed in downlink direction.
Downlink Bytes Dropped	Total number of bytes dropped or not processed in downlink direction.
Total sessions matching specified criteria multiple-pra	The total number of sessions matching the specified criteria. Multiple Presence Reporting Area Information Reporting.



CHAPTER 73

show ip

This chapter describes the outputs of the **show ip** command.

- show ip chunks all-vrf, on page 1323
- show ip framed-prefixes, on page 1324
- show ip interface, on page 1324
- show ip interface gre-keepalive, on page 1325
- show ip neighbors vpp, on page 1326
- show ip pool address pool-name, on page 1326
- show ip pool summary, on page 1327
- show ip pool verbose, on page 1328
- show ip route, on page 1332
- show ip traffic sctp, on page 1333

show ip chunks all-vrf

Table 356: show ip chunks all-vrf Command Output Descriptions

Field	Description
VRF Name	Displays the configured VRF name.
Peer Address	Displays the peer IP address.
chunk-id	Displays the chunk ID.
chunk-size	Displays the chunk size.
start-addr	Displays the starting IP address of the pool.
end-addr	Displays the ending IP address of the pool.
used-addrs	Displays the number of IP addresses currently in use.

show ip framed-prefixes

Table 357: show ip framed-prefixes Command Output Descriptions

Field	Description
session-id	Displays the session identifier for the session corresponding to the framed-prefix.
Address/Mask	Displays the IP address.
vrf-name	Displays the VRF routing information.
pool-name	Displays the pool name used for framed prefixes.

show ip interface

Table 358: show ip interface Command Output Descriptions

Field	Description
Intf Name	Indicates the name of the IP interface for which information is displayed.
Intf Type	Indicates the type of IP interface for which information is displayed. Possible types are: • broadcast • loopback • point-to-point • tunnel
Description	Indicates the provided description for specific interface name.
VRF	Indicates the name of the configured virtual routing and forwarding (VRF) table for this IP interface.
IP State	Indicates the state of the IP interface. Possible values are: • UP • DOWN
IP Address	Indicates the primary IP address bound with this IP interface in IPv4/IPv6 notation.
Number of Secondary Addresses	Indicates the total number of secondary IP addresses bound with this IP interface.
Secondary IP Addresses	Indicates the secondary IP address bound with this IP interface in IPv4/IPv6 notation. This will be display only when secondary IP addresses are configured for this interface.

show ip interface gre-keepalive

Table 359: show ip interface gre-keepalive Command Output Descriptions

Field	Description
Intf Name	Indicates the name of the IP interface for which information is displayed.
Intf Type	Indicates the type of IP interface for which information is displayed. Possible types are: • broadcast • loopback • point-to-point • tunnel
Description	Indicates the provided description for specific interface name.
VRF	Indicates the name of the configured virtual routing and forwarding (VRF) table for this IP interface.
IP State	Indicates the state of the IP interface. Possible values are: • UP • DOWN
IP Address	Indicates the primary IP address bound with this IP interface in IPv4/IPv6 notation.
Number of Secondary Addresses	Indicates the total number of secondary IP addresses bound with this IP interface.
Secondary IP Addresses	Indicates the secondary IP address bound with this IP interface in IPv4/IPv6 notation. This will be displayed only when secondary IP address(es) are configured for this interface.
GRE Keepalives sent after receiving last response	Indicates the total number of GRE keepalive requests sent after last response was received.
Time remaining before sending next GRE Keepalive request	Indicates the time duration in seconds left after which next GRE keepalive request will be sent.
Time elapsed since last Keepalive from the remote	Indicates the time in seconds lapsed after last keepalive received from the remote node of GRE tunnel.
Total Number of GRE Keepalive requests sent	Indicates the total number of GRE keepalive requests sent by this node to remote GRE tunnel node during this session.
Total Number of GRE Keepalive responses received	Indicates the total number of GRE keepalive responses, in response to GRE keepalive requests from this node, received on this interface from remote GRE tunnel node during this session.

Field	Description
Total Number of GRE Keepalive requests received	Indicates the total number of GRE keepalive requests from remote GRE tunnel node, received by this node on this interface during this session.
Total Number of GRE Keepalive responses sent	Indicates the total number of GRE keepalive responses, in response to GRE keepalive requests from remote GRE tunnel node, sent by this node to remote GRE tunnel node during this session.

show ip neighbors vpp

Table 360: show ip neighbors vpp Command Output Descriptions

Field	Description
Time	Time at which the ARP/neighbor entry is added in VPP.
IP Address	IPv4 address from table.
Flags	One of the following flag codes: • I = Incomplete • R = Reachable • M = Permanent • S = Stale • D = Delay • P = Probe • F = Failed
Ethernet	Ethernet Address of the neighbor VPP.
Interface Slot/Port	Interface name Slot or port number of the neighbor VPP.

show ip pool address pool-name

Table 361: show ip pool address pool-name Command Output Descriptions

Field	Description
Busyout	Defines whether or not the associated IP address is unavailable due to a busyout command having been applied to the entire pool or a range of addresses within the pool.

Field	Description
Status	Identifies the current condition of the IP address. Valid conditions are: (F) - Free: IP address is available for use. (U) - Used: IP address is currently in use and is unavailable. (H) - Hold: IP address is unavailable and on hold for the subscriber that just disconnected in case a reconnect occurs within the range of the **address-hold-timer** value configured in the **ip pool** command. (R) - Release: IP address is in the process of being released (from general use or the hold state).
Address	Displays the IP address.
NAI/MSID Hash	A 64-bit value identifying the subscriber's MN in order to reapply a specific IP address should the subscriber return within the hold timer range.
Hold Timer	Specifies the amount of time, in seconds, that the IP address is placed on hold in the event that the subscriber, who last used the address, reconnects.
Session Start/Disconnect	Displays the session start time for IP addresses in use and the session disconnect time for IP addresses on hold.

show ip pool summary

Note This command must be executed from within the context in which the IP address pools are configured. As such, this command only provides information for the IP address pools configured in that context. Enter the **context** *context_name* command at the Execute prompt to switch between contexts.

Table 362: show ip pool summary Command Output Descriptions

Field	Description
Type	Identifies the type of IP address pool. (P) - Public: Indicates that the pool is comprised of public IP addresses. (R) - Private: Indicates that the pool is comprised of private IP addresses. (S) - Static: Indicates that the pool is comprised of statically assigned IP addresses. (E) - Resource: Indicates that the pool is comprised of resource IP addresses. (N) - NAT: Indicates that the pool is comprised of NAT IP addresses.

Field	Description
State	Identifies the state of the IP address pool. (G) - Good: Indicates that the pool is ready to provide addresses. (D) - Pending Delete: Indicates that the pool is in the process of being deleted. (R) - Resizing: Indicates that the pool is in the process of being resized. (I) - Inactive: Indicates that the pool is not being used.
Priority	Specifies the priority use of a public or private pool. Pools with lower priority numbers are used first.
Busyout	Indicates whether or not the pool has been configured for busyout.
Pool Name	Identifies the name of the IP address pool.
Start Address	Identifies the starting IP address of the pool.
Mask/End Address	Identifies the subnet mask or the ending IP address of the pool.
Used	Specifies the number of IP addresses currently in use.
Avail	Specifies the number of IP addresses currently available for use.
Total Pool Count	Specifies the total number of IP address pools in the summary.
Total Pool Kernel Routes	Specifies the total number of Kernal routes that exist across all pools in the summary.
Max Pool Kernel Routes	Specifies the maximum number of IP pool routes supported by the system.
Total Pool Explicit Host Routes	Specifies the total number of pool explicit routes that exist across all pools in the summary.
Max Pool Explicit Host Routes	Specifies the maximum number of pool explicit host routes supported by the system.

show ip pool verbose

Note This command must be executed from within the context in which the IP address pools are configured. As such, this command only provides information for the IP address pools configured in that context. Enter the **context** *context_name* command at the Execute prompt to switch between contexts.

Table 363: show ip pool verbose Command Output Descriptions

Field	Description
Group	If there are IP address pools configured as part of a defined pool group, this field displays the name of the pool group.

Field	Description
Ungrouped Public Pools	Displays information for IP address pools not part of defined pool groups.
Pool	Identifies the name of the IP Pool.
Start Address/End Address or mask	Identifies the starting IP address and the ending IP address (or the subnet mask) of the pool.
Pool Status	Identifies the status if the IP address pool. Good: Indicates that the pool is ready to provide addresses. Pending Delete: Indicates that the pool is in the process of being deleted. Resizing: Indicates that the pool is in the process of being resized. Inactive: Indicates that the pool is not being used.
Type	Identifies the type of IP address pool. Public: Indicates that the pool is comprised of public IP addresses. Private: Indicates that the pool is comprised of private IP addresses. Static: Indicates that the pool is comprised of statically assigned IP addresses. Resource: Indicates that the pool is comprised of resource IP addresses. NAT: Indicates that the pool is comprised of NAT IP addresses.
Priority	Identifies the priority of the IP pool (0 = highest, 10 = lowest)
Group	Identifies the group to which the IP pool belongs.
VRF	Identifies the VRF name.
Used	Specifies the number of IP addresses currently in use in this pool.
Free	Specifies the number of IP addresses currently available for use in this pool.
Hold	Specifies the number of IP addresses currently unavailable and on hold for the subscribers that just disconnected in case a reconnect occurs within the range of the **address-hold-timer** value configured in the **ip pool** command.
Released	Specifies the number of IP addresses in this pool that are in the process of being released (from general use or the hold state).
Addr-Hold-Timer	Identifies the **address-hold-timer** value configured in the **ip pool** command.
Limit Exceeded	Specifies the number of times the hold timer limit was exceeded and the IP address being held was returned to an available or free state.
Addr-Quarantine-Timer	dentifies the **address-quarantine-timer** value configured in the **ip pool** command.
Quarantine	Specifies the number of times the quarantine timer limit was exceeded and the IP address being quarantined was returned to an available or free state.
Total Alloc Req	Specifies the total number of IP address requests made to this pool.

Field	Description
Total Rel Req	Specifies the total number of IP address release requests made to this pool.
Input Label	Identifies the input label for the VRF.
Output Label	Identifies the output label for the VRF.
Network Reachability Detection Server	Identifies the name of a configured network reachability server that is bound to the IP pool.
Unicast Gratuitous-ARP Address	Identifies if the ability to perform a unicast gratuitous ARP to the specified IP address rather than broadcast gratuitous ARP when gratuitous ARP generation is required is enabled for this pool.
Nexthop Forwarding Address	Identifies the IP address of the next hop gateway where a subscriber that is assigned an IP address from this pool is forwarded.
Vlan ID	Identifies the VLAN ID that enables over-lapping IP address pool support and associates the pool with the specified virtual LAN (VLAN).
Suppress-Switchover-ARPS	Identifies if the ability to suppress corresponding gratuitous ARP generation when a line card switchover occurs is enabled or disabled for this pool.
Send-ICMP-Dest-Unreachable	Specifies whether or notvan ICMP destination unreachablevPDU is generated when the system receives a PDU destined for an unused address within the pool.
Explicit-Route-Advertise	If a pool is configured with this option, then none of the fragment addresses for this pool are added to the kernel. However, the fragment addresses are added to the NPU. As the calls come up and addresses from this pool (with the new option) are used, these addresses are added to the kernel.
Advertise-if-used	Indicates if the option is enabled to use advertise address or not.
Include-Network-Broadcast-Address	Indicates whether IP pool is configured to include network broadcast address or not.
Allow-Static-Allocation	Indicates whether IP pool configured to allow static allocation of IP address or not.
Group Available Threshold	Specifies the low threshold IP pool utilization percentage that must be met or passed within the polling interval to generate an alert or alarm. Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated.
Pool-Free Threshold	Specifies the low threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated.

Field	Description
Pool-Used Threshold	Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.
Pool-Release Threshold	Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.
Pool-Hold Threshold	Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.
Pool-Qurantine Threshold	Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.
cip-local-pool-used Threshold	Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.
cip-local-pool-in-use-addr Threshold	Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.
Group Summary	This field and the related data are only displayed for pools that are part of a IP pool group.
Group Used	Specifies the number of IP addresses within the group that are currently in use.
Group Free	Specifies the number of IP addresses within the group that are currently available.
Group Hold	Specifies the number of IP addresses in the group that are unavailable and on hold for the subscribers that just disconnected in case a reconnect occurs within the range of the **address-hold-timer** value configured in the **ip pool** command.
Group Released	Specifies the number of IP addresses in the group that are in the process of being released (from general use or the hold state).

Field	Description
Group Effective Alarm Threshold %	Identifies the alarm threshold for the group. This parameter is based on the configured threshold of the first IP pool used in the group.
Group Effective Clear Threshold %	Identifies the clear threshold for the group. This parameter is based on the configured threshold of the first IP pool used in the group.
Group Current Usage %	Identifies the percentage of IP addresses currently in use within the group.
Group Status	Identifies the status of the group. (G) - Good: Indicates that the pool is ready to provide addresses. (D) - Pending Delete: Indicates that the pool is in the process of being deleted. (R) - Resizing: Indicates that the pool is in the process of being resized. (I) - Inactive: Indicates that the pool is not being used.
Total Pool Count	Specifies the total number of IP address pools in the summary.
Total Pool Kernel Routes	Specifies the total number of Kernal routes that exist across all pools in the summary.
Max Pool Kernel Routes	Specifies the maximum number of IP pool routes supported by the system.
Total Pool Explicit Host Routes	Specifies the total number of pool explicit routes that exist across all pools in the summary.
Max Pool Explicit Host Routes	Specifies the maximum number of pool explicit host routes supported by the system.

show ip route

Table 364: show ip route Command Output Descriptions

Field	Description
Destination	Designating ip address prefix/length
kernel-only	Displays information for only kernel routes (ip route kernel).
Next hop	Address of the directly connected next hop interface
Protocol	Connected Unconnected
Prec	Number of precedence bits set
Cost	Number of router hops to destination address
Interface	Name of the next hop interface
Total Route Count	Total number of routes

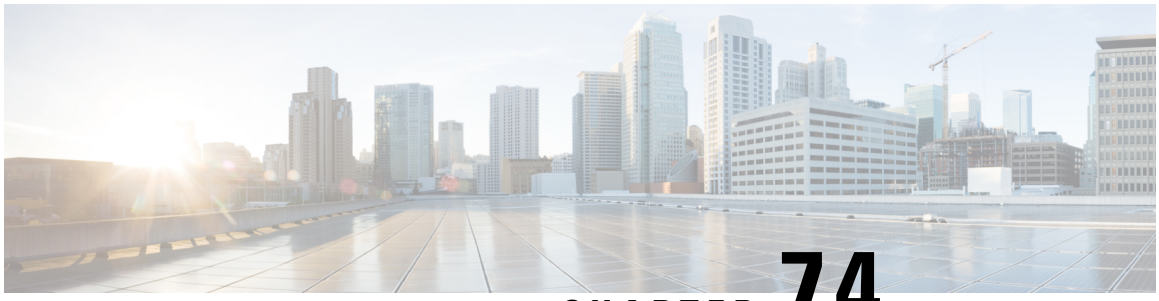
Field	Description
Unique route count	Number of unique routes
Connected	Number of connected routes

show ip traffic sctp

Table 365: show ip traffic sctp Command Output Descriptions

Field	Description
SctpCurrEstab	Displays the number of SCTP (Stream Control Transmission Protocol) associations for which the current state is either ESTABLISHED, SHUTDOWN-RECEIVED or SHUTDOWN-PENDING.
SctpActiveEstabs	Displays the number of times that associations have made a direct transition to the ESTABLISHED state from the COOKIE-ECHOED state. The upper layer initiated the association attempt.
SctpPassiveEstabs	Displays the number of times that associations have made a direct transition to the ESTABLISHED state from the CLOSED state. The remote endpoint initiated the association attempt.
SctpAborteds	Displays the number of times that associations have made a direct transition to the CLOSED state from any state using the primitive "ABORT". (Ungraceful termination of the association)
SctpShutdowns	Displays the number of times that associations have made a direct transition to the CLOSED state from either the SHUTDOWN-SENT state or the SHUTDOWN-ACK-SENT state. (Graceful termination of the association)
SctpOutOfBlues	Displays the number of out-of-the-blue packets received by the host. An out-of-the-blue packet is a correctly formed SCTP packet, including the proper checksum, but for which the receiver was unable to identify an appropriate association.
SctpChecksumErrors	Displays the number of SCTP packets received with an invalid checksum.
SctpOutCtrlChunks	Displays the number of SCTP control chunks sent; retransmissions are not included. Control chunks are those chunks different from DATA.
SctpOutOrderChunks	Displays the number of SCTP ordered data chunks sent; retransmissions are not included.
SctpOutUnorderChunks	Displays the the number of SCTP unordered chunks (data chunks in which the U bit is set to 1) sent; retransmissions are not included.
SctpInCtrlChunks	Displays the number of SCTP control chunks received; no duplicate chunks included.
SctpInOrderChunks	Displays the number of SCTP ordered data chunks received; no duplicate chunks included.

Field	Description
SctpInUnorderChunks	Displays the number of SCTP unordered chunks (data chunks in which the U bit is set to 1) received; no duplicate chunks are included.
SctpFragUsrMsg	Displays the number of user messages that have to be fragmented because of the MTU.
SctpReasmUsrMsgs	Displays the number of user messages reassembled, after conversion into DATA chunks.
SctpOutSCTPPacks	Displays the number of SCTP packets sent; retransmitted DATA chunks are included.
SctpInSCTPPacks	Displays the number of SCTP packets received; duplicates are included.



CHAPTER 74

show ipsg

This chapter describes the outputs of the **show ipsg** commands.

- show ipsg service all, on page 1335
- show ipsg sessions counters all, on page 1336
- show ipsg statistics, on page 1337

show ipsg service all

Table 366: show ipsg service all Command Output Descriptions

Field	Description
Service name	Name of the IPSG service.
Context	Name of the context in which the IPSG service is configured.
Bind	The binding status of the service. Indicates if the service has been bound to the appropriate interfaces (RADIUS-Server mode) or to any interface in the context (RADIUS-Snoop mode).
Max Subscribers	The total number of subscribers allowed for the service. This field displays a configured number or, if not configured, the total amount specified by the IPSG service license.
Mode	The IPSG service mode type: radius-server or radius-snoop
Address	The IP address of the interface where RADIUS Accounting-Request messages are received.
Port	The port number of the interface where RADIUS Accounting-Request messages are received.
Disconnect-Message	Displays whether the RADIUS Accounting disconnect-message option is enabled or disabled.
Source Port	The port number configured for the disconnect-message.
Source-Context	The source context with the interface where RADIUS Accounting-Request messages are received.

Field	Description
Overlapping IP address	Displays whether overlapping IP address is enabled or disabled.
Default Subscriber	The default subscriber for the context.
Service Status	The status of the IPSG service. Indicates if the service has been started.
SGTP Service	Name of the SGTP service associated with this service.
SGTP Service Context	Name of the context in which the SGTP service is configured.
Default APN Name	Name of the default APN to be used for this service.
PLMN Id	The Public Land Mobile Network (PLMN) identifier for the eWAG service.
MCC	The mobile country code (MCC) part of the PLMN ID.
MNC	The mobile network code (MNC) part of the PLMN ID.

show ipsg sessions counters all

Table 367: show ipsg sessions counters all Command Output Descriptions

Field	Description
Username	The user name for the session.
Callid	The call ID number for the session.
MSID	The Mobile Station Identification number.
RADIUS Accounting:	
Total START Req rcvd	Total number of RADIUS Accounting-Start Request messages received since the last system restart or clear command.
Total START Req (Retransmitted) rcvd	Total number of retransmitted RADIUS Accounting-Start Request messages received.
Total START Rsp Sent	Total number of RADIUS Accounting-Start Response messages sent by this system.
Total INTERIM Updt rcvd	Total number of RADIUS Accounting-Interim Update messages received.
Total INTERIM Updt Rsp sent	Total number of RADIUS Accounting-Interim Update Response messages sent.
Total Acct On Req rcvd	Total number of RADIUS Accounting-On Request messages received.
Total Acct On Req (Retransmitted) rcvd	Total number of retransmitted RADIUS Accounting-On Request messages received.
Total Acct On Response sent	Total number of RADIUS Accounting-On Response messages sent.

Field	Description
Total Acct Off Req rcvd	Total number of RADIUS Accounting-Off Request messages received.
Total Acct Off Req (Retransmitted) rcvd	Total number of retransmitted RADIUS Accounting-Off Request messages received.
Total Acct Off Response sent	Total number of RADIUS Accounting-Off Response messages sent.
Total STOP Req rcvd	Total number of RADIUS Accounting-Stop Request messages received.
Total STOP Rsp sent	Total number of RADIUS Accounting-Stop Response messages sent.
Total Non-Existing STOP Rsp sent	Total number of RADIUS Accounting-Stop Response messages sent for a non-existing session.
Total ACCESS Req rcvd	Total number of IPSG RADIUS Access-Request messages received.
Total ACCESS Req (Retransmitted) rcvd	Total number of retransmitted IPSG RADIUS Access-Request messages received.
Total ACCESS Challenge sent	Total number of IPSG RADIUS Access-Challenge messages sent.
Total Access-Accept sent	Total number of IPSG RADIUS Access-Accept messages sent.
Total Access-Reject sent	Total number of IPSG RADIUS Access-Reject messages sent.
Total Response sent	Total number of RADIUS accounting response messages sent.

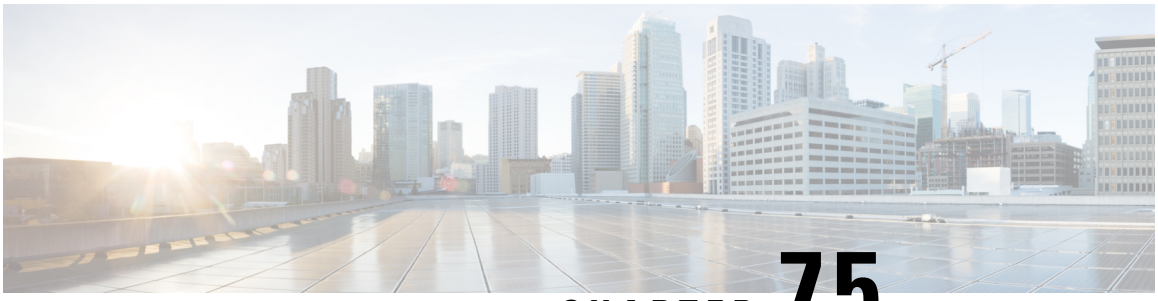
show ipsg statistics

Table 368: show ipsg statistics Command Output Descriptions

Field	Description
Session Stats:	
Total Current	Total number of current sessions.
Total Setup	Total number of sessions setup.
Total Released	Total number of sessions released.
Total Replaced	Total number of sessions replaced.
RADIUS Message Statistics:	
Total START Req rcvd	Total number of RADIUS Accounting-Start Request messages received since the last system restart or clear command.
Total START Req (Retransmitted) rcvd	Total number of retransmitted RADIUS Accounting-Start Request messages received.

Field	Description
Total START Rsp Sent	Total number of RADIUS Accounting-Start Response messages sent by this system.
Total INTERIM Updt rcvd	Total number of RADIUS Accounting-Interim Update messages received.
Total INTERIM Updt Rsp sent	Total number of RADIUS Accounting-Interim Update Response messages sent.
Total STOP Req rcvd	Total number of RADIUS Accounting-Stop Request messages received.
Total STOP Rsp sent	Total number of RADIUS Accounting-Stop Response messages sent.
Total Acct On req rcvd	Total number of RADIUS Accounting-On Request messages received.
Total Acct On req (Retransmitted) rcvd	Total number of retransmitted RADIUS Accounting-On Request messages received.
Total Acct On Response sent	Total number of RADIUS Accounting-On Response messages sent.
Total Acct Off Req rcvd	Total number of RADIUS Accounting-Off Request messages received.
Total Acct Off Req (Retransmitted) rcvd	Total number of retransmitted RADIUS Accounting-Off Request messages received.
Total Acct Off Response sent	Total number of RADIUS Accounting-Off Response messages sent.
Total ACCESS Req rcvd	Total number of IPSG RADIUS Access-Request messages received.
Total ACCESS Req (Retransmitted) rcvd	Total number of retransmitted IPSG RADIUS Access-Request messages received.
Total ACCESS Challenge sent	Total number of IPSG RADIUS Access-Challenge messages sent.
Total Access-Accept sent	Total number of IPSG RADIUS Access-Accept messages sent.
Total Access-Reject sent	Total number of IPSG RADIUS Access-Reject messages sent.
Total UNKNOWN req rcvd	Total number of unknown request messages received.
Total Response sent	Total number of RADIUS accounting response messages sent.
Total Sessions Replaced	Total number of sessions replaced.
Total Discarded	Total number of messages discarded.
Mandatory Attr Missing	Total number of messages discarded because of missing mandatory attribute.
Interim For Non-Existing Session	Total number of RADIUS Accounting-Interim messages discarded, when there is no session existing.
Stop For Non-Existing Session	Total number of RADIUS Accounting-Stop messages discarded, when there is no session existing.
Unknown Client	Total number of messages discarded because they were received from an unknown client.
Interconnect shared secret	Total number of RADIUS requests discarded, because the shared secret was incorrect.

Field	Description
Stale Packets	Total number of stale Create Session Request packets discarded.
Service Not Supported	Total number of messages discarded due to service not being supported.
No Resource	Total number of messages discarded due to resource unavailability.
Internal Error	Total number of messages discarded due to internal errors. For example, when Demux fails to send notification to SessMgr, and other unexpected internal scenarios.
License Limit Exceeded	Total number of messages discarded due to license limit getting exceeded.
Service Limit Exceeded	Total number of messages discarded due to service limit for maximum number of sessions getting exceeded.
Congestion Policy Applied	Total number of messages discarded due to Congestion Policy.
DHCP Message Discarded	Total number of DHCP messages discarded by the IPSG service. It is the sum of all DHCP discard reasons.
MAX Size Exceeded	Total number of DHCP messages discarded by IPSG service due to maximum size exceeding. Maximum DHCP message size supported by IPSG service is (DHCP_MESSAGE_MAX_SIZE 1000 + UDP_HEADER_LEN 8 + IP_HEADER_LEN 20).
Non-Existing Session	Total number of DHCP messages ignored by IPSG since they were received for non-existing sessions.
GiAddr Mismatch	Total number of DHCP messages discarded by IPSG due to GiAddr field (Relay agent addr) not matching IP in DHCP message.
Unsupported HW Type/Length	Total number of messages discarded by IPSG due to congestion policy.



CHAPTER 75

show ipv6

This chapter describes the outputs of the **show ipv6** command.

- show ipv6 chunks all-vrf, on page 1341
- show ipv6 interface summary, on page 1342
- show ipv6 neighbors, on page 1342
- show ipv6 neighbors vpp, on page 1343
- show ipv6 pool summary, on page 1344
- show ipv6 pool verbose, on page 1344
- show ipv6 route, on page 1346

show ipv6 chunks all-vrf

Table 369: show ipv6 chunks all-vrf Command Output Descriptions

Field	Description
VRF Name	Displays the configured VRF name.
Peer Address	Displays the peer IP address.
chunk-id	Displays the chunk ID.
chunk-size	Displays the chunk size.
start-prefix	Displays the starting IPv6 prefix of the pool.
end-prefix	Displays the ending IPv6 prefix of the pool.
used-prefixes	Displays the number of IPv6 prefixes currently in use.

show ipv6 interface summary

Table 370: show ipv6 interface summary Command Output Descriptions

Field	Description
Intf name	Interface name
Intf Type	Interface type
Description	
Router Advertisement	Displays whether the system is sending router advertisements. Options are either enabled or disabled.
IP State	Displays the IP state (UP/DOWN) and binding detail
MTU	The subscriber's Maximum Transmission Unit (MTU) size in octets.
MRU	The subscriber's Maximum Receive Unit (MRU) size in octets.
IPv6 Link-Local Address:	Displays the IPv6 link-local address
IPv6 Global Unicast Address:	Displays the ipv6 Global Unicast Address address

show ipv6 neighbors

Table 371: show ipv6 neighbors Command Output Descriptions

Field	Description
Address	IPv6 address from table
Type	Interface type: • Broadcast (Ethernet) • Loopback
Link address	MAC address

Field	Description
Flags	One of the following flag codes: • I = Incomplete • R = Reachable • M = Permanent • S = Stale • D = Delay • P = Probe • F = Failed
Interface	Interface name

show ipv6 neighbors vpp

Table 372: show ipv6 neighbors vpp Command Output Descriptions

Field	Description
Time	Time at which the ARP/neighbor entry is added in VPP.
IP Address	IPv6 address from table.
Flags	One of the following flag codes: • I = Incomplete • R = Reachable • M = Permanent • S = Stale • D = Delay • P = Probe • F = Failed
Ethernet	Ethernet Address of the neighbor VPP.
Interface Slot/Port	Interface name Slot or port number of the neighbor VPP.

show ipv6 pool summary

Table 373: show ipv6 pool summary Command Output Descriptions

Field	Description
Type	Identifies the type of IP address pool. (P) - Public: Indicates that the pool is comprised of public IP addresses. (R) - Private: Indicates that the pool is comprised of private IP addresses. (S) - Static: Indicates that the pool is comprised of statically assigned IP addresses. (E) - Resource: Indicates that the pool is comprised of resource IP addresses. (N) - NAT: Indicates that the pool is comprised of NAT IP addresses.
State	Identifies the state of the IP address pool. (G) - Good: Indicates that the pool is ready to provide addresses. (D) - Pending Delete: Indicates that the pool is in the process of being deleted. (R) - Resizing: Indicates that the pool is in the process of being resized. (I) - Inactive: Indicates that the pool is not being used.
Priority	Specifies the priority use of a public or private pool. Pools with lower priority numbers are used first.
Busyout	Indicates whether or not the pool has been configured for busyout.
Pool Name	Identifies the name of the IP address pool.
Start Prefix	Identifies the starting IPv6 prefix of the pool.
End Prefix	Identifies the ending IPv6 prefix of the pool.
Used	Specifies the number of IP addresses currently in use.
Avail	Specifies the number of IP addresses currently available for use.
Total Pool Count	Specifies the total number of IP address pools in the summary.

show ipv6 pool verbose

Table 374: show ip pool verbose Command Output Descriptions

Field	Description
Pool Name	Name of the IPv6 pool.
Group Name	Identifies the group to which the IP pool belongs.

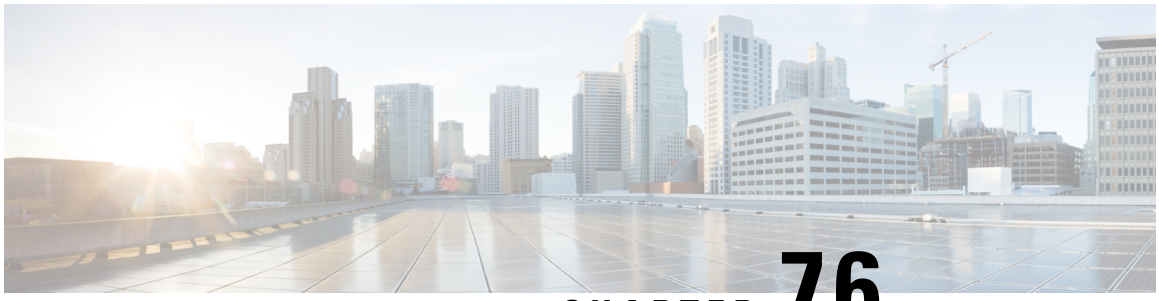
Field	Description
Pool Type	Specifies the Type of IPv6 pool (Public, Private, Static, Resource) and its Priority (0 = highest, 10 = lowest).
Pool Status	Identifies the status of the group. Good: Indicates that the pool is ready to provide addresses. Pending Delete: Indicates that the pool is in the process of being deleted. Resizing: Indicates that the pool is in the process of being resized. Inactive: Indicates that the pool is not being used.
Start Prefix	Identifies the starting prefix of the pool.
End Prefix	Identifies the ending prefix of the pool.
Total Prefix Used Prefix Free Prefix	Total number of IPv6 prefixes with Used and Free sub-categories.
Pool Address Type	Type of IPv6 address pool.
Configured Prefix	
Busy-Out Range	Range of IPv6 addresses that have been busied out.
Total Busy-Out usage	
Used Free	Number of busy-out ranges currently being Used or Free.
Nexthop Forwarding Address	Identifies the IP address of the next hop gateway where a subscriber that is assigned an IP address from this pool is forwarded. Status = Enabled or Disabled
Suppress-Switchover-ADVS	Identifies if the ability to suppress corresponding gratuitous ARP generation when a line card switchover occurs is enabled or disabled for this pool. Status = Enabled or Disabled
Allow-Static-Allocation	Indicates whether IP pool configured to allow static allocation of IP address or not. Status = Enabled or Disabled
Duplicate-Addr-Detection	Indicates whether or not a unicast IPv6 address will initiate an internal test for the uniqueness of its address using ICMPv6 type 135 and 136 messages. Status = Enabled or Disabled

Field	Description
Group Available Threshold Clear	Specifies the low threshold IP pool utilization percentage that must be met or passed within the polling interval to generate an alert or alarm. Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated. Status = Enabled or Disabled
Pool-Free Threshold Clear	Specifies the low threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated. Status = Enabled or Disabled
Pool-Used Threshold Clear	Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm. Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated. Status = Enabled or Disabled

show ipv6 route

Table 375: show ipv6 route Command Output Descriptions

Field	Description
Destination	Designating ipv6 address prefix/length
Next hop	Address of the directly connected next hop interface
Protocol	Connected Unconnected
Prec	Number of precedence bits set
Cost	Number of router hops to destination address
Interface	Name of the next hop interface
Total Route Count	Total number of routes Number connected Number of static routes



CHAPTER 76

show lawful-intercept

This chapter includes the **show lawful-intercept** command output tables.

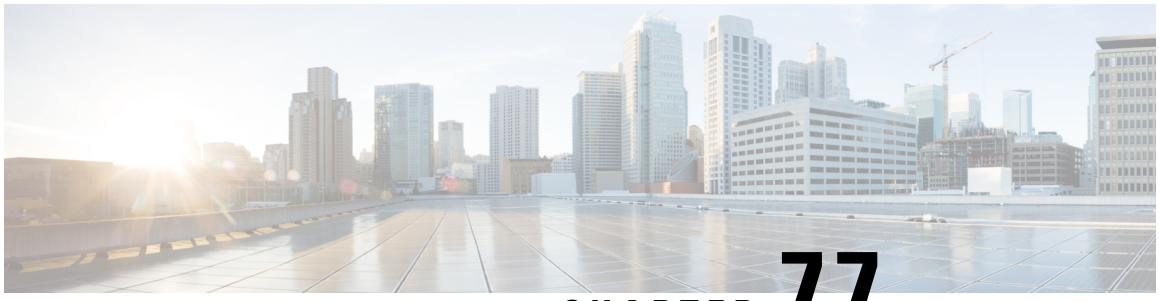
- show lawful-intercept statistics, on page 1347

show lawful-intercept statistics

Table 376: show lawful-intercept statistics Command Output Descriptions

Field	Description
Total currently active LI calls	The total number of calls on which Lawful Intercept is currently being performed.
Total current camp-on triggers	The total number of LI sessions
Total event packets sent	The total number of LI event packets sent.
Total event packets dropped	Specifies the total number of event packets dropped and the reason they were dropped: • no tcp connection with mediation: • src-ip-addr not configured: Total number of event packets dropped because there was no source IP address configured for the LI session.
Total content packets dropped	Specifies the total number of content packets dropped and the reason why they were dropped: • no tcp connection with mediation: • src-ip-addr not configured: • LI-context mis-configured:
Current event packets sent	
Current content packets sent	
Total LI provisioning stats	This section provides details on Lawful Intercept provisioning statistics: • via active-only method: • via camp-on method:

Field	Description
Total LI provisioning failure stats	This section provides details on Lawful Intercept provisioning failure statistics: • LI-context not configured: • src-ip-addr not configured: • src-ip-addr mis-configured:
Total LI session termination stats	This section provides details on Lawful Intercept session termination statistics: • due to call disconnect: The total number of LI session which were terminated due to a call disconnect. • due to deletion of contect: The total number of LI sessions which were terminated due to a context being deleted. • due to de-provisioning: The total number of LI sessions which were terminated due to de-provisioning of the LI service.
Total LI sess recovery stats	This section provides details on Lawful Intercept session recovery statistics: • recovery performed: The total number of LI sessions on which session recovery was performed.
LI buffering stats	**SGSN service only**. This section provides details statistics for the Lawful Intercept buffering function: • Total number of buffers: The total number of buffers available for the Lawful Intercept service. • number of free buffers: The total number of buffers available for the LI service. • number of used buffers: The total number of buffers in use by the LI service. • Total event packets dropped: Specifies the reasons for an LI event packet being dropped. • due to buffer overflow: The total number of event packets dropped due to an LI buffer overflow. • due to memory failures: The total number of event packets dropped due to LI memory failures. • due to configuration changes: The total number of event packets dropped due to configuration changes. • Total number of failures detected: The total number of LI buffering failures detected for all reasons.



CHAPTER 77

show license

- show license all, on page 1349
- show license info, on page 1350
- show license smart-tags, on page 1351
- show license statistics, on page 1351
- show license summary, on page 1353

show license all

Table 377: show license all Command Output Descriptions

Field	Description
Smart Licensing Status	Display info of the device status like: • Enabled or Disabled • Registration Status, EVALUATION or REGISTERED mode • Smart Account, registered with which smart account • Virtual Account, registered with which virtual account • Time of registration • Next renewal time • When current registration will expire

Field	Description
License Usage	Displays both the license name and the human readable portion of the entitlement tag in the following format: • LICENSE_NAME (readable tag portion): The LICENSE_NAME is the license name the customer sees on the CSSM. This name is only available to the agent after registration because it is sent to the agent from the CSSM. • Description: This is the license description user can sees on the CSSM. This description is only available to the agent after registration because it is sent to the agent from the CSSM. • Version of the license • The count that is in use • Status of the license
Product Information	Displays device-specific information, including: • Product ID • Serial Number • Version ID
Agent Version	Displays which version of Smart Licensing agent is running on the product.

show license info

Table 378: show license info Command Output Descriptions

Field	Description
Chassis Throughput	Indicates the committed chassis throughput of the chassis.
Comment	Comment line for appropriate license key information
Device 1	Model and Serial number for device running license.
Device 2	Same as Device 1 or Unspecified
Issued	Date license issued
Expires	Date license expires
Issued by	License issuing authority
Key number	License key number

Field	Description
Enabled features	Lists applications enabled by the license
Session limits	Shows maximum number of sessions and the session type permitted by this license
Unknown Items	Shows any unknown items
Status	Shows the following: • Device 1: status match • Device 2: status match License status: • Expired/Not Valid (in grace period) Grace Period Ends: end date
System SW - Base Throughput License	Indicates the System SW - Base Throughput License details per Gbps.

show license smart-tags

Table 379: show license smart-tags Command Output Descriptions

Field	Description
Tag-Id	Displays Id of each service or on/off entitlement tag.
Feature / Service	Displays type of service or on/off feature.
Smart Entitlement Tags	Displays entitlement tag unique to each service or on/off feature.

show license statistics

Table 380: show license statistics Command Output Descriptions

Field	Description
Smart Licensing Status	Displays whether Smart License is Enabled or Disabled.
Smart Licensing Mode	Displays whether the device is in EVALUATION or REGISTERED mode.
Total SL Enabled	Indicates total number of times Smart License enabled on this device.
Total SL Disabled	Indicates total number of times Smart License disabled on this device.
Report License Usage	Indicates if the timer is running for reporting license usage to CSSM

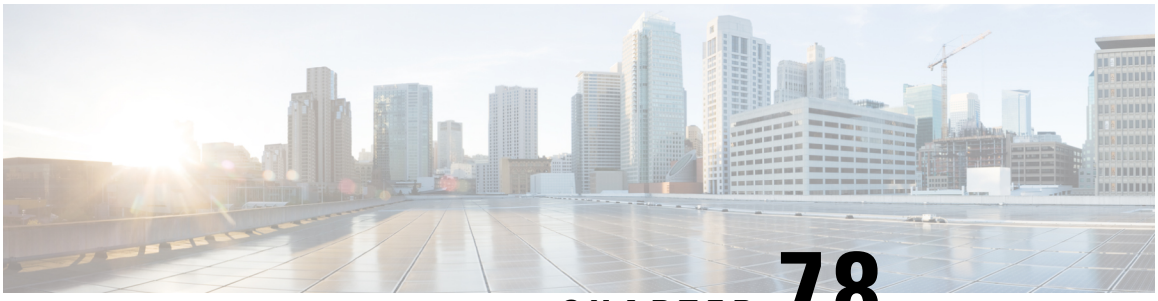
Field	Description
List of Timer Intervals	Different types of timers. • Report License Usage – When this timer expires the current license usage change only will be reported to CSSM. • Enforce Policy – This is not used as of now (ignore). • OOC Retry – When this timer expires it reports to CSSM aggressively with current license usage even if the usage count is not changed.
SLMGR - SLAGENT Messages	Indicates different types of message exchanged between internal process, this is only for debugging purpose for developers.
Event Notification Stats	Indicates different types of events received between internal process, this is only for debugging purpose for developers.
Service Level Stats Mode	Indicates is service level stats for EVALUATION and REGISTERED mode. • TagId - Displays Id of each service or on/off entitlement tag • Policy – Current Enforcement Policy either ALLOW new calls or BLOCK incoming new calls • CurCallCnt – Current number of calls reported to CSSM • MaxCallCnt - Max number of calls reported to CSSM • LastLicCnt – Last reported number of Licenses usage to CSSM • MaxLicCnt – Max license usage reported to CSSM • ReportSucc – Inter process reporting success • ReportFail - Inter process reporting failure • PChgAllow – Number of times the particular tag policy changed to ALLOW • PChgBlock – Number of times the particular tag policy changed to BLOCK • PChgBounce – Number of times the message to demux to policy change has bounced

Field	Description
Feature Level Stats Mode	Indicates is feature level stats for EVALUATION and REGISTERED mode. • TagId - Displays Id of each service or on/off entitlement tag • Policy – Current Enforcement Policy either ALLOW new calls or BLOCK incoming new calls • Grace – time to expire grace period (grace*feature_report_time = in minutes) • Status – Current status of feature enabled or disabled • Once – Did this feature enabled atleast once? • Track – Multiple CLI can map same License needs tracking • Usage – Total CLI's using same license • EnableCnt – Number of times this feature is enabled • DisableCnt – Number of times this feature is disabled • ReportSucc – Inter process reporting success • ReportFail - Inter process reporting failure • PReqAllow – Number of times the particular tag policy requested to ALLOW • PReqBlock – Number of times the particular tag policy requested to BLOCK

show license summary

Table 381: show license summary Command Output Descriptions

Field	Description
License	Displays is the license name the user sees on the CSSM. This name is only available to the agent after registration because it is sent to the agent from the CSSM. This field will be truncated to 23 letters and '…' added if it is too long..
Entitlement Tag	Displays the human readable portion of the entitlement tag and is always available. This field will be truncated to 25 letters and '…' added if it is too long.
Count	The count that is in use.
Status	Status of the license.



CHAPTER 78

show linecard

This chapter describes the outputs of the **show linecard** command. This command is only supported on the ASR 5000.

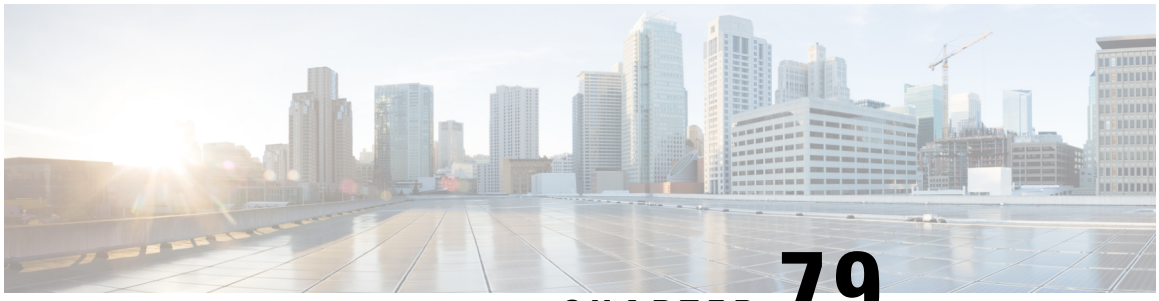
- show linecard table, on page 1355

show linecard table

Table 382: show linecard table Command Output Descriptions

Field	Description
Slot	Displays the chassis slot number and type. The slot type represents the type of card(s) that the slot supports. Possible slot types are: Ethernet 10/100, Ethernet 1000 line card, four-port Quad Gig-E (QGLC) line card (ASR 5000 only), and the10 Gigabit Ethernet Line Card (XGLC) * Possible slot numbers are: 17 through 23, 26 through 39, and slots 42 through 48 *The XGLC is a full-length line card. It only fits in upper slots 17 through 23 and 26 through 32. Slots 24 and 25 would support the Switch Processor Input/Output (SPIO) card associated for the XGLC.
Card Type	Displays the type of card installed. The possible card types supported for this release are: Ethernet 10/100 Line Card, Ethernet 1000 Line Card (QGLC), 10 Gig Ethernet Line Card (XGLC), Switch Processor Input/Output Card.
# Ports	Displays the maximum number of physical ports supported per card. • The Ethernet 10/100 Line Card supports 8 ports. • The Ethernet 1000 Line Card supports 1 port. • The Quad Gig-E (QGLC) Line Card supports 4 ports • The 10 Gig Ethernet Line Card (XGLC) supports 1 port • The Switch Processor Input/Output Card supports 2 ports.

Field	Description
Oper State	Displays the operational state of the card. The possible operational states are: • **Active:** Indicates that the card is an active component that will be used to process subscriber data sessions. • **Standby:** Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • **Offline:** Indicates that the card is installed but is not ready to process subscriber data sessions. This could be due to the fact that it is not completely installed (i.e. the card interlock switch is not locked, refer to the *System Installation Guide* for information on installing cards in the system) or that its processes have been halted.
SPOF	Displays whether or not the component is a single point of failure (SPOF) in the system. If the component is an SPOF, then a Yes will appear in this column. If not, a No will be displayed.
Attach	Displays the PACs/PSC/PSC2s and SPCs/SMCs that the line cards are being associated with.



CHAPTER 79

show link-aggregation

This chapter describes the outputs of the **show link-aggregation** command. These outputs are associated with a specified Link Aggregation Group (LAG).

- show link-aggregation info, on page 1357
- show link-aggregation lacp info, on page 1358
- show link-aggregation statistics, on page 1358
- show link-aggregation table, on page 1359

show link-aggregation info

Table 383: show link-aggregation info Command Output Descriptions

Field	Description
Group info for group number = <value> (LAG group id - <group_id>)	
group state	Alphanumeric string indicating the current state of this LAG.
number of ports	Number of physical ports in this group.
number of masters	Number of master ports in this group.
min-link (ASR 5500 only)	Minimum number of links that must be available without causing a LAG switchover.
mode	Inicates redundant or non-redundant mode.
active master	Hexadecimal identifier/slot-port number of the active master port.
sysmac	MAC address assigned by the system to the LAG.
sysprio	System priority.

show link-aggregation lacp info

Table 384: show link-aggregation lacp info Command Output Descriptions

Field	Description
LACP info for group number = <value> (LAG group id - <group_id>)	
Rx Counters	Number of LACP frames received from the peer network device.
Tx Counters	Number of LACP frames sent to the peer network device.

show link-aggregation statistics

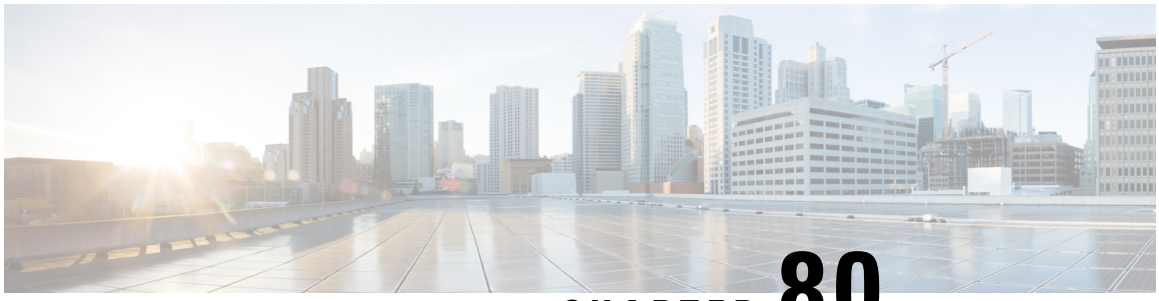
Table 385: show link-aggregation statistics Command Output Descriptions

Field	Description
Counters for LAG group <number>:	
Line Card <card_identifier>	
Rx Counter	
Bytes	Total number of bytes received from the peer network device.
Unicast frames	Total number of Unicast frames received from the peer network device.
Multicast frames	Total number of Multicast frames received from the peer network device.
Broadcast frames	Total number of Broadcast frames received from the peer network device.
Data	Count of bytes/frames received.
Tx Counter	
Bytes	Total number of bytes sent to the peer network device.
Unicast frames	Total number of Unicast frames sent to the peer network device.
Multicast frames	Total number of Multicast frames sent to the peer network device.
Broadcast frames	Total number of Broadcast frames rent to the peer network device.
Data	Count of bytes/frames sent.

show link-aggregation table

Table 386: show link-aggregation table Command Output Descriptions

Field	Description
Grp	LAG number.
Port	Interface slot/port number of group member.
Type	Group type.
Admin	Current administrative state – Enabled or Disabled.
Oper	Current operational state – Up or Down.
Link	Current link state – Up or Down.
State	Current LAG state – Active or Standby.
Pair	Interface slot/port number of LAG peer port. LAG Port Status: • LA+ = Port is actively used for distributing • LA- = Port failed to negotiate LACP • LA~(tilde) = Port negotiated LACP but another peer was selected • LA*(asterisk) = Port is (re)negotiating LACP • LA# = Port has been gone down because the min-link criteria is not met (ASR 5500 only)
Redundant	Interface slot/port number of redundant LAG peer port.



CHAPTER 80

show linkmgr

- show linkmgr, on page 1361

show linkmgr

This table provides information for counters displayed in the output of the SGSN **show linkmgr { all | instance } [parser statistics]** command.

Table 387: show linkmgr instance <#> parser statistics all Command Output Descriptions

Field	Description
Decode Statistics	For a given link manager instance, the decode statistics includes: • Decode Success • Decode Failure
Decode Success	Total number of messages for which protocols were decoded successfully by the link manager parser to retrieve the de-multiplexing key.
Decode Failures	Total number of messages for which the link manager parser failed to successfully decode the protocols to retrieve the de-multiplexing key.

Field	Description
Demux Key	The link manager parser extracts de-multiplexing key from the incoming Signaling Connection Control Part (SCCP) message or SCCP payload. Following are the categories of demux key: • IMSI • P-TMSI (local) • P-TMSI (non-local) • SSN • HLR Reset • SCCP DLR • TCAP DTID • XUDT LRN & OPC • TLLI (non-local)
IMSI	Total number of instances when the de-multiplexing key that is being used for parsing is International Mobile Subscriber Identity (IMSI).
P-TMSI (Local)	Packet Temporary Mobile Subscriber Identity (P-TMSI) is assigned by the SGSN to UE to avoid transmission of TMSI over the air. Total number of instances where the de-multiplexing key used for parsing is local P-TMSI.
P-TMSI (Non Local)	Total number of instances where the de-multiplexing key used for parsing is non- local P-TMSI.
SSN	A Sub System Number (SSN) identifies a specific user function provided by an Signalling Connection Control Part (SCCP) node. Total number of instances where the de-multiplexing key used for parsing is the Sub System Number (SSN) associated with the message.
HLR Reset	Link manager uses the messenger based communication for all the messages except for HLR Reset. The HLR Reset messages are forwarded using CCPU TAPA driver task. Total number of instances where the de-multiplexing key used for parsing is HLR Rest message.
SSCP DLR	The Destination Local Reference (DLR) used by the SCCP connection oriented service. Total number of instances where the de-multiplexing key used for parsing is SSCP DLR.
TCAP DTID	Transaction Capacities Application Part (TCAP) is a protocol that is used to support Mobile Application Part (MAP). The MAP is used to exchange the control plane traffic between SGSN and HLR. Total number of instances where the de-multiplexing key used for parsing is the Transaction Capability Application Part Destination Id (TCAPDTID).

Field	Description
XUDT, LRN & OPC	eXtended Unit Data Message (XUDT), Local Reference Number (LRN) and Originating Point Code (OPC). These are the components of SSCP and Signaling System 7 architecture. Total number of instances where the de-multiplexing key used for parsing is XUDT, LRN and OPC associated with the message.
TLLI (Non Local)	Temporary Logical Link Identity (TLLI), is an identity used during the PDP session for identifying the MS on Um and Gb interface. Total number of instances where the de-multiplexing key used for parsing is the non-local Temporary Logical Link Identity (TLLI).
TLLI (Local)	Temporary Logical Link Identity (TLLI), is an identity used during the PDP session for identifying the MS on Um and Gb interface. Total number of instances where the de-multiplexing key used for parsing is the non-local Temporary Logical Link Identity (TLLI).
SMGR Instance	Total number of instance s where the de-multiplexing key used for parsing is the session manager instance associated with the message.
Memory (Mem cache usage)	Memory cache or memory buffer usage describes the memory that is being used by link manager parameters. The memory buffer usage comprises: • Block size • Number of blocks • Total • Free • numAlloc Memory cache is being used by following link manager parameters: • LRN OPC table entry • LRN OPC entry • IMSI MGR Pending entry • Iups entry • RNC entry • RAI entry • PLMN entry • TLLI mapping entry • IMSI mapping entry • SGSN-EMPCR entry

Field	Description
LRN OPC table entry	Local Routing Number (LRN) Originating Point Code (OPC), as per memory cache table entry.
LRN OPC entry	Local Routing Number (LRN) Originating Point Code (OPC) entry.
IMSI MGR Pending entry	Memory used by pending IMSI manager application.
Iups entry	Iu is the interface between Radio Network Subsystem (RNS) and core network. This is the memory used by Iups interface.
RNC entry	Memory used by the Radio Network Controller (RNC) entry.
RAI entry	Memory used by Routing Area Identity (RAI) entry.
PLMN entry	Memory used by Public Land Mobile Network (PLMN) entry.
TLLI mapping entry	Memory used by Temporary Logical Link Identity (TLLI) mapping entry.
IMSI mapping entry	Memory used by IMSI mapping entry.
SGSN-EMPCR entry	Memory used by SGSN-EMPCR entry.
Mbuf Counters	Total number of memory buffer counters, such as memory buffer overflows, associated with link manager parser instance.
Buffer Over flow	Total number of memory buffer overflows associated with this instance of link manager.
Messenger Counters	Link manager parser statistics includes message counters, indicating the messages that are being exchanged between link manager application and following manger applications: • IMSI manager • Link manager • Master manager • ALCAP manager • HNB manager • Session manager

Field	Description
IMSI Manager	Link manager parser statistics includes following message counters related to IMSI Manager: • Forward requests sent • Forward requests queued • Forward response received • Forward requests d-queued • Forward request bounced • Query requests sent • Query requests queued • Query requests d-queued • Query requests bounced • Query success responses • Query failure responses • Bulk requests sent • Bulk requests received • Pending queue length • Pending queue hardware • Pending attach dropped • Pending RAU dropped • Pending attach / RAU length
Forward Request Sent	Total number of forward requests sent to IMSI manager.
Forward Request Queued	Total number of forward requests queued for sending to IMSI manager.
Forward Response Received	Total number of forward responses received from IMSI manager.
Forward Request De-queued	Total number of forward request removed from the queue of the requests that are being sent to IMSI manager.
Forward Request Bounced	Total number of forward request that were bounced from the IMSI.
Query Request Sent	Total number of query requests sent to IMSI manager.
Query Request Queued	Total number of query requests queued for sending to IMSI manager.
Query success response	Total number of successful query responses received from IMSI manager.
Query request de-queued	Total number of query requests removed from the queue of the requests that are being sent to IMSI manager.

Field	Description
Query failure response	Total number of query failure response messages received from IMSI manager.
Query request bounced	Total number of query requests that were bounced by the IMSI manager.
Bulk request sent	Total number of bulk requests sent to IMSI manger.
Bulk response received	Total number of bulk response messages received from IMSI manger.
Window Size	The size of message window between link manger and IMSI manager instances.
Pending Attach dropped	Total number of pending attach requests dropped by IMSI manager.
Pending RAU dropped	Total number of pending Routing Area Updates (RAUs) dropped by IMSI manger.
Pending Attach/RAU queue length	The queue length of the pending attach and pending RAU messages that is being sent to IMSI manager.
Link Manager	The link manager can handle following categories of signaling traffic: • SIGTRAN • Broadband • Narrow band • Gb over IP • Frame Relay Link manager parser statistics includes following parameters related to messages that are being broadcast using this link manager instance: • Broadcast sent • Broadcast received • Broadcast successful response received • Broadcast response received • Broadcast failure response received.
Broadcast sent	Total number of broadcast messages sent by link manager instance.
Broadcast received	Total number of broadcast messages received by link manager instance.
Broadcast success response sent	Total number of messages sent by the link manager that indicate successful broadcast response.
Broadcast failure response received	Total number of broadcast failure messages received from the link manager.
Master Manager	Link manager parser statistics includes following parameters that are related to master manager. • Messages sent

Field	Description
Messages sent	Total number of messages sent to Master manager.
ALCAP Manager	Link manager parser statistics includes following parameters that are related to ALCAP manager. • Messages sent
Messages sent	Total number of messages sent to ALCAP manager.
HNB Manager	Link manager parser statistics includes following parameters that are related to Home NodeB (HNB) manager. • Messages sent
Messages sent	Total number of messages sent to HNB manager.
Session Manager	Link manager parser statistics includes following parameters that are related to session manager. • Messages sent
Messages sent per instance	Number of active link manger instances depends upon processing capacity of the PSC cards. These are total number of messages sent per each active instance of the link manager.
NPU Flash Counters	Total number of NPU flash counters associated with this instance of link manager parser.
Messages flushed due to tile limit	Total number of link manager messages flushed due to tile limit.
Messages flushed due to max packets	Total number of link manager messages flushed due to maximum number of packets.
SCCP	The Signaling Connection Control Part (SCCP) is a network layer protocol. It is used by Signaling System 7 (SS7) networks, to provide extended routing, flow control, segmentation, connection orientation and correction facilities. Link manager parser statistics includes SCCP message parameters such as: • Connection request (CR) • Connection confirm (CC) • Release Confirm (RLC) • Data Form 1 (DT1) • Unit Data (UDT) • Extended Unit Data (XUDT)

Field	Description
Connection Request (CR)	In SS7 architecture, for a connection based transaction, a connection is requested using the SCCP Connection Request (CR) message. This message is sent by a calling SCCP to the called SCCP. The CR message parameters indicate various signaling characteristics. This message is used during connection establishment phase by connection oriented protocol class 2 or 3. Link manager parser statistics includes following parameters related with Connection Request (CR) message: • rxCount • Empty message • Called party absent • Un supported SSN • IE missing
rxCount	Total number of rx bytes sent by calling to called SCCP.
Empty Message	Total number of empty messages sent by calling to called SCCP.
Called Party Absent	Total number of messages sent from calling to called SSCP. These messages indicate absence of originating signaling point or SCCP node.
Unsupported SSN	A Sub System Number (SSN) identifies specific user function provided by SCCP node. These are total number of messages containing un-supported SSN, that are being sent from calling to called SCCP.
IE Missing	These are total number of messages with missing Information Elements (IEs). These messages are being sent from calling to called SCCP.
Connection Confirm (CC)	The Connection Confirm (CC) message is sent by called SCCP to calling SCCP to indicate that it has performed the set-up for signaling connections. This message is used during connection establishment phase by connection oriented protocol class 2 or 3. Link manager parser statistics includes following parameters related with Connection Confirm (CC) message: • rxCount • IE missing
rxCount	Total number of rx bytes sent by called to calling SCCP.
IE Missing	These are total number of messages with missing Information Elements (IEs). These messages are being sent from called to calling SCCP.

Field	Description
Release confirm (RLC)	A Release message is sent in backward as well as forward direction, to indicate that the sending SCCP node, wants to release the signaling connection and associated resources. The Release Confirm or Release Complete (RLC) message is sent in response to such Release message, indicating that the Release message has been received and relevant procedures have been performed. Link manager parser statistics includes following parameters related with Release Confirm (RLC) message: • rxCount • DLR Key • IE Missing
rxCount	Total number of Rx bytes sent by SCCP that are associated with RLC message.
DLR Key	The Destination Local Reference (DLR) associated with the RLC message.
IE Missing	These are total number of messages with missing Information Elements (IEs). These messages are being sent from called to calling SCCP.
Data form 1 (DT1)	A Data Form 1 (DT1) message is sent by any of the two communicating SCCP nodes, to transparently pass the SCCP user data amongst them. The DT1 message is used during the data transfer phase in protocol class 2 only. Link manager parser statistics includes following parameters related with Data form 1(DT1) message: • rxCount • DLR key • IE missing
rxCount	Total number of Rx bytes sent by SCCP that are associated with DT1 message.
DLR Key	The Destination Local Reference (DLR) associated with the DT1 message.
IE Missing	Total number of missing information Elements (IEs) associated with DT1 message.

Field	Description
Unit Data (UDT)	A Unit Data (UDT) message is used by an SCCP node to indicate that it wants to transmit data in connection less mode. UDT messages are mostly used for Transaction Capabilities Application Part (TCAP) communication with Intelligent Network (IN) services. This message is used in connection-less protocol classes 0 and 1. Unit data includes following parameters: • rxCount • Management message • Called party absent • Unsupported SSN • IE Missing • Bssap+ SSN Msg
rxCount	Total number of Rx bytes sent by SCCP that are associated with UDT message.
Management Msg	Management messages are generated by SCCP to maintain the network performance by throttling or re-routing the traffic in case of network congestion or media failure. Total number of management messages associated with the UDT message.
Called Party Absent	The called party absent message implies that not enough information is available to uniquely identify destination signaling point or SCCP access point. Total number of called party absent messages associated with UDT message.
Unsupported SSN	A Sub System Number (SSN) identifies specific user function provided by SCCP. These are total number of messages associated with UDT message and contain un-supported SSN.
IE Missing	Total number of missing information Elements (IEs) associated with UDT message.
Bssap+ SSN Msg	Total number of Base Station Subsystem Application Part + (BSSAP+) SSN messages associated with UDT message.
Management Message Type	Management messages are generated by SCCP to maintain the network performance by throttling or re-routing the traffic in case of network congestion or media failure. Link manager parser statistic s includes following categories of management messages: • SSA • SSP • SST • SOR • SOG • SSC

Field	Description
SSA	A Sub System Allowed (SSA) message to indicate that the sub system that was formerly prohibited or the SCCP node that was formerly not accessible is now available. These are total number of SSA messages associated with the link manager parser instance.
SSP	A Sub System Prohibited (SSP) message is sent to concerned destination to inform SSCP Management (SCMG) about sub system failure. The receiving SCCP can update its translation tables to re-route the traffic. These are total number of SSP messages associated with the link manager parser instance.
SST	A Sub System Test (SST) message is sent to verify the status of the sub system that was previously prohibited or the SCCP node that was previously unavailable. These are total number of SST messages associated with the link manager parser instance.
SOR	A Subsystem Out of service Request (SOR) is used by the sub systems to remain out of service without degrading the network performance. SOR is used to transmit the out of service request of the subsystem between SCCPs at the sub system and duplicate subsystem nodes. These are total number of SOR messages associated with the link manager parser instance.
SOG	A Subsystem Out of service Grant (SOG) message is sent to the requesting SCCP, in response to an SOR message. The SOG message is sent if both the requested SCCP and backup of the affected sub system agree to owner the request. These are total number of SOG messages associated with the link manager parser instance.
SSC	
Extended Unit Data (XUDT)	The SCCP segments an application layer message in into multiple or eXtended UDT messages, when it is not possible to send the application layer message in UDT format. Link manager parser statistics includes following parameters related with eXtended Unit Data (XUDT): • rxCount • Management message • Called party absent • Unsupported SSN • LRN and OPC key • IE missing
rxCount	Total number of Rx bytes sent by SCCP that are associated with XUDT message.
Management Msg	Management messages are generated by SCCP to maintain the network performance by throttling or re-routing the traffic in case of network congestion or media failure. Total number of management messages associated with the XUDT message.

Field	Description
Called Party Absent	The called party absent message implies that not enough information is available to uniquely identify destination signaling point or SCCP access point. Total number of called party absent messages associated with unit data message.
Unsupported SSN	A Sub System Number (SSN) identifies specific user function provided by SCCP. These are total number of messages associated with XUDT message and contain un-supported SSN.
LRN & OPC Key	Total number of Local Reference Number (LRN) and Originating Point Code (OPC) keys associated with XUDT message.
IE Missing	Total number of missing information Elements (IEs) associated with XUDT message.
RANAP	Radio Access Network Application Part (RANAP) is a network layer protocol used for UMTS signaling between the core network such as MSC or SGSN and UTRN. It resides in control plane. Link manager parser statistics includes RNAP parameters such as: • rxCount • Initial UE message • Reset • Overload control message • Unsupported connection oriented message • Unsupported connection less message • Pegging message • Relocation request message.
rxCount	Total number of rxCount messages transmitted between core Network (CN) and Universal Terrestrial Radio Access Network (UTRAN).
Initial UE Message	Total number of initial User Equipment messages transmitted between CN and UTRAN.
Reset	Total number of reset messages transmitted between CN and UTRAN.
Overload Control Message	Total number of overload control messages transmitted between CN and UTRAN.
Unsupported Connection Oriented Message	Total number of un supported connection oriented messages transmitted between CN and UTRAN.
Unsupported Connection-less Message	Total number of un supported connection less messages transmitted between CN and UTRAN.
Paging Message	Total number of paging messages transmitted between CN and UTRAN.
Relocation Request Message	Total number of paging messages transmitted between CN and UTRAN.
RAN information management message	Total number of RAN information management messages transmitted between CN and UTRAN.

Field	Description
GMM	Mobility Management (MM) is a means by which a mobile network such as GPRS can keep track of mobile subscriber's location while they are connected to the network. Gprs Mobility Management (GMM) provides mobility management functionality such as GPRS attach, GPRS detach, security, routing area update and location update. The link manager parser statistics includes GMM parameters such as: • rxCount • Attach Req • Detach Req • RAU Req • Service Req • Unexpected Msg • IMSI Key • P-TMSI Key
rxCount	Total number of bytes received count associated with the link manager parser instance.
Attach Req	Total numbers of MS attach requests associated with the link manager parser instance.
Detach Req	Total number of MS detaches requests associated with the link manager parser instance.
RAU Req	Total number of Routing Area Update (RAU) requests associated with the link manager parser instance.
Service Req	Total number of point to point or point to multi-point service requests associated with the link manager parser instance.
Unexpected Msg	Total number of un-expected messages associated with the link manager parser instance.
IMSI Key	International Mobile Subscriber Identity (IMSI) is unique identification of a registered subscriber. Mobile Country Code (MCC) Mobile Network Code (MNC) and Mobile Subscriber Identification Number (MSIN) are the IMSI components. Total number of IMSI key associated with this instance of link manager parser.
TMSI Key	Temporary International Mobile Subscriber Identity (TMSI) is the identity that is exchanged between MS and network. It is assigned by the VLR when a mobile in its area is switched on.
Add P-TMSI Key	Packet Temporary Mobile Subscriber Identity (P-TMSI) is assigned by the SGSN to UE to avoid transmission of TMSI over the air. Total number of additional P-TMSI keys associated with this instance of link manager parser.

Field	Description
TCAP	Transaction Capacity Application Part (TCAP) is a protocol that allows the deployment of Intelligent Network (IN) services. This is done by exchanging non-circuit related information between the signaling points using SCCP connection-less service. The TCAP is used for dialog between to sub system components. Link manager parser statistics includes following parameters related with TCAP: • rxCount • Unit tag • Begin tag • End tag • Abort tag • Continue tag • HLR reset • Empty begin • Unexpected tag • IMSI key • DTID key • Decode failure • Free dlg count • Forward count • Forward count error
rxCount	Total number of Rx bytes transmitted by the signaling point that is associated with a TCAP message.
Unit Tag	Unit tag is included in all messages associated with a transaction. Total number of messages with Unit tag that are associated with this instance of link manager.
Begin Tag	Begin tag is included in all messages associated with a transaction. A TCAP user can respond with End or Continue message. The begin tag initiates the dialog. Total number of messages with Begin tag those are associated with this instance of link manager parser.
End Tag	The End tag ends an existing transaction, transaction Id is released when end message is received. The End tag indicates last primitive of an existing dialog. Total number of messages with End tag those are associated with this instance of link manager parser.

Field	Description
Abort Tag	The Abort tag indicates that an abnormal condition has occurred ending the transaction and releasing all transaction ids. Total number of messages with Abort tag those are associated with this instance of link manager parser.
Continue Tag	Continue tag indicates that a TCAP transaction is established and further information exchange is required. A transaction id is allocated and used in all message related to this transaction. Total number of messages with Continue tag those are associated with this instance of link manager parser.
HLR Reset	Total number of messages with the radio system re-start indication, that are associated with this instance of link manager parser.
Empty Begin	Begin tag is included in all messages associated with a transaction. A TCAP user can respond with End or Continue message. Total number of messages with an empty begins tag that are associated with this instance of link manager parser.
Unexpected Tag	Total number of messages exchanged between signaling points that are associated with a tag other than begin and end. Total number of messages with an empty begins tag that are associated with this instance of link manager parser.
IMSI Key	International Mobile Subscriber Identity (IMSI) is unique identification of a registered subscriber. Mobile Country Code (MCC) Mobile Network Code (MNC) and Mobile Subscriber Identification Number (MSIN) are the IMSI components. Total number of messages exchanged between the signaling points and associated with IMSI key.
T-IMSI key	Temporary Mobile Subscriber Identity (TMSI) is the identity that is most commonly sent between the MS and network. Total number of messages exchanged between the signaling points and associated with Temporary IMSI key.
Add P-TMSI Key	The Packet Temporary Mobile Subscriber IDentity (P-TMSI) is a temporary identity issued to the GPRS enabled mobile and is unique within a Routing Area (RA). Total number of messages with additional p-TMSI key.
DTID Key	Total number of messages associated with TCAP transaction Destination Identifier (DTID).
Decode Failure	Total number of messages transmitted between the signaling points that were not decoded.
Free Dlg Count	Total number of messages indicating number of free dialog sessions between the subsystem components of TCAP.

Field	Description
FWD Count	Total number of messages indicating forwarded dialogues between the subsystem components of TCAP.
RCD Count	Total number of messages indicating the received dialogs between the subsystem components of TCAP.
FWD Count Error	Total number of messages indicating the errors in the forwarded dialogs between the subsystem components of TCAP.
Bssap+	Base Station System Application Part Plus (Bssap+) protocol. It defines usage of mobile resources when the MS is using GSM Packet Switched (PS) as well as Circuit Switched (CS) services. Link manager parser statistics includes following BSSAP+ parameters: • rxCount • Paging request • Down link Tunnel Request • Updated Location Accept • Updated Location Reject • Alert Request • Gprs Detach Indication • Imsi Detach Indication • MS Information Request • Reset Indication • Reset Acknowledgement • MM Information Request • Unknown Message • UnExpected Message • Decode Failure
rxCount	Total number of rxCount messages transmitted between SGSN and MS.
Paging request	Total number of paging requests transmitted between SGSN and MS.
Down link Tunnel Request	Total number of down link tunnel requests transmitted between SGSN and MS.
Updated Location Accept	Total number of updated location messages accepted by SGSN.
Updated Location Reject	Total number of updated location requests rejected by SGSN.
Alert Request	Total number of alert requests transmitted between SGSN and MS.

Field	Description
Gprs Detach Indication	Total number of Gprs detach indication messages transmitted between SGSN and MS.
Imsi Detach Indication	Total number of IMSI detach indication messages transmitted between MS and SGSN.
MS Information Request	Total number of Mobile Station information request messages transmitted between MS and SGSN.
Reset Indication	Total number of reset indication messages transmitted between MS and SGSN.
Reset Acknowledgement	Total number of reset acknowledgment messages transmitted between MS and SGSN.
MM Info Req	Total number of Mobility Management (MM) information request messages transmitted between MS and SGSN.
Unknown Message	Total number of unknown category of messages transmitted between MS and SGSN.
UnExpected Message	Total number of un expected message i.e. messages not related to mobility management procedures and protocol, transmitted between MS and SGSN.
Decode Failure	Total number of decode failure messages transmitted between MS and SGSN.
GPRS-NS	The Network Service (NS) transports the NS Service Delivery Units (SDUs) between SGSN and BSS. It also provides network condition as well as status indications. Link manager parser statistics includes following categories of statistics related to GPRS-NS messages: • GPRS-NS message forwarding statistics • GPRS-NS message receiving statistics
GPRS-NS Message Forwarding Stats	GPRS-NS message forwarding statistics includes: • Number of messages forwarded to master link manager. • Number of messages forwarded to session manager.
Number of messages forwarded to master link Manager	Total number of GPRS-NS messages forwarded to master link manager by this link manager parser instance.
Number of messages forwarded to sessmgr	Total number of GPRS-NS messages forwarded to session manager by this link manager parser instance.
Number of messages forwarded to imsimgr	Total number of GPRS-NS messages forwarded to IMSI manager by this link manager parser instance.
Number of messages forwarded to stack	Total number of GPRS-NS messages forwarded to messaging event stack by this link manager parser instance.

Field	Description
GPRS-NS Message Rx Count Stats	GPRS- NS messages reception count statistics includes following messages: • NS Unit Data • NS Alive • NS Alive Acknowledgement
NS Unit Data	Total number of data units transmitted between SGSN and BSS.
NS Alive	Total number of Network System (NS) alive layer messages transmitted between SGSN and BSS.
NS Alive Ack	Total number of acknowledgements for NS layer alive message transmitted between BSS and SGSN.
BSSGP	The Base Station Subsystem GPRS Protocol (BSSGP) provides radio related QoS and routing information that is required to transmit data between BSS and SGSN.

Field	Description
BSSGP Statistics	The link manager parser statistics related to BSSGP includes following parameters: • Count • decode failure • Unknown Msg • Unsupported Msg • Bssgp Msg with non llc payload • Bssgp bvc flow control aggregate bounces • Bssgp bvc flow control aggregate before expiry • Bssgp bvc flow control aggregate max count • Bssgp bvc flow control aggregate send count • Bssgp Udata with local Tlli • Bssgp Udata with non-local Tlli • Bssgp ra-cap-updt with Local Tlli • Bssgp ra-cap-updt with non-Local Tlli • Bssgp rad-status with Local Tlli • Bssgp rad-status with non-Local Tlli • Bssgp suspend with Local Tlli • Bssgp suspend with non-Local Tlli • Bssgp resume with Local Tlli • Bssgp resume with non-Local Tlli • Bssgp flc_ms with Local Tlli • Bssgp flc_ms with non-Local Tlli • Bssgp flush-ack with Local Tlli
Count	Total number of BSSGP related messages transmitted between BSS and SGSN and are associated with this instance of link manager.
Decode Failure	Total number of BSSGP related messages transmitted between BSS and SGSN that were not decoded.
Unknown Msg	Total number of unknown BSSGP messages transmitted between BSS and SGSN that are associated with this instance of link manager.
Unsupported Msg	Total number of BSSGP messages transmitted between BSS and SGSN and are associated with this instance of link manager, but not supported by it.

Field	Description
Bssgp Msg with non llc payload	Total number of BSSGP messages with a payload not related to Logical Link Control (LLC), that are transmitted between BSS and SGSN.
Bssgp bvc flow control aggregate bounces	The BSSGP Virtual Connection (BVC) identifies an end to end communication path between BSS and SGSN at the BSSGP layer. A BVC is identified by the BVC Identifier (BVCI). A flow control procedure between BSS and SGSN manages the BSS buffers. In most deployments BSS provisions at least one buffer for each BVC and in some case a buffer for each MS. The flow control procedure avoids down link LLC PDU packet loss. Total number of BSSGP messages related to BSSGP Virtual connection (BVC) flow control, and were bounced during transmission.
Bssgp bvc flow control aggregate before expiry	Total number of BSSGP messages related to BVC flow control that are yet to be expired and are being transmitted between BSS and SGSN.
Bssgp bvc flow control aggregate max count	This is the maximum number of aggregated BVC flow control messages associated with this instance of link manager.
Bssgp bvc flow control aggregate send count	This is the number of aggregated BVC flow control messages sent and were associated with this instance of link manager.
Bssgp Udata with local Tlli	Total number of BSSGP unit data messages with local Temporary Logical Link Identity (TLLI), that were associated with this instance of link manager.
Bssgp Udata with non-local Tlli	Total number of BSSGP unit data messages with non-local Temporary Logical Link Identity (TLLI), that were associated with this instance of link manager.
Bssgp ra-cap-updt with Local Tlli	Total number of Radio Access Capability Update procedure messages with local TLLI, which were associated with this instance of link manager.
Bssgp ra-cap-updt with non-Local Tlli	Total number of Radio Access Capability Update procedure messages with non-local TLLI, which were associated with this instance of link manager.
Bssgp rad-status with Local Tlli	Total number of messages indicating status of radio communication between the BSS and MS with local TLLI, those were associated with this instance of link manager.
Bssgp rad-status with non-Local Tlli	Total number of messages indicating status of radio communication between the BSS and MS with non-local TLLI, those were associated with this instance of link manager.
Bssgp suspend with Local Tlli	Total number of messages sent by MS with local TLLI, to BSS requesting to suspend the GPRS service.
Bssgp suspend with non-Local Tlli	Total number of messages sent by MS with non- local TLLI, to BSS requesting to suspend the GPRS service.
Bssgp resume with Local Tlli	Total number of messages sent by MS with local TLLI, to BSS requesting to resume the GPRS service.
Bssgp resume with non-Local Tlli	Total number of messages sent by MS with non-local TLLI, to BSS requesting to resume the GPRS service.

Field	Description
Bssgp flc_ms with Local Tlli	Total number of messages sent by MS with local TLLI, to BSS that are related to flow control of the GPRS service.
Bssgp flc_ms with non-Local Tlli	Total number of messages sent by MS with non-local TLLI, to BSS that are related to flow control of the GPRS service.
Bssgp flush-ack with Local Tlli	Total number of flush acknowledgement messages sent by MS with local TLLI, to the BSS.
Bssgp flush-ack with non-Local Tlli	Total number of flush acknowledgement messages sent by MS with local non-local TLLI, to the BSS.
Bssgp llc-discarded with Local Tlli	Total number of Logical Link Control (LLC) discarded messages sent by MS with local TLLI to the BSS.
Bssgp llc-discarded with non-Local Tlli	Total number of Logical Link Control (LLC) discarded messages sent by MS with non-local TLLI to the BSS.
Bssgp RAN Information Management (RIM) messages	Total number of BSSGP Radio Access Network (RAN) information management (RIM) messages associated with this instance of link manager.
LLC	The Logical Link Control (LLC) protocol provides a logical link between the MS and SGSN. The LLC provides services to maintain a ciphered data link.
LLC Statistics	The link manager parser statistics includes following LLC related parameters: • Count • Decode Failure • LLC Msg with non gmm payload • LLC Msg with unknown sapi payload
Count	Total number of LLC messages associated with this instance of link manager parser.
Decode Failure	Total number of LLC related messages that the link manager parser failed to decode.
LLC messages with non gmm payload	Total number of LLC messages with the payload not related to Gprs Mobility Management.
LLC messages with unknown sapi payload	A Network layer Service Access Pointer Identifier (NSAPI) is used to identify the PDP context between MS and SGSN. Total number of LLC messages with the payload related to unknown (NSAPI).
SGSN Empty-CR Statistics	SGSN empty Connection Request (CR) statistics includes following parameters: • Empty Cr sent to Imsimgr
Empty-CR sent to Imsimgr	Total number of empty connection requests sent to IMIS manager by this instance of link manager.

Field	Description
Msg from Peer	Messages from peer SCCP node include following parameters: • Release complete received • Released received • Error received • Inactivity received • DT1 received • DT1 decode attempt
Released Complete Received	A Release Complete message is sent by receiving SCCP to indicate that Release message is received and appropriate procedures are being performed. Total number of Release Complete messages received by the receiving SSCP.
Released Received	A Released message is sent, in the forward or backward direction, to indicate that the sending SCCP wants to release a signalling connection. Resources associated with this connection at the sending SCCP have been brought into the disconnect pending condition. Total number of release received messages associated with this instance of link manager parser.
Error Received	Total number SCCP error messages associated with this instance of link manager parser.
Inactivity Received	Total number of inactivity messages associated with this instance of link manager parser.
DT1 Received	A Data Form 1 (DT1) message is sent by any of the two communicating SCCP nodes, to transparently pass the SCCP user data amongst them. Total number of DT1 messages received that are associated with this link manger parser.
DT1 Decode attempt	Total number of attempts performed by the link manager parser to decode the received DT1 messages.
Ranap Decode	The Radio Access Network Application Part (RANAP) is a radio network layer signaling protocol for Iu interface, residing in UTRAN and core network. RANAP decode statistics include following parameters: • Init –UE received • Other received
Init –UE Received	RANAP can be used to separate each UE on protocol level for mobile related signal management. These are total number of initialized UE received messages related to the link manger parser instance.
Other Received	Total number of other RANAP messages such as UTRAN radio access bearers or paging related messages that are associated with this instance of link manager parser.

Field	Description
Gmm Decode	Following GPERS Mobility Management (GMM) statistics can be used to decode the GMM associated with this instance of link manager: • Gmm received
Gmm Rcvd	GPERS Mobility Management (GMM) statistics includes following parameters: • Attach received • RAU received • Detach received • Service request received
Attach Rcvd	Total number of received MS attach requests that are associated with this instance of link manager.
RAU Rcvd	Total number of Routing Area Update (RAU) requests received that are associated with this instance of link manager.
Detach Rcvd	Total number of Routing Area Update (RAU) requests associated with the link manager parser instance.
Service Req Rcvd	Total number of point to point or point to multi-point service request messages associated with the link manager parser instance.
Decoded DT1 msg	Decoded DT1 message statistics included following parameters: • RAU (non-local old) RAI • RAU (local old) RAI • RAU (LOR) different instance • RAU (LOR) same instance • Service/detach request • Service/detach same instance
RAU (Non-Local Old RAI)	A Routing Area (RA) is a subset of location area. It is used by GPRS-attached MS for bursty data communication services. When an MS moves from one RA to another and identifies the difference in the RA code then it performs another update. Each RA is defined by a Routing Area Identifier (RAI). An RAI includes Location Area Identifier (LAI) and Routing Area Code (RAC). These are total number of RAU messages for non-local and old RAI, that are associated with link manager parser instance.
RAU (Local Old RAI)	Total number of RAU messages for local and old RAI that are associated with link manager parser instance.

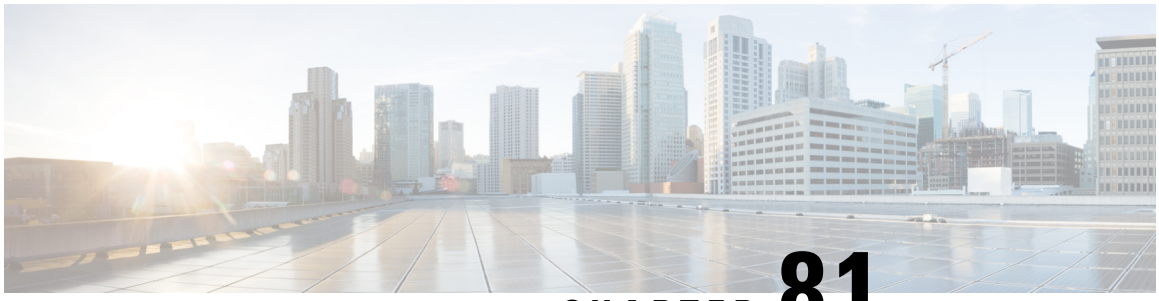
Field	Description
RAU(LOR) diff Instance	Total number of RAU messages related to Loss of Radio coverage (LOR) that is associated with different link manager parser instance.
RAU (LOR) Same Instance	Total number of RAU messages related to Loss of Radio coverage (LOR) that is associated with same link manager parser instance.
Service/Detach Request	Total number of GRPS service request or service detach request messages associated with the link manager.
Serv/Detach Same Instance	Total number of GRPS service request or service detach request messages associated with the same instance of link manager.
Serv/Detach diff Instance	Total number of GRPS service request or service detach request messages associated with different instances of link manager.
DT1 to be Fwd on Host cc	Total number of DT1 messages that need to be forwarded depending upon their host SCCP Connection Confirm (CC) message.
Msg to Donor session manager	Donor session manager message statistics includes following messages received by the donor: • Frizzed sent
Frizzed Sent	Total number of frizzed messages that were sent to donor session manager.
Msg to Host session manager	Host session manager message statistics include following messages: • CR sent
CR Sent	Total number of Connection Request (CR) messages sent to host session manager that are associates with this link manger instance.
Msg from Donor session manager	Donor session manager message statistics includes following messages transmitted by the donor session manager: • CC received • CREF received • Released received • Release complete received • Inactivity received • Error received • DT1 received • Others
CC Rcvd	Total number of messages sent from the donor session managers that indicate reception of SCCP Connection Confirm (CC) message.

Field	Description
CREF Rcvd	Total number of messages sent from the donor session managers that indicate reception of SCCP Connection Refused (CREF) message.
Released Rcvd	Total number of messages sent from the donor session managers that indicate reception of SCCP Released message.
Rel Complete Rcvd	Total number of messages sent from the donor session managers that indicate reception of SCCP Release Complete (RLC) message.
Inactivity Rcvd	Total number of messages sent from the donor session managers that indicate reception of SCCP Inactivity messages.
Error Rcvd	Total number of messages sent from the donor session managers that indicate reception of SCCP Protocol Data Unit (PDU) error messages.
DT1 Rcvd	A Data Form 1 (DT1) message is sent by the communicating SCCP nodes to transparently pass the SCCP user data. Total number of messages sent from the donor session managers that indicate reception of SCCP DT1 message.
Others	Total number of messages sent from the donor session managers that indicate reception of any other category of message.
Msg from Host Smgr	Host session manager message statistics includes following messages transmitted by the host session manager: • CC received • CREF received • Released received • Release complete received • Inactivity received • Error received • DT1 received • Others
CC Rcvd	Total number of messages sent from the host session managers that indicate reception of SCCP Connection Confirm (CC) message.
CREF Rcvd	Total number of messages sent from the host session managers that indicate reception of SCCP Connection Refused (CREF) message.
Released Rcvd	Total number of messages sent from the host session managers that indicate reception of SCCP Released message.
Release Complete (RCL) Rcvd	Total number of messages sent from the host session managers that indicate reception of SCCP Release Complete (RLC) message.

Field	Description
Inactivity Rcvd	Total number of messages sent from the host session managers that indicate reception of SCCP Inactivity messages.
Error Rcvd	Total number of messages sent from the host session managers that indicate reception of SCCP Protocol Data Unit (PDU) error messages.
DT1 Rcvd	A Data Form 1 (DT1) message is sent by the communicating SCCP nodes to transparently pass the SCCP user data. Total number of messages sent from the host session managers that indicate reception of SCCP DT1 message.
Others	Total number of messages sent from the host session managers that indicate reception of any other category of message.
Misc. Statistics	Miscellaneous statistics include following messages: • CR excess length (> 24) • Memory allocation failed Cb • Cb list interest failed • Duplicate connection • DLR modify buffer removal failed • DLR modify buffer addition failed
CR Excess Len (>24)	Total number of messages where connection request length is more than twenty four characters.
Memory allocation fail Cb	Total number of messages indicating memory allocation failure for call barring or blocking.
Cb List insert fail	Total number of messages indicating failure to insert the call barring or call blocking list while transferring data from the SCCP.
Duplicate connection	Total number of messages indicating duplicate connection.
DLR modify Buffer Rem Fail	Total number of messages indicating the failure to remove the Destination Local Reference (DLR) modify buffer while data is being transferred by the SSCP.
DLR modify Buff Add Fail	Total number of messages indicating the failure to add the DLR buffer while data is being transferred by the SCCP.
Link Manager UDatInd Fail	Total number of messages indicating failure of link manager Udata.

Field	Description
Link Manager Empty-cr Cb release reason	ink manager empty- cr Cb release reason statistics includes following parameters: • Attach request • RAU(non-local old RAI) • RAU (LOR) same instance • Service detach same instance • Release complete from peer • Release complete local • Local purge • CREF from donor manager
Attach Request	Total number of attach request messages with empty Connection Requests (CR) and empty Call barring (Cb) release reason.
RAU (Non local Old RAI)	Total number of messages with Routing Area Updates (RAU) from non-local Routing Area Indicators (RAIs).
RAU (LOR)Same Instance	Total number of messages with Routing Area Updates (RAUs) due to Loss of Radio Coverage (LOR) from the same instance of the link manager.
Service/Detach Same Instance	Total number of GPRS service attach or GPRS service detach messages, from same instance of the link manager.
Release Complete (RCL) from Peer	Total number of release complete messages from peer link manager instance.
Release Complete (RCL) Local	Total number of release complete messages from local link manager instance.
Local Purge	Total number of local purge messages.
CREF from Donor session manager	Total number of Connection Refused (CREF) messages sent by the donor session manager.
CREF from Host session manager	Total number of Connection Refused (CREF) messages sent by the host session manager.
Guard timer Exp	Total number of messages with expired guard timer.
Recovery	Total number of recovery messages that are associated with this instance of link manager parser.
Others	Total number of messages of any other category, that are associated with this instance of link manger parser.

show linkmgr



CHAPTER 81

show llc

• show llc statistics, on page 1389

show llc statistics

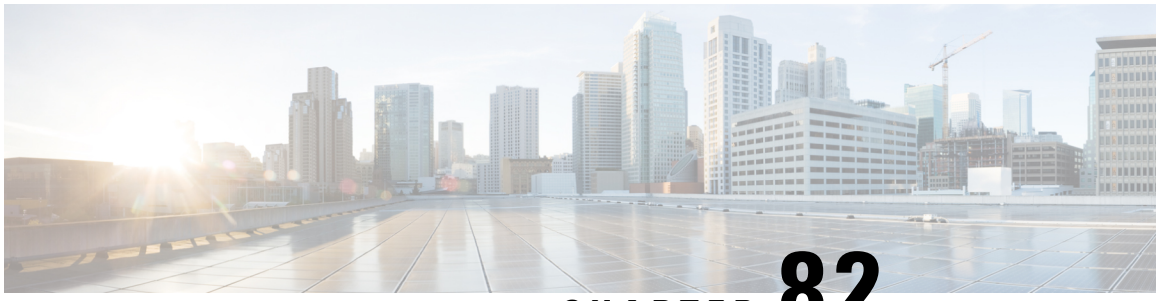
Note

- This table is relevant to 8.0 releases only.
- All statistics in this table are available per GPRS service.

Table 388: show llc statistics Command Output Descriptions

Field	Description
LLC SAP Statistics	
Data transfer	
Data requests Rx	Number of LLC data requests received from the MS.
Data confirms Tx	Number of LLC data requests confirmation sent to the MS.
Data indications Tx	Number of LLC data indications sent to the MS.
Data-Sent indications Tx	Number of LLC data sent indications sent to the MS.
Unit data requests Rx	Number of LLC unit data requests received from the MS.
Unit data requests Rx Drop	**Description**: This proprietary counter indicates the total number of unit data requests received from SNDCP layer and dropped at the LLC layer. **Triggers**: Increments when LLC receives a downlink packet from SNDCP and the queue in LLC layer is full.
Unit data indications Tx	Number of LLC unit data indications sent to the MS.
Errors reported	
Discarded frames Rx	Number of LLC discarded frames received from the MS.

Field	Description
Discarded frames Tx	Number of LLC discarded frames sent to the MS.
Error frames Rx	Number of LLC error frames received from the MS.
Unrecognised frames Rx	Number of LLC unrecognized frames received from the MS.
XID collisions	Number of LLC exchange identifier (XID) request collisions.
OC Increments done	This counter indicates how many times the OC value is incremented by "512". Overflow Counter (OC) is incremented by "512" every time the received LFN (LLC Frame Number -> N(U)) wraps around from "512" to "0", and re-starts counting from "0".
Ciphering errors	Number of LLC ciphering errors.
FCS errors	Number of LLC frame check sequence errors.
LLC Frame statistics	
Octets Rx	Number of bytes of LLC frames received from an MS.
Octets Tx	Number of bytes sent from the LLC layer to an MS from the SGSN.
Unack frames Rx	Number of unacknowledged UI frames received at the LLC layer from an MS.
Unack frames Tx	Number of unacknowledged UI frames sent from the LLC to an MS.
UI Rx	Number of LLC frames with unnumbered information received from the MS.
UI Tx	Number of LLC frames with unnumbered information sent to the MS.
UI Ciphered frames Rx	Number of LLC frames with ciphered unnumbered information received from the MS.
UI Ciphered frames Tx	Number of LLC frames with ciphered unnumbered information sent to the MS.
XID Rx	Number of XID-reset messages received from the MS.
XID Tx	Number of XID-reset messages sent to the MS.



CHAPTER 82

show lma-service

This chapter describes the outputs of the **show lma-service** command.

- show lma-service statistics, on page 1391

show lma-service statistics

Table 389: show lma-service statistics Command Output Descriptions

Field	Description
MIP AAA Authentication	
Attempts	The total number of MIP AAA authentication attempts made by this system or the specified service.
Success	The total number of MIP AAA authentication attempts that were successful made by this system or the specified service.
Total Failures	The total number of MIP AAA authentication attempts that failed made by this system or the specified service.
Actual Auth Failures	The total number of actual MIP AAA authentication failures received by this system or the specified service.
Failures	The total number of failures received by this system or the specified service.
Misc Auth Failures	The total number of miscellaneous MIP AAA authentication failures received this system or the specified service.
Binding Updates Received	
Total Received	The total number of all binding updates received by this system or the specified service.
Total Accepted	The total number of all binding updates received and accepted by this system or the specified service.
Total Denied	The total number of all binding updates received and denied by this system or the specified service.

Field	Description
Total Discarded	The total number of all binding updates received and discarded by this
Initial Binding Update Requests	
Received	The total number of all initial binding updates received by this system or the specified service.
Accepted	The total number of initial binding updates received and accepted by this system or the specified service.
Denied	The total number of initial binding updates received and denied by this system or the specified service.
Refresh Binding Update Requests	
Received	The total number of all refresh binding updates received by this system or the specified service.
Accepted	The total number of refresh binding update requests received and accepted by this system or the specified service.
Denied	The total number of refresh binding update requests received and denied by this system or the specified service.
DeReg Requests	
Received	The total number of all deregistration request binding updates received by this system or the specified service.
Accepted	The total number of deregistration request binding updates received and accepted by this system or the specified service.
Denied	The total number of deregistration request binding updates received and denied by this system or the specified service.
Handoff Requests	
Received	The total number of all handoff request binding updates received by this system or the specified service.
Accepted	The total number of handoff request binding updates received and accepted by this system or the specified service.
Denied	The total number of handoff request binding updates received and denied by this system or the specified service.
Binding Acknowledgements Sent	
Total	The total number of all binding update acknowledgments sent by this system or the specified service.
Accepted Reg	The total number of accepted registration binding update acknowledgments sent by this system or the specified service.

Field	Description
Accepted DeReg	The total number of accepted deregistration binding update acknowledgments sent by this system or the specified service.
Denied	The total number of denied binding update acknowledgments sent by this system or the specified service.
Send Error	The total number of send error binding update acknowledgments sent by this system or the specified service.
Accepted Init Reg	The total number of initial binding acknowledgments sent by LMA with Success code.
Binding Update Deny Reasons	
Insufficient Resources	The total number of binding update deny messages, due to insufficient resources, sent by this system or the specified service.
Mismatched ID	The total number of binding update deny messages, due to mismatched IDs, sent by this system or the specified service.
MN Auth Failure	The total number of binding update deny messages, due to a mobile node authentication failure condition, sent by this system or the specified service.
Admin Prohibited	The total number of binding update deny messages, due to requiring a message ID, sent by this system or the specified service.
Msg ID Required	The total number of binding update deny messages, due to requiring a message ID, sent by this system or the specified service.
DAD Failed	The total number of binding update deny messages, due to DAD failure, sent by this system or the specified service.
Not Home Subnet	The total number of binding update deny messages, due to an incorrect home subnet, sent by this system or the specified service.
Sequence Out Of Window	The total number of binding update deny messages, due to sequence out of window, sent by this system or the specified service.
Reg Type Change Disallowed	The total number of binding update deny messages, due to a disallowed registration type change, sent by this system or the specified service.
Unspecified Reason	The total number of binding update deny messages, due to an unspecified reason, sent by this system or the specified service.
Service-Authorization Failed	The total number of binding update deny messages, due to a service authorization failure, sent by this system or the specified service.
Proxy Reg Not Enabled	The total number of binding update deny messages, due to a proxy registration not enabled error, sent by this system or the specified service.
Timestamp Mismatch	The total number of binding update deny messages, due to a timestamp mismatch error, sent by this system or the specified service.

Field	Description
Timestamp Lower Than Expected	The total number of binding update deny messages, due to a timestamp lower than expected reason, sent by this system or the specified service.
Missing MN-ID Option	The total number of binding update deny messages, due to a missing MN-ID option, sent by this system or the specified service.
Missing HNP Option	The total number of binding update deny messages, due to a missing HNP option, sent by this system or the specified service.
Missing Access Tech Option	The total number of binding update deny messages, due to a missing access technology option, sent by this system or the specified service.
Missing Handoff Ind Option	The total number of binding update deny messages, due to a missing handoff indicator option, sent by this system or the specified service.
Not Authorized For HNP	The total number of binding update deny messages, due to a not authorized for HNP reason, sent by this system or the specified service.
Not LMA For Mobile	The total number of binding update deny messages, due to a missing LMA for the MN reason, sent by this system or the specified service.
Not Authorized For Proxy Reg	The total number of binding update deny messages, due to a not authorized for proxy registration reason, sent by this system or the specified service.
BCE Prefix Do Not Match	The total number of binding update deny messages, due to a BCE prefix not matching, sent by this system or the specified service.
GRE Key Option Required	The total number of binding update deny messages, due to a GRE key option required reason, sent by this system or the specified service.
MCOA Unknown CoA:	The total number of binding update deny messages, due to a MCOA unknown CoA reason, sent by this system or the specified service.
Update Denied - Insufficient Resource Reasons	
No Session Manager	The total number of binding update deny messages, due to insufficient resources - no session manager, sent by this system or the specified service.
No Memory	The total number of binding update deny messages, due to insufficient resources - no memory, sent by this system or the specified service.
Session Manager Rejected	The total number of binding update deny messages, due to insufficient resources - session manager rejected, sent by this system or the specified service.
Input-Q Exceeded	The total number of binding update deny messages, due to insufficient resources - input queue exceeded, sent by this system or the specified service.
Simul Bindings Exceeded	The total number of binding update deny messages, due to insufficient resources - simultaneous bindings exceeded, sent by this system or the specified service.
Address Alloc Failed	The total number of binding update deny messages, due to insufficient resources - address allocation failed, sent by this system or the specified service.

Field	Description
Update Denied - Admin Prohibited Reasons	
MN-AAA Auth Option Missing	The total number of binding update deny messages, due to an administrator prohibited - MN-AAA auth option missing condition, sent by this system or the specified service.
H-bit Not Set	The total number of binding update deny messages, due to an administrator prohibited - H-bit not set condition, sent by this system or the specified service.
Invalid MN-AAA Option SPI	The total number of binding update deny messages, due to an administrator prohibited - invalid MN-AAA option SPI condition, sent by this system or the specified service.
Invalid MN-HA Option SPI	The total number of binding update deny messages, due to an administrator prohibited - invalid MN-HA option SPI condition, sent by this system or the specified service.
Congestion Control Denied	The total number of binding update deny messages, due to an administrator prohibited - congestion control denied condition, sent by this system or the specified service.
Policy Rejected	The total number of binding update deny messages, due to an administrator prohibited - policy rejected condition, sent by this system or the specified service.
HoA Not Authorized	The total number of binding update deny messages, due to an administrator prohibited - HoA not authorized condition, sent by this system or the specified service.
No Permission	The total number of binding update deny messages, due to an administrator prohibited - no permission condition, sent by this system or the specified service.
Bad Request	The total number of binding update deny messages, due to an administrator prohibited - bad request condition, sent by this system or the specified service.
Update Denied - Unspecified Reason	
Newer Session detected by AAA	The total number of binding update discarded messages, due to newer session detected by AAA, sent by this system or the specified service.
Newer Session detected by PCRF	The total number of binding update discarded messages, due to newer session detected by PCRF, sent by this system or the specified service.
Newer Session detected by PCS	The total number of binding update discarded messages, due to newer session detected by PCS, sent by this system or the specified service.
Binding Updates Discard Reasons	
Congestion Discarded	The total number of binding update discarded messages, due to congestion, sent by this system or the specified service.
Checksum Error	The total number of binding update discarded messages, due to checksum error(s), sent by this system or the specified service.
Initial Auth Pending	The total number of binding update discarded messages, due to an initial authentication pending condition, sent by this system or the specified service.
Session Not Found	The total number of binding update discarded messages, due to a session not found condition, sent by this system or the specified service.

Field	Description
HAMGR Not Ready	The total number of binding update discarded messages, due to an HA manager not found condition, sent by this system or the specified service.
Decode Failure	The total number of binding update discarded messages, due to a decode failure, sent by this system or the specified service.
Invalid Buffer Length	The total number of binding update discarded messages, due to an invalid buffer length, sent by this system or the specified service.
Revocation Pending	The total number of binding update discarded messages, due to pending revocations, sent by this system or the specified service.
Binding Revocation	
Sent	The total number of binding revocations sent by this system or the specified service.
Retries Sent	The total number of binding revocation retries sent by this system or the specified service.
Ack Rcvd	The total number of binding revocation acknowledgements received by this system or the specified service.
Not Acknowledged	The total number of binding revocations sent, but not acknowledged, by this system or the specified service.
Rcvd	The total number of binding revocations received by this system or the specified service.
Ack Sent	The total number of binding revocation acknowledgements sent by this system or the specified service.
Sent Revocation Trigger Reasons	
Unspecified	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Unspecified" revocation trigger reason.
Administrative Reason	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Administrative Reason" revocation trigger reason.
Inter-MAG Handoff-Same ATT	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Inter-MAG Handoff-Same ATT" revocation trigger reason.
Inter-MAG - Unknown Handoff	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Inter-MAG - Unknown Handoff" revocation trigger reason.
Inter-MAG Handoff-Diff ATT	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Inter-MAG Handoff-Diff ATT" revocation trigger reason.
Per-Peer Policy	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with a "Per-Peer Policy" revocation trigger reason.
Revoking Node Local Policy	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with a "Revoking Node Local Policy" revocation trigger reason.

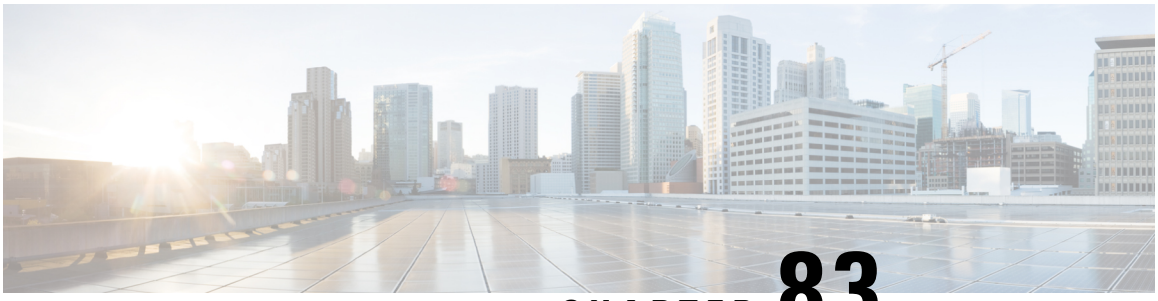
Field	Description
User Initiated Session Term	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with a "User Initiated Session Term" revocation trigger reason.
Access Network Session Term	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Access Network Session Term" revocation trigger reason.
Out-of Sync BCE State	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Out-of Sync BCE State" revocation trigger reason.
Unknown	The total number of Binding Revocation Indication (BRI) messages sent by the LMA with an "Unknown" revocation trigger reason.
Received Revocation ACK Status	
Success	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Success" status.
Partial-Success	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Partial-Success" status.
Binding-Does-Not-Exist	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Binding-Does-Not-Exist" status.
No IPv4-HoA-Bind	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "No IPv4-HoA-Bind" status.
Global-Revoc-Not-Authorized	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Global-Revoc-Not-Authorized" status.
Revoc-MN-ID-Required	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Revoc-MN-ID-Required" status.
Revoc-Failed-MN-Attached	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Revoc-Failed-MN-Attached" status.
Trigger-Not-Supported	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Trigger-Not-Supported" status.
Proxy-Bind-Rev-Not-Supported	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Proxy-Bind-Rev-Not-Supported" status.
Revoc-Func-Not-Supported	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with a "Revoc-Func-Not-Supported" status.
Unknown	The total number of Binding Revocation Acknowledgement (BRA) messages received by the LMA with an "Unknown" status.
Binding Revocation ACK Discarded	
Total	The total number of binding revocation acknowledgements received and discarded by this system or the specified service.

Field	Description
Session Not Found	The total number of binding revocation acknowledgements received and discarded, due to a session not found condition, by this system or the specified service.
Badly Formed Request	The total number of binding revocation acknowledgements received and discarded, due to a badly formed request condition, by this system or the specified service.
Decode Error	The total number of binding revocation acknowledgements received and discarded, due to a decode error condition, by this system or the specified service.
Checksum Error	The total number of binding revocation acknowledgements received and discarded, due to a checksum error condition, by this system or the specified service.
Invalid Message Type	The total number of binding revocation acknowledgements received and discarded, due to a invalid memory type condition, by this system or the specified service.
HAMGR Not Ready	The total number of binding revocation acknowledgements received and discarded, due to a HAMGR not ready condition, by this system or the specified service.
Matching Request Not Found	The total number of binding revocation acknowledgements received and discarded, due to a matching request not found condition, by this system or the specified service.
Invalid Buffer Length	The total number of binding revocation acknowledgements received and discarded, due to a invalid buffer length condition, by this system or the specified service.
Tunnel Data Received	
Total Packets	The total number of tunnel packets received by this system or the specified service.
6in6	The total number of IPv6-in-IPv6 tunnel packets received by this system or the specified service.
4in6	The total number of IPv4-in-IPv6 tunnel packets received by this system or the specified service.
IPv6 GRE (IPv4)	The total number of IPv4-in-IPv6 GRE tunnel packets received by this system or the specified service.
IPv6 GRE (IPv6)	The total number of IPv6-in-IPv6 GRE tunnel packets received by this system or the specified service.
4in4	The total number of IPv4-in-IPv4 tunnel packets received by this system or the specified service.
6in4	The total number of IPv6-in-IPv4 tunnel packets received by this system or the specified service.
IPv4 UDP (IPv4)	The total number of IPv4-in-IPv4 UDP tunnel packets received by this system or the specified service.
IPv4 UDP (IPv6)	The total number of IPv6-in-IPv4 UDP tunnel packets received by this system or the specified service.
Total Bytes	The total number of tunnel bytes received by this system or the specified service.

Field	Description
6in6	The total number of IPv6-in-IPv6 tunnel bytes received by this system or the specified service.
4in6	The total number of IPv4-in-IPv6 tunnel bytes received by this system or the specified service.
IPv6 GRE (IPv4)	The total number of IPv4-in-IPv6 GRE tunnel bytes received by this system or the specified service.
IPv6 GRE (IPv6)	The total number of IPv6-in-IPv6 GRE tunnel bytes received by this system or the specified service.
4in4	The total number of IPv4-in-IPv4 tunnel bytes received by this system or the specified service.
6in4	The total number of IPv6-in-IPv4 tunnel bytes received by this system or the specified service.
IPv4 UDP (IPv4)	The total number of IPv4-in-IPv4 UDP tunnel bytes received by this system or the specified service.
IPv4 UDP (IPv6)	The total number of IPv6-in-IPv4 UDP tunnel bytes received by this system or the specified service.
Errors	
Protocol Type Error	The total number of protocol type data errors received by this system or the specified service.
Invalid Pkt Length	The total number of invalid packet length data errors received by this system or the specified service.
No Session Found	The total number of no session found data errors received by this system or the specified service.
Tunnel Data Sent	
Total Packets	The total number of tunnel packets sent by this system or the specified service.
6in6	The total number of IPv6-in-IPv6 tunnel packets sent by this system or the specified service.
4in6	The total number of IPv4-in-IPv6 tunnel packets sent by this system or the specified service.
IPv6 GRE (IPv4)	The total number of IPv4-in-IPv6 GRE tunnel packets sent by this system or the specified service.
IPv6 GRE (IPv6)	The total number of IPv6-in-IPv6 GRE tunnel packets sent by this system or the specified service.
4in4	The total number of IPv4-in-IPv4 tunnel packets sent by this system or the specified service.

Field	Description
6in4	The total number of IPv6-in-IPv4 tunnel packets sent by this system or the specified service.
IPv4 UDP (IPv4)	The total number of IPv4-in-IPv4 UDP tunnel packets sent by this system or the specified service.
IPv4 UDP (IPv6)	The total number of IPv6-in-IPv4 UDP tunnel packets sent by this system or the specified service.
Total Bytes	The total number of tunnel bytes sent by this system or the specified service.
6in6	The total number of IPv6-in-IPv6 tunnel bytes sent by this system or the specified service.
4in6	The total number of IPv4-in-IPv6 tunnel bytes sent by this system or the specified service.
IPv6 GRE (IPv4)	The total number of IPv4-in-IPv6 GRE tunnel bytes sent by this system or the specified service.
IPv6 GRE (IPv6)	The total number of IPv6-in-IPv6 GRE tunnel bytes sent by this system or the specified service.
4in4	The total number of IPv4-in-IPv4 tunnel bytes sent by this system or the specified service.
6in4	The total number of IPv6-in-IPv4 tunnel bytes sent by this system or the specified service.
IPv4 UDP (IPv4)	The total number of IPv4-in-IPv4 UDP tunnel bytes sent by this system or the specified service.
IPv4 UDP (IPv6)	The total number of IPv6-in-IPv4 UDP tunnel bytes sent by this system or the specified service.
Tunnel ICMPV6 Packets	
Packet Too Big Rcvd	The total number of tunnel ICMP packets - too big received by this system or the specified service.
Packet Too Big Dropped	The total number of tunnel ICMP packets - too big dropped by this system or the specified service.
Packet Too Big Relayed	The total number of tunnel ICMP packets - too big relayed by this system or the specified service.
Total Disconnects	
Lifetime expiry	The total number of disconnects due to lifetime expiry initiated by this system or the specified service.
Deregistrations	The total number of disconnects due to deregistrations initiated by this system or the specified service.

Field	Description
Admin Drops	The total number of disconnects due to admin drops initiated by this system or the specified service.
Other Reasons	The total number of disconnects due to "other reasons" initiated by this system or the specified service.



CHAPTER 83

show local-policy

This chapter describes the outputs of the **show local-policy** command.

- show local-policy statistics service, on page 1403

show local-policy statistics service

Table 390: show local-policy statistics service Command Output Descriptions

Field	Description
Event Statistics	
New Session	The total number of times a Local Policy new-call event rule is triggered.
Location Change	The total number of times a Local Policy location-change event rule is triggered.
Request Qos	The total number of times a Local Policy request-qos event rule is triggered.
Out of Credit	The total number of times a Local Policy out-of-credit event rule is triggered.
Reallocation of Credit	The total number of times a Local Policy realloc-of-credit event rule is triggered.
Local Fallback	The total number of times a Local Policy fallback from PCRF event rule is triggered.
Timer Expiry	The total number of times a Local Policy timer-expiry event rule is triggered.
Default Qos Change	The total number of times a Local Policy default-qos-change event rule is triggered.
Service Flow	The total number of times a Local Policy service-flow event rule is triggered.
Rule Report Status	The total number of times a Local Policy Rule Report Status is triggered to PCRF.
APN-AMBR Mod Failure	The total number of times a Local Policy APN-AMBR mode failure rule is triggered.
Def EPS bearer Qos Mod Failure	The total number of times a Def EPS bearer Qos Mode Failure rule is triggered.

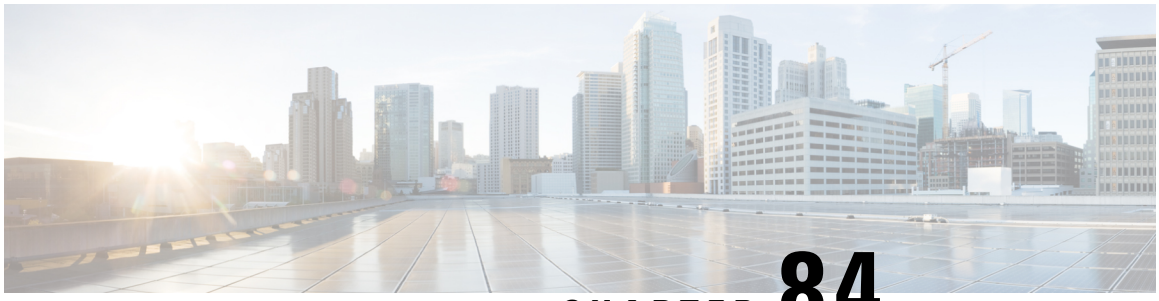
Field	Description
ECGI Change	The total number of times the ECGI-CHANGE event trigger has been received by Local-Policy. This field is added to support Location-based Local-Policy Rule Enforcement.
3G-ULI Change	The total number of 3G-ULI-CHANGE event triggers that has been received by Local-Policy. This field is added to support Location-based QoS Override feature.
TAI Change	The total number of times the TAI-CHANGE event trigger has been received by Local-Policy. This field is added to support Location-based QoS Override feature.
Action Statistics	
Create Bearer	The total number of times a Local Policy create-bearer action is triggered.
Create Bearer failure	The total number of times a Local Policy create-bearer action fails.
Create Bearer Success	The total number of times a Local Policy create-bearer action succeeds.
Delete Bearer	The total number of times a Local Policy delete-bearer action is triggered.
Delete Bearer failure	The total number of times a Local Policy delete-bearer action fails.
Delete Bearer Success	The total number of times a Local Policy delete-bearer action succeeds.
Allow Session	The total number of times a Local Policy allow-session action is triggered.
Allow Session failure	The total number of times a Local Policy allow-session action fails.
Allow Session Success	The total number of times a Local Policy allow-session action succeeds.
Terminate Session	The total number of times a Local Policy terminate-session action is triggered.
Terminate Session failure	The total number of times a Local Policy terminate-session action fails.
Terminate Session Success	The total number of times a Local Policy terminate-session action succeeds.
Activate Rule	The total number of times a Local Policy activate-rule action is triggered.
Activate Rule failure	The total number of times a Local Policy activate-rule action fails.
Activate Rule Success	The total number of times a Local Policy activate-rule action succeeds.
Activate LP Rule	The total number of times the lp-activate-rule action is triggered by local-policy module.
Activate LP Rule failure	The total number of times the lp-activate-rule action fails.
Activate LP Rule Success	The total number of times the lp-activate-rule action succeeds.
Deactivate Rule	The total number of times a Local Policy deactivate-rule action is triggered.
Deactivate Rule failure	The total number of times a Local Policy deactivate-rule action fails.
Deactivate Rule Success	The total number of times a Local Policy deactivate-rule action succeeds.
Activate AMBR	The total number of times a Local Policy activate-ambr action is triggered.
Activate AMBR failure	The total number of times a Local Policy activate-ambr action fails.
Activate AMBR Success	The total number of times a Local Policy activate-ambr action succeeds.

Field	Description
Deactivate AMBR	The total number of times a Local Policy deactivate-ambr action is triggered.
Deactivate AMBR failure	The total number of times a Local Policy deactivate-ambr action fails.
Deactivate AMBR Success	The total number of times a Local Policy deactivate-ambr action succeeds.
Accept Req QoS	The total number of times a Local Policy allow-requested-qos action is triggered.
Accept Req QoS failure	The total number of times a Local Policy allow-requested-qos action fails.
Accept Req QoS Success	The total number of times a Local Policy allow-requested-qos action succeeds.
Reject Req QoS	The total number of times a Local Policy reject-requested-qos action is triggered.
Reject Req QoS failure	The total number of times a Local Policy reject-requested-qos action fails.
Reject Req QoS Success	The total number of times a Local Policy reject-requested-qos action succeeds.
Activate Rulebase	The total number of times a Local Policy activate-rulebase action is triggered.
Activate Rulebase failure	The total number of times a Local Policy activate-rulebase action fails.
Activate Rulebase Success	The total number of times a Local Policy activate-rulebase action succeeds.
Deactivate Rulebase	The total number of times a Local Policy deactivate-rulebase action is triggered.
Deactivate Rulebase failure	The total number of times a Local Policy deactivate-rulebase action fails.
Deactivate Rulebase Success	The total number of times a Local Policy deactivate-rulebase action succeeds.
Activate Policy Grp	The total number of times a Local Policy activate-policy-group action is triggered.
Activate PolicyGrp failure	The total number of times a Local Policy activate-policy-group action fails.
Activate PolicyGrp Grp Success	The total number of times a Local Policy activate-policy-group action succeeds.
Deactivate PolicyGrp	The total number of times a Local Policy deactivate-policy-group action is triggered.
Deactivate PolicyGrp failure	The total number of times a Local Policy deactivate-policy-group action fails.
Deactivate PolicyGrp Success	The total number of times a Local Policy deactivate-policy-group action succeeds.
Set Default QoS	The total number of times a Local Policy default-qos action is triggered.
Set Default QoS failure	The total number of times a Local Policy default-qos action fails.
Set Default QoS Success	The total number of times a Local Policy default-qos action succeeds.
Start Timer	The total number of times a Local Policy start-timer action is triggered.
Start Timer failure	The total number of times a Local Policy start-timer action fails.
Start Timer Success	The total number of times a Local Policy start-timer action succeeds.

Field	Description
Stop Timer	The total number of times a Local Policy stop-timer action is triggered.
Stop Timer failure	The total number of times a Local Policy stop-timer action fails.
Stop Timer Success	The total number of times a Local Policy stop-timer action succeeds.
Activate Detect Flow	Indicates the total number of times a Local Policy activate-flow-detection action is triggered.
Activate Detect Flow Failure	Indicates the total number of times a Local Policy activate-flow-detection action fails.
Activate Detect Flow Success	Indicates the total number of times a Local Policy activate-flow-detection action succeeds.
Deactivate Detect Flow	Indicates the total number of times a Local Policy deactivate-flow-detection action is triggered.
Deactivate Detect Flow Failure	Indicates the total number of times a Local Policy deactivate-flow-detection action fails.
Deactivate Detect Flow Success	Indicates the total number of times a Local Policy deactivate-flow-detection action succeeds.
Reconnect to Server	Indicates the total number of times a Local Policy reconnect-to-server action is triggered.
Reconnect to Server Failure	Indicates the total number of times a Local Policy reconnect-to-server action fails.
Reconnect to Server Success	Indicates the total number of times a Local Policy reconnect-to-server action succeeds.
Retry-Count Success	Indicates the total number of times the Local Policy retry action succeeds.
Enable Event Trigger	Indicates the total number of times the action is hit. This field is introduced to support the co-existence of local policy and PCRF.
Enable Event Trigger Failure	Indicates the total number of times enabling of Local Policy event triggers failed. This field is introduced to support the co-existence of local policy and PCRF.
Enable Event Trigger Success	Indicates the total number of times the Local Policy event triggers are enabled. This field is introduced to support the co-existence of local policy and PCRF.
Variable Matching Statistics	
3G-ULI	Total number of times the 3G-ULI value is matched and the specific action is applied based on the event.
IMSI	The total number of times the IMSI associated with the subscriber matched the Local Policy 'imsi' condition constraint.
MSISDN	The total number of times the MSISDN assoiciated with the subscriber matched the Local Policy 'msisdn' condition constraint.
MEID	The total number of times the MEID associated with the subscriber matched the Local Policy 'meid' condition constraint.

Field	Description
IMEISV	The total number of times the IMEISV of the user equipment matched the Local Policy 'imeisv' condition constraint.
LOCAL POLICY MODE	Indicates the total number of times the Local Policy rule is hit. This field is introduced to support the co-existence of local policy and PCRF.
Access Tech	The total number of times the Radio access technology associated with the subscriber matched the Local Policy 'radio-access-technology' condition constraint.
Serving Node Addr	The total number of times the IP address associated with the current node matched the Local Policy 'serving-node-address' condition constraint.
Serving PLMN	The total number of times the PLMN associated with the current node serving the subscriber matched the Local Policy 'serving-plmn' condition constraint.
Access Point Name	The total number of times the APN associated with a session matched the Local Policy 'apn' condition constraint.
NAI	The total number of times the NAI associated with a session matched the Local Policy 'nai' condition constraint.
QoS Class Identifier	The total number of times the QoS Class Identifier associated with an event matched the Local Policy 'qci' condition constraint.
Alloc Retention Priority	The total number of times the Allocation Retention Priority associated with a session matched the Local Policy 'arp' condition constraint.
Day of Week	The total number of times the day of the week value matched the Local Policy 'day-of-week' condition constraint.
Day of month	The total number of times the day of the month value matched the Local Policy 'day-of-month' condition constraint.
Month of year	The total number of times the month of the year value matched the Local Policy 'month-of-year' condition constraint.
Date	The total number of times the date value matched the Local Policy 'date' condition constraint.
Time of Day	The total number of times the Time of Day value matched the Local Policy 'date' condition constraint.
Bearer Count	The total number of times the bearer count matches the specified constraint.
BSID	The total number of times the base station identifier matches the specified constraint.
RAI	The total number of times the Routing Area Identification matches the specified constraint.
Cause-Code	The total number of times the Failure Cause Code matches the specified constraint.
PDN Type	The total number of times the rules in actiondef matches with the UE PDN type/IP address allocated to the subscriber.

Field	Description
Local Policy Mode	Indicates the total number of times the Local Policy rule is hit. This field is introduced to support the co-existence of local policy and PCRF.
Final Unit Action	Indicates the total number of times the Final Unit Action (FUA) matches the specified constraint. This field is introduced to support FUA in local policy.
ECGI	The total number of times the E-UTRAN Cell Global Identification matches the specified constraint. This field is added to support Location-based Local-Policy Rule Enforcement.
TAI	Total number of times the TAI value is matched and the specific action is applied based on the event.



CHAPTER 84

show local-user

This chapter describes the outputs of the **show local-user** command.

Important In a release 20.0 or higher Trusted build, this command is not available.

- show local-user username name verbose, on page 1409
- show local-user statistics verbose, on page 1410
- show local-user verbose, on page 1410

show local-user username name verbose

Table 391: show local-user username name verbose Command Output Descriptions

Field	Description
Username	The name of the local-user.
Auth Level	The authentication level for the local-user as one of the following: • secadmin • admin • operator • inspector
Last Login	The time and date that the user last logged in.
Login Failures:	The number of login failures that occurred for the user.
Password Expired:	Indicates whether or not the password has expired.
Locked:	Indicates whether or not the account is locked.
Suspended	Indicates whether or not the account is suspended.
Lockout on Pw Aging	Indicates whether or not the account can be locked out due to the age of the password.

Field	Description
Lockout on Login Fail	Indicates whether or not the account can be locked out due to login failures.

show local-user statistics verbose

Table 392: show local-user statistics verbose Command Output Descriptions

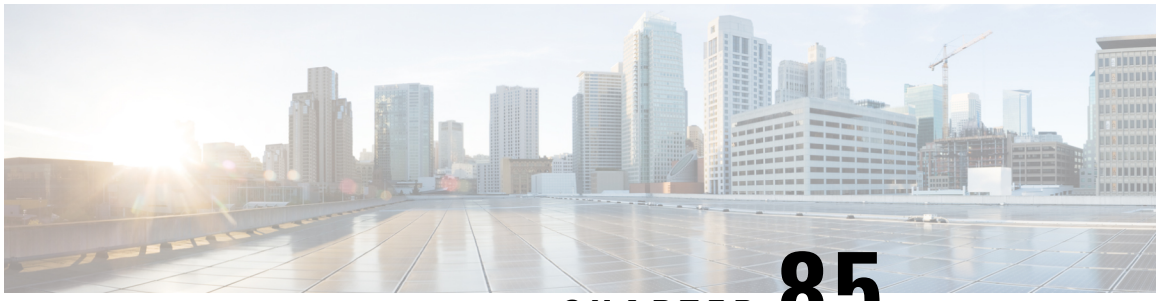
Field	Description
Number of login attempts	The number of login attempts for all local-user accounts.
Number of login success	The number of successful logins for all local-user accounts.
Number of login failures	The number of failed logins for all local-user accounts.
Bad username	The number of logins that failed due to invalid usernames.
Bad password	The number of logins that failed due to incorrect passwords.
Locked user	The number of logins that failed due to the account being locked.
Suspended user	The number of logins that failed due to the account being suspended.
Internal error	The number of logins that failed due to system internal errors.
Number of user lockouts	The number of local-user accounts currently in the locked-out state.
Internal errors	The number of internal errors that occurred.
Unable to accept request	The number of internal errors that occurred because the system could not accept a login request.
Unable to receive request	The number of internal errors that occurred because the system could not receive a login request.
Unable to sent response	The number of internal errors\ that occurred because the system could not send a response to a login request.
Last statistics reset	The last time and date that local-user statistics maintained by the system were cleared.

show local-user verbose

Table 393: show local-user verbose Command Output Descriptions

Field	Description
Username	The name of the local-user.

Field	Description
Auth Level	The authentication level for the local-user as one of the following: • secadmin • admin • operator • inspector
Last Login	The time and date that the user last logged in.
Login Failures:	The number of login failures that occurred for the user.
Password Expired:	Indicates whether or not the password has expired.
Hash strength:	Indicates the hash strength.
Locked:	Indicates whether or not the account is locked.
Suspended:	Indicates whether or not the account is suspended.
Lockout on Pw Aging:	Indicates whether or not the account can be locked out due to the age of the password.
Lockout on Login Fail:	Indicates whether or not the account can be locked out due to login failures.
Console Allowed:	Indicates the total number of consoles allowed.
VTY Allowed:	Displays a reference for the virtual console device for the CLI instance.
Max Sessions:	Indicates the maximum number of local-user subscriber sessions allowed.



CHAPTER 85

show location-service

This chapter describes the output of the **show location-service** command.

- show location-service service all, on page 1413
- show location-service statistics all, on page 1414

show location-service service all

Displays configuration information for all Location services (LCS) configured on the system.

Table 394: show location-service service all Command Output Descriptions

Field	Description
Service name	The name of the Location service configured on the system.
Context	The name of the context in which this Location service is configured on the system.
Status	The state of the Location service, either STARTED or NOT STARTED. The status will display STARTED if a valid diameter endpoint is associated with this locations service.
Diameter endpoint	The Diameter endpoint configured for this Location service.
Diameter dictionary	The Diameter dictionary configured for this Location service.
Map Service	The MAP service configured for this Location service.
SLS service	The name of the SLs service associated with this Location service.
LCSN timer	SGSN only: Displays the configuration of the Location service **timeout lcsn** command.
UE AVAILABLE GUARD timer	SGSN only: Displays the configuration of the Location service **timeout ue-available-guard-timer** command.
AREA EVENT INVOKE timer	SGSN only: Displays the configuration of the Location service **timeout area-event-invoke-timer** command.

Field	Description
PERIODIC EVENT INVOKE timer	SGSN only: Displays the configuration of the Location service **timeout periodic-event-invoke-timer** command.
Destination Host	Displays the configuration of the Location service **destination-host** command, showing either the configured destination host or NA if not configured. If this command is not configured, the peer host name configured in the diameter endpoint is encoded as destination-host AVP.
SLR trigger for Emergency calls	Displays the configuration of the Location Service **slr emergency dedicated-bearer-only** command. This field displays **Dedicated Bearer Only** when configuration is enabled and **Attach or PDN** when configuration is disabled.

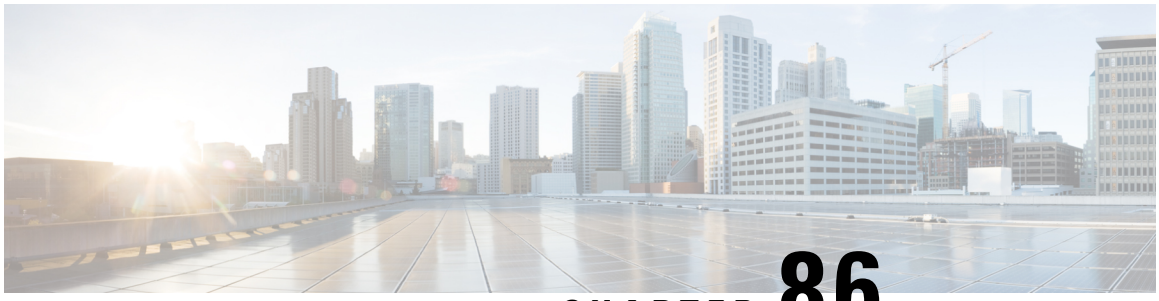
show location-service statistics all

Displays Location services (LCS) statistics for all Location services configured on the system.

Table 395: show location-service statistics all Command Output Descriptions

Field	Description
Message Statistics	
PSL Request	The total number of Provide Subscriber Location Request messages received.
PSL Answer	The total number of Provide Subscriber Location Answer messages sent.
PSL Request Dropped	The total number of Provide Subscriber Location Request messages dropped.
PSL Answer Dropped	The total number of Provide Subscriber Location Answer messages dropped.
LR Request	The total number of Network Induced Location Request (NI-LR) request messages initiated by the MME.
LR Request Dropped	The total number of Location Request messages that were dropped (could not be sent) as a result of the peer being down.
LR Answer	The total number of Location Request acknowledge messages received.
LR Answer Dropped	The total number of Location Request acknowledge messages dropped. This can occur when the user name in the acknowledge message does not match that sent in the request. **Important** In Release 16.0 and later, this counter is deprecated.
LR Answer Timeout	The total number of Location Request acknowledge messages expected but not received before the timer expired.
Message Error Statistics	
User Unknown	The total number of times the PLR was received for an unknown user (Error code: 5001).

Field	Description
Unauthorized Requestion Network	The total number of times the requesting GMLC's network was not authorized to request UE location information (Error code: 5490).
Unreachable User	The total number of times a PLR was received for a user which could not be reached (Error code: 4221)
Suspended User	The total number of times the PLR was received for a user who is suspended in the MME (Error code: 4222).
Detached User	The total number of times where the PLR was received for a detached user (Error code: 4223).
Positioning Denied	The total number of times the positioning procedure was denied (Error code: 4224).
Positioning Failed	The total number of times the positioning procedure failed (Error code: 4225).
Unreachable LCS Client	The total number of times the GLMC indicated that the LCS Client was not known or could not be reached (Error code: 4226).
Other Errors	The total number of PLA messages received with other error result codes.
Location Report Event Statistics	
Events Sent:	
Call Origination	Total number of Call-Origination events sent when SLR message is triggered towards GMLC.
Call Release	Total number of Call-Release events sent when SLR message is triggered towards GMLC.
Call Handover	Total number of Call-Handover events sent when SLR message is triggered towards GMLC.
Events Dropped:	
Call Origination	Total number of Call-Origination events dropped when SLR message is triggered towards GMLC.
Call Release	Total number of Call-Release events dropped when SLR message is triggered towards GMLC.
Call Handover	Total number of Call-Handover events dropped when SLR message is triggered towards GMLC.



CHAPTER 86

show lte-policy

This chapter describes the output of the **show lte-policy** command.

- show lte-policy congestion-action-profile name, on page 1417
- show lte-policy cause-code-group name, on page 1418
- show lte-policy foreign-plmn-guti-mgmt-db name, on page 1419
- show lte-policy ho-restrict-list name, on page 1419
- show lte-policy lte-emergency-profile name, on page 1419
- show lte-policy tai-mgmt-db name, on page 1420
- show lte-policy monitoring-event- profile, on page 1420
- show lte-policy paging-map name, on page 1421
- show lte-policy paging-profile name, on page 1421
- show lte-policy tai-mgmt-db name, on page 1422

show lte-policy congestion-action-profile name

Important In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

Table 396: show lte-policy congestion-action-profile name Command Output Descriptions

Field	Description
handovers	Indicates the action the MME is configured to take for handovers when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
combined-attaches	Indicates the action the MME is configured to take for combined Attach requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
ps-attaches	Indicates the action the MME is configured to take for packet switched Attach requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.

Field	Description
addn-pdn-connects	Indicates the action the MME is configured to take for additional PDN context connections when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
addn-brr-requests	Indicates the action the MME is configured to take for additional bearer requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
brr-ctxt-mod-requests	Indicates the action the MME is configured to take for Bearer Resource Context Modification Requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
service-request	Indicates the action the MME is configured to take for service requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
tau-request	Indicates the action the MME is configured to take for TAU requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
s1-setups	Indicates the action the MME is configured to take for S1 setup attempts when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
init-ues	Indicates the action the HeNBGW is configured to take for Initial UE messages received when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
paging	Indicates the action the HeNBGW is configured to take for Paging requests when a congestion control threshold is reached. Possible actions are none (ignore), reject, drop.
exclude-emergency-events	Indicates whether the MME is configured to exclude emergency calls when a congestion control threshold is reached. This setting is disabled when 'no exclude-emergency-events' is displayed.
exclude-voice-events	Indicates whether the MME is configured to exclude voice calls when a congestion control threshold is reached. This setting is disabled when 'no exclude-voice-events' is displayed.
report-overload	Indicates whether the MME is configured to report overload conditions to eNodeBs to alleviate congestion scenarios.

show lte-policy cause-code-group name

Table 397: show lte-policy cause-code-group name Command Output Descriptions

Field	Description
Cause Code Group *name*	
S1AP Protocol	

Field	Description
class	Lists the configuration of each cause code entry, organized by class (miscellaneous, nas, protocol, radio, trasnport), for this Cause Code Group.

show lte-policy foreign-plmn-guti-mgmt-db name

Table 398: show lte-policy foreign-plmn-guti-mgmt-db name Command Output Descriptions

Field	Description
Foreign PLMN GUTI Management DB *name*	
PLMN	Lists the management database PLMN entries and the configuration of each entry.

show lte-policy ho-restrict-list name

Table 399: show lte-policy ho-restrict-list name Command Output Descriptions

Field	Description
forbidden tracking areas	Lists the PLMN IDs which are part of the handover restriction list.
forbidden location areas	Lists the PLMN IDs which are part of the handover restriction list.

show lte-policy lte-emergency-profile name

Table 400: show lte-policy lte-emergency-profile name Command Output Descriptions

Field	Description
ue-validation-level	Indicates the type of UE that can use the emergency bearer service through this profile.
apn	Indicates the name and PDN type of the access point name (APN) used for emergency PDN connections. If enabled, the configured restoration priority of 1 through 16 is displayed (1 is highest priority, 16 is lowest).
qos	Indicates the quality of service (QoS) settings for this emergency bearer service.
ambr	Indicates the maximum aggregated uplink and downlink bitrate values for this profile.
FQDN PGW	Indicates the Fully Qualified Domain Name of the P-GW to be used for emergency bearer services through this profile.

Field	Description
STATIC PGW	Indicates the static IP address, protocol, and weight of the P-GW to be used for emergency bearer services through this profile.
LCS QOS	Indicates the configuration of the **lcs-qos** command for this LTE emergency profile. This displays the location service QoS settings to be used for this emergency profile. Horizontal Accuracy: The horizontal positioning accuracy value. Vertical Accuracy: The vertical positioning accuracy value.
UE Usage Type	Configures UE usage type for disconnecting PDN for up service area
Co-located Node	Configures the collocated node name to select the collocated SPGW node IP addresses.

show lte-policy tai-mgmt-db name

Table 401: show lte-policy tai-mgmt-db name Command Output Descriptions

Field	Description
attach-only	Specifies the SGW preference for SGW-relocation.

show lte-policy monitoring-event- profile

Table 402: show lte-policy monitoring-event-profile Command Output Descriptions

Field	Description
Loss of connectivity	Indicates the enabled events of Loss of connectivity event configuration.
UE Reachability	Indicates the enabled events of UE Reachability event configurations.
Location Reporting	Indicates the enabled events of reporting location event configurations.
Communication Failure	Indicates the current session statistics of Radio connection status failure events.
Availability after DDN Failure	Indicates the current session statistics of Availability after DDN Failure event configuration.
Idle Status Indication Failure	Indicates the enabled events of Idle status indication event configurations.
PDN Connectivity Status Report	Indicates that the enabled events of PDN connectivity status event configuration.
Number Of UE's in Geo Area	Indicates the received Number of UEs present in a geographic area event configuration.
Roaming Support	Indicates whether roaming support is enabled or disabled for Interworking SCEF destination host or realm.

show lte-policy paging-map name

Table 403: show lte-policy paging-map name Command Output Descriptions

Field	Description
Paging Map *n*	
Precedence	Indicates the order in which the MME checks the entries for this paging-map.
Traffic Type	Indicates the traffic type such as CS, PS, SIGNALING and sub-type that is specified for this paging-map.
Paging profile	Indicates the paging-profile to be used for this traffic type.
Precedence	Displays the configured precedence value.
Packet-Switched(PS)	Displays the paging is for Packet-Switched traffic.
APN	Displays the configured APN profile name.
ARP	Displays the configured ARP value.
Paging is performed as per paging-profile <name>	Displays the paging profile name.

show lte-policy paging-profile name

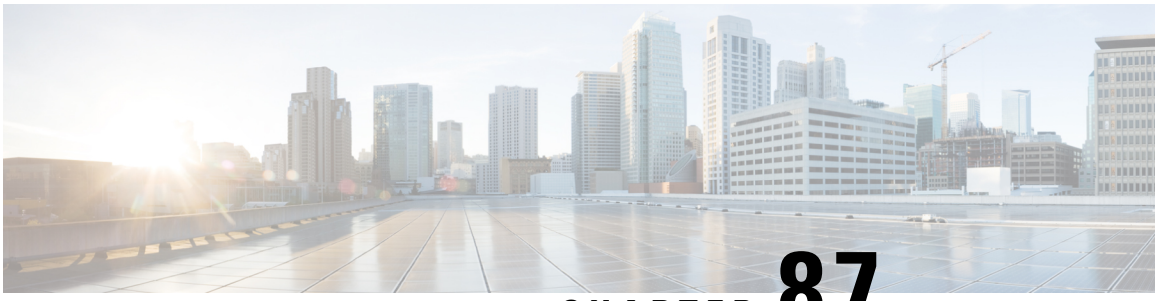
Table 404: show lte-policy paging-profile name Command Output Descriptions

Field	Description
Paging Profile *n*	
Paging Stage *n*: Lists all Paging Stages configured for this Paging Profile.	
Paging Action	Indicates how the paging request should be formed. Possible options are: • all-enb-all-tai • all-enb-last-tai • last-n-enb-last-tai
Match Criteria	Indicates the criteria for selecting a given paging stage. Possible options are: • ue-contact-time • all
T3413-Timeout	Indicates the time interval in seconds between paging requests.
Max Paging Retries	Indicates the number of paging requests to be sent out during this paging stage.

show lte-policy tai-mgmt-db name

Table 405: show lte-policy tai-mgmt-db name Command Output Descriptions

Field	Description
TAI Management DB *n*	
Time Zone	Indicates the time zone settings to be used for the UE timezone in S11 and NAS messages.
Short Network Name	Indicates the short network name to be used in the Short network name IE in the EMM Information message sent by the MME.
Long Network Name	Indicates the full (long) network name to be used in the Long network name IE in the EMM Information message sent by the MME.
TAI Management Object	The name of the TAI managment object and all configured options for the object. For each TAI Management Object, the following information is displayed, if configured: • Time Zone • Zone Code • IMS Voice over PS support • LAI (Location Area Identifer) • TAI (Tracking Area Identifier) • RAI (Routing Area Identifier) • SGW IP address, protocol, and weight priority infomation • Full and/or Short Network Name
Access-Type NB-IoT	Displays the configured access type. The show output displays whether all the TACs configured belong to either WB-EUTRAN or NB-IoT RAT. It is also possible that some of the configured TACs belong to WB-EUTRAN and the rest belong to NB-IoT RAT.
UE Usage Type	Configures UE usage type for disconnecting PDN for up service area
Co-located Node	Configures the collocated node name to select the collocated SPGW node IP addresses.



CHAPTER 87

show mag-service

This chapter includes the **show mag-service** command output tables.

- show mag-service statistics, on page 1423

show mag-service statistics

Table 406: show mag-service statistics Command Output Descriptions

Field	Description
Binding Update Sent	
Total	The total number of all binding updates sent by this system or the specified service.
Init Request Xmit	The total number of initial request transmit binding updates sent by this system or the specified service.
Init Request Re-Xmit	The total number of initial request retransmit binding updates sent by this system or the specified service.
Renew Request Xmit	The total number of renew request transmit binding updates sent by this system or the specified service.
Renew Request Re-Xmit	The total number of renew request retransmit binding updates sent by this system or the specified service.
Dereg Request Xmit	The total number of deregistration request transmit binding updates sent by this system or the specified service.
Dereg Request Re-Xmit	The total number of deregistration request retransmit binding updates sent by this system or the specified service.
Binding Acknowledgement Rcvd	
Total	The total number of all binding acknowledgments received by this system or the specified service.
Errors	The total number of all binding acknowledgments, with errors, received by this system or the specified service.

Field	Description
Accepted	The total number of all binding acknowledgments received, and accepted by this system or the specified service.
Denied	The total number of all binding acknowledgments received, but denied by this system or the specified service.
Init Accepted	The total number of initial binding acknowledgments received at MAG with Success code.
Init Reply Rcvd	The total number of all binding acknowledgments - initial reply received by this system or the specified service.
Renew Reply Rcvd	The total number of all binding acknowledgments - renew reply received by this system or the specified service.
Dereg Reply Rcvd	The total number of all binding acknowledgments - deregistration reply received by this system or the specified service.
Denied by LMA	
Insufficient Resources	The total number of binding updates sent by this system or the specified service but denied by the LMA due to insufficient resources.
Mismatched ID	The total number of binding updates sent by this system or the specified service but denied by the LMA due to mismatched IDs.
MN Auth Failure	The total number of binding updates sent by this system or the specified service but denied by the LMA due to mobile node authorization failures.
Admin Prohibited	The total number of binding updates sent by this system or the specified service but denied by the LMA due to admin prohibited conditions.
Msg ID Required	The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing message IDs.
DAD Failed	The total number of binding updates sent by this system or the specified service but denied by the LMA due to DAD failures.
Not Home Subnet	The total number of binding updates sent by this system or the specified service but denied by the LMA due to incorrect home subnet.
Sequence Out Of Window	The total number of binding updates sent by this system or the specified service but denied by the LMA due to sequence out of window conditions.
Reg Type Change Disallowed	The total number of binding updates sent by this system or the specified service but denied by the LMA due to registration type change disallowed.
Unspecified Reason	The total number of binding updates sent by this system or the specified service but denied by the LMA due to unspecified reasons.
Service-Authorization Failed	The total number of binding updates sent by this system or the specified service but denied by the LMA due to failed service authorizations.

Field	Description
Proxy Reg Not Enabled	The total number of binding updates sent by this system or the specified service but denied by the LMA due to proxy registration not being enabled.
Timestamp Mismatch	The total number of binding updates sent by this system or the specified service but denied by the LMA due to timestamp mismatches.
Timestamp Lower Than Expected	The total number of binding updates sent by this system or the specified service but denied by the LMA due to lower than expected timestamps.
Missing MN-ID Option	The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing mobile node ID options.
Missing HNP Option	The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing HNP options.
Missing Access Tech Option	The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing access technology options.
Missing Handoff Ind Option	The total number of binding updates sent by this system or the specified service but denied by the LMA due to missing handoff indication options.
Not Authorized For HNP	The total number of binding updates sent by this system or the specified service but denied by the LMA due to not being authorized for HNP.
Not LMA For Mobile	The total number of binding updates sent by this system or the specified service but denied by the LMA due incorrect LMA for mobility.
Not Authorized For Proxy Reg	The total number of binding updates sent by this system or the specified service but denied by the LMA due to not being authorized for proxy registration.
BCE Prefix Do Not Match	The total number of binding updates sent by this system or the specified service but denied by the LMA due to BCE prefix mismatches.
Binding Acknowledgement Error Reason	
Missing HNP	The total number of binding acknowledgements with missing HNP errors received by this system or the specified service.
Missing NAI	The total number of binding acknowledgements with missing NAI errors received by this system or the specified service.
Home Address Conflict	The total number of binding acknowledgements with home address conflict errors received by this system or the specified service.
Matching Request Not Found	The total number of binding acknowledgements with matching requests not found errors received by this system or the specified service.
Badly Formed	The total number of binding acknowledgements with badly formed message errors received by this system or the specified service.
Checksum Error	The total number of binding acknowledgements with checksum errors received by this system or the specified service.

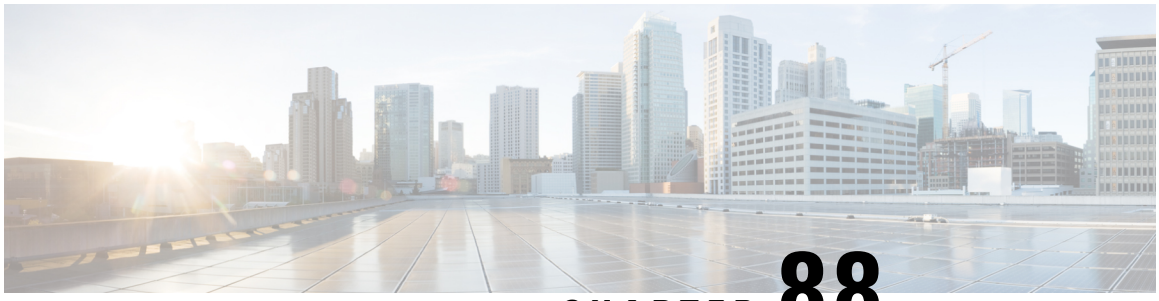
Field	Description
Session Not Found	The total number of binding acknowledgements with session not found errors received by this system or the specified service.
Wrong LMA Address	The total number of binding acknowledgements with wrong LMA address errors received by this system or the specified service.
Binding Revocation	
Sent	The total number of binding revocations sent by this system or the specified service.
Retries Sent	The total number of binding revocation retries sent by this system or the specified service.
Ack Rcvd	The total number of binding revocation acknowledgements received by this system or the specified service.
Not Acknowledged	The total number of binding revocations sent, but not acknowledged, by this system or the specified service.
Rcvd	The total number of binding revocations received by this system or the specified service.
Ack Sent	The total number of binding revocation acknowledgements sent by this system or the specified service.
Received Binding Revocation Trigger Reasons	
Unspecified	The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Unspecified" revocation trigger reason.
Administrative Reason	The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Administrative Reason" revocation trigger reason.
Inter-MAG Handoff-Same ATT	The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Inter-MAG Handoff-Same ATT" revocation trigger reason.
Inter-MAG - Unknown Handoff	The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Inter-MAG - Unknown Handoff" revocation trigger reason.
Inter-MAG Handoff-Diff ATT	The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Inter-MAG Handoff-Diff ATT" revocation trigger reason.
Per-Peer Policy	The total number of Binding Revocation Indication (BRI) messages received by the MAG with a "Per-Peer Policy" revocation trigger reason.
Revoking Node Local Policy	The total number of Binding Revocation Indication (BRI) messages received by the MAG with a "Revoking Node Local Policy" revocation trigger reason.
User Initiated Session Term	The total number of Binding Revocation Indication (BRI) messages received by the MAG with a "User Initiated Session Term" revocation trigger reason.
Access Network Session Term	The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Access Network Session Term" revocation trigger reason.

Field	Description
Out-of Sync BCE State	The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Out-of Sync BCE State" revocation trigger reason.
Unknown	The total number of Binding Revocation Indication (BRI) messages received by the MAG with an "Unknown" revocation trigger reason.
Sent Revocation ACK Status	
Success	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Success" status.
Partial-Success	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Partial-Success" status.
Binding-Does-Not-Exist	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Binding-Does-Not-Exist" status.
No IPv4-HoA-Bind	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "No IPv4-HoA-Bind" status.
Global-Revoc-Not-Authorized	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Global-Revoc-Not-Authorized" status.
Revoc-MN-ID-Required	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Revoc-MN-ID-Required" status.
Revoc-Failed-MN-Attached	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Revoc-Failed-MN-Attached" status.
Trigger-Not-Supported	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Trigger-Not-Supported" status.
Proxy-Bind-Rev-Not-Supported	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Proxy-Bind-Rev-Not-Supported" status.
Revoc-Func-Not-Supported	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with a "Revoc-Func-Not-Supported" status.
Unknown	The total number of Binding Revocation Acknowledgement (BRA) messages sent by the MAG with an "Unknown" status.
Binding Revocation Indication Discarded	
Total	The total number of binding revocation acknowledgements received and discarded by this system or the specified service.
Session Not Found	The total number of binding revocation acknowledgements received and discarded, due to a session not found condition, by this system or the specified service.
Badly Formed Request	The total number of binding revocation acknowledgements received and discarded, due to a badly formed request condition, by this system or the specified service.

Field	Description
Decode Error	The total number of binding revocation acknowledgements received and discarded, due to a decode error condition, by this system or the specified service.
Checksum Error	The total number of binding revocation acknowledgements received and discarded, due to a checksum error condition, by this system or the specified service.
Invalid Message Type	The total number of binding revocation acknowledgements received and discarded, due to a invalid memory type condition, by this system or the specified service.
No Memory	The total number of binding revocation acknowledgements received and discarded, due to insufficient memory, by this system or the specified service.
Wrong LMA Address	The total number of binding revocation acknowledgements received and discarded, due to wrong LMA address condition, by this system or the specified service.
Tunnel Data Received	
Total Packets	The total number of tunnel packets received by this system or the specified service.
6in6 4in6 IPv6 GRE (IPv4) IPv6 GRE (IPv6)	The total number of IPv6-in-IPv6 tunnel packets received by this system or the specified service. The total number of IPv4-in-IPv6 tunnel packets received by this system or the specified service. The total number of IPv4-in-IPv6 GRE tunnel packets received by this system or the specified service. The total number of IPv6-in-IPv6 GRE tunnel packets received by this system or the specified service.
Total Bytes	The total number of tunnel bytes received by this system or the specified service.
6in6 4in6 IPv6 GRE (IPv4) IPv6 GRE (IPv6)	The total number of IPv6-in-IPv6 tunnel bytes received by this system or the specified service. The total number of IPv4-in-IPv6 tunnel bytes received by this system or the specified service. The total number of IPv4-in-IPv6 GRE tunnel bytes received by this system or the specified service. The total number of IPv6-in-IPv6 GRE tunnel bytes received by this system or the specified service.
Errors	
Protocol Type Error	The total number of protocol type data errors received by this system or the specified service.
Invalid Pkt Length	The total number of invalid packet length data errors received by this system or the specified service.
No Session Found	The total number of no session found data errors received by this system or the specified service.

Field	Description
Tunnel Data Sent	
Total Packets	The total number of tunnel packets sent by this system or the specified service.
6in6 4in6 IPv6 GRE (IPv4) IPv6 GRE (IPv6)	The total number of IPv6-in-IPv6 tunnel packets sent by this system or the specified service. The total number of IPv4-in-IPv6 tunnel packets sent by this system or the specified service. The total number of IPv4-in-IPv6 GRE tunnel packets sent by this system or the specified service. The total number of IPv6-in-IPv6 GRE tunnel packets sent by this system or the specified service.
Total Bytes	The total number of tunnel bytes sent by this system or the specified service.
6in6 4in6 IPv6 GRE (IPv4) IPv6 GRE (IPv6)	The total number of IPv6-in-IPv6 tunnel bytes sent by this system or the specified service. The total number of IPv4-in-IPv6 tunnel bytes sent by this system or the specified service. The total number of IPv4-in-IPv6 GRE tunnel bytes sent by this system or the specified service. The total number of IPv6-in-IPv6 GRE tunnel bytes sent by this system or the specified service.
LMA Fallback Support Stats	
LMA Fallback Attempted	The total number of attempted P-GW fallbacks by this system or the specified service.
LMA Fallback Success	The total number of successful P-GW fallbacks by this system or the specified service.
LMA Fallback Failure	The total number of failed P-GW fallbacks by this system or the specified service.
Demux Update Failure	The total number of demux update failures during P-GW fallback by this system or the specified service.
Alternate PGW Not Found	The total number of times an alternate P-GW was not found during P-GW fallback by this system or the specified service.
PGW Rejects	The total number of P-GW rejections received during P-GW fallback by this system or the specified service.
PGW Timeouts	The total number of P-GW timeouts during P-GW fallback by this system or the specified service.
Total Disconnects/Failures	

Field	Description
Lifetime expiry	The total number of disconnects due to lifetime expiry initiated by this system or the specified service.
Access Initiated Term	The total number of disconnects due to deregistrations initiated by this system or the specified service.
Admin Drops	The total number of disconnects due to admin drops initiated by this system or the specified service.
Other Reasons	The total number of disconnects due to "other reasons" initiated by this system or the specified service.
LMA Revocations	The total number of disconnects due to LMA revocations received by this system or the specified service.



CHAPTER 88

show mbms bearer-service

This chapter includes the **show mbms bearer-service** command output tables.

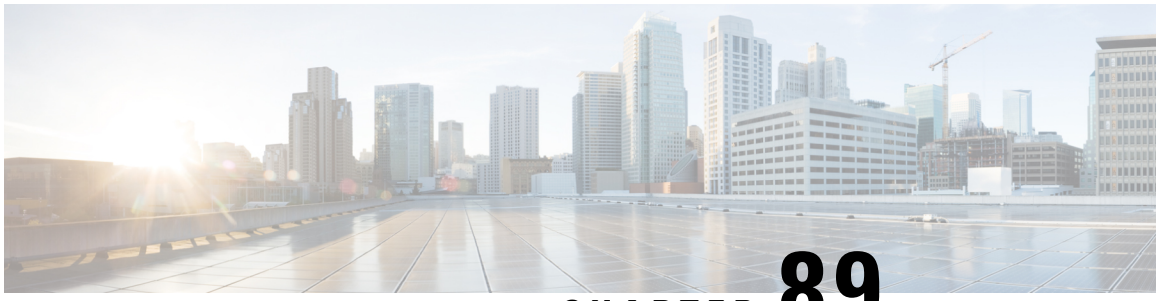
- show mbms bearer-service full all, on page 1431

show mbms bearer-service full all

Table 407: show mbms bearer-service full all Command Output Descriptions

Field	Description
MBMS Bearer Context ID	Specifies the identifier for bearer context used for MBMs service.
State	Specifies the state of bearer service instance.
Mcast Address	Specifies the IP address of BM-SC (Broadcast Multicast - Service Center) server bind to this instance.
APN	Specifies the name if the APN bind to this bearer instance.
Session Identity	Indicates the identifier for MBMS session active on system.
TMGI	indicates the globally unique Temporary Mobile Group Identity ITMGI) allocated by the BM-SC (Broadcast Multicast - Service Center) per MBMS bearer service.
MBMS Bearer Capabilities	Displays the value to indicate MBMS bearer capabilities in Activate MBMS Context Request message.
Service Area Length	Specifies the length of character string configured to indicate MBMS service area. Service area is the area within which data of a specific MBMS session are sent. Each individual MBMS session of an MBMS Bearer Service may be sent to a different MBMS Service Area.
MBMS 2G/3G indication	Displays the value to indicate type of service networks 2G GPRS network or 3G UMTS in Activate MBMS Context Request message.
Counting Info	Displays the value to indicate counting information for message broadcast in MBMS service area.
Session Repetition Number	Indicates the number or times the MBMS session retransmitted the broadcast message.

Field	Description
MBMS-Session-Identity	Specifies the MBMs session identifier.
MBMS-BMSC-SSM-IP	Indicates the IP address configured in IPv4 format with MBMS service and BM-SC server for interface.
Service Type	Specifies the type of service active for this instance of bearer service. Possible values are: UnicastMulticast
Session Started	Indicates whether MBMs service started or not.
BMSC supported user mode	Indicates the supported user mode on BM-SC for this instance of session. It can be Unicast (Broadcast) and/or Multicast.
GGSN selected user mode	Indicates the user mode selected by GGSN for this instance of session. It can be Ucast (Unicast) and/or Mcast (Multicast).
Time to Xfer	Indicates the time taken to transfer the message from system to UE.
Session Duration	Indicates the time elapsed after MBMS session started.
Num MBMS UEs	Indicates total number of UEs connected for this session.
Num MBMS Bearer	Indicates total number of MBMS bearer session instances active for this session.
Quality Of Service	Indicates the configured or updated QoS parameters for this bearer instance.
Traffic Classl	Specifies the class of traffic of active MBMS session. Possible values are: CoversationalStreaming
Maximum Bit Rate Uplink	Indicates the MBR supported/configured for data flow in uplink (to PDN) direction.
Maximum Bit Rate Downlink	Indicates the MBR supported/configured for data flow in downlink (from PDN) direction.
Guaranteed Bit Rate Uplink	Indicates the GBR supported/configured for data flow in uplink (to PDN) direction.
Guaranteed Bit Rate Downlink	Indicates the GBR supported/configured for data flow in downlink (from PDN) direction.
Total Number of MBMS Bearer Services	Indicates the total number of MBMS bearer instances are active.



CHAPTER 89

show mipfa

This chapter includes the **show mipfa** command output tables.

- show mipfa full username, on page 1433
- show mipfa peers fa-service, on page 1435

show mipfa full username

Table 408: show mipfa full username Command Output Descriptions

Field	Description
Username	The subscriber's username.
Callid	The subscriber's call identification number (callid).
MSID	The subscriber's Mobile Station Identification number (MSID).
Num Agent Advt Sent	The total number of agent advertisement messages sent by the FA to the subscriber's mobile node.
Num Agent Solicit Rcvd	The total number of agent solicitation messages received by the FA from the subscriber's mobile node.
Home Address	The IP address assigned to the subscriber's mobile node for the duration of the session.
NAI	The subscriber's Network Access Identifier (NAI).
FA Address	The IP address of the FA that is facilitating the subscriber's Mobile IP session.
HA Address	The IP address of the Home Agent that is facilitating the subscriber's Mobile IP session.
Lifetime	The accepted lifetime interval for this session.
Remaining Lifetime	The amount of time that remains after which the session expires and is torn down.
Reverse Tunneling	Displays whether or not reverse tunneling is implemented for the subscriber's session.
Encapsulation Type	The encapsulation method used for the subscriber's session.

Field	Description
GRE Key	The key that uniquely identifies the subscriber session when the Generic Routing Encapsulation (GRE) protocol Encapsulation Type
IPSec Required	Indicates whether or not IPSec is required for the subscriber Mobile IP session.
IPSec Ctrl Tunnel Estab.	If IPSec is required for the session, this field indicates whether or not the control tunnel has been established.
IPSec Data Tunnel Estab.	If IPSec is required for the session, this field indicates whether or not the data tunnel has been established.
MN-AAA Removal	Shows if mn-aaa-removal-indication is enable or disabled. The possible values are: • enabled • disabled
Proxy MIP	Shows if Proxy Mobile IP is enabled or disabled for this subscriber session. Possible values are: • enabled • disabled
DMU Auth Failures	The total number of failed Dynamic MIP Key Update authentications for this subscriber session.
Send Terminal Verification	Shows if the FA is enabled to send the terminal verification NVSE in the RRQ. for this subscriber session. Possible values are: • enabled • disabled
Revocation Negotiated	Indicates whether or not MIP Registration Revocation was negotiated between the FA and the HA for this subscriber session. Possible values are : • NO • YES
Revocation I Bit Negotiated	Indicates whether or not the Revocation I bit was negotiated. Possible values are : • NO • YES
MN-HA-SPI Present	Status of dynamic MN-HA-SPI received from AAA in RRP for this subscriber session.
MN-HA-SPI	Specifies the dynamic MN-HA Security Parameter Index (SPI) number received from AAA in RRP for this subscriber session.
FA-HA-SPI Present	Status of dynamic FA-HA-SPI received from AAA in RRP for this subscriber session.

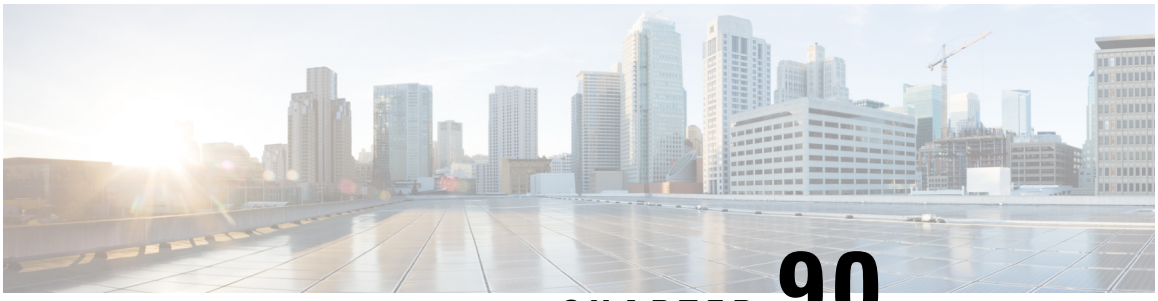
Field	Description
FA-HA-SPI	Specifies the dynamic FA-HA Security Parameter Index (SPI) number received from AAA in RRP for this subscriber session.
FA-HA-Key-Present	The security parameter index (SPI) key used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of the FA - HA key. Options are: • True • False
FA-HA-SPI	FA - HA security parameter index (SPI)
HA-RK-Key-Present	The HA root key (RK) received by the HA from the AAA in the Radius Access-Accept. Checks for presence of HA-RK key. Options are: • True • False Note: True indicates a WiMAX session.
HA-RK-SPI	HA - RK security parameter index (SPI) Note: This field applies to WiMAX sessions only.
HA-RK-Lifetime	The total lifetime applied to an HA-RK. Note: This field applies to WiMAX sessions only.
HA-RK-Remaining-Lifetime	Thew total remaining lifetime for the HA-RK. Note: This field applies to WiMAX sessions only.

show mipfa peers fa-service

Table 409: show mipfa peers fa-service Command Output Descriptions

Field	Description
Context	The name of the context where the FA service is located.
FA Service	The name of the FA service.
Peer Address	The IP address of the peer.
Current Sessions	The number of sessions currently running on the peer.
Total Sessions	The total number of current and past sessions for the peer.
IP Security	Specifies if IP security is enabled or disabled on the peer.

Field	Description
FA-HA Authentication	Specifies if FA-HA authentication is enabled or disabled on the peer.
HA Monitor Status	Specifies if HA monitor is enabled or disabled on the peer.
Total Peers	The total number of peers in the output of this show command.
Total Current Sessions	The total number of sessions across all peers in the output of this show command.



CHAPTER 90

show mipha

This chapter includes the **show mipha** command output tables.

- show mipha statistics ha-service, on page 1437
- show mipha full username, on page 1442
- show mipha peers ha-service, on page 1445

show mipha statistics ha-service

Table 410: show mipha statistics ha-service Command Output Descriptions

Field	Description
HA Service	The name of the HA service for which the statistics are displayed.
MIP AAA Authentication	
Attempts	The number of authentication attempts by the HA including those that are authenticated locally.
Success	The number of authentication attempts completed successfully by the HA including those that are authenticated locally.
Total Failures	The total number of failed AAA authentication attempts that were facilitated.
Actual Auth Failures	The number of AAA authentication attempts that were rejected by the AAA server.
Misc Auth Failures	The number of miscellaneous authorization failures.
Registration Request Received	
Total Received Reg	The total number of registration requests received.
Total Accepted Reg	The total number of registration requests accepted.
Total Denied Reg	The total number of registration requests that were denied.
Total Discarded Reg	The total number of registration requests that were discarded.

Field	Description
Congestion Discarded Reg	The number of requests discarded when congestion control is enabled and the system is in a congested state.
Initial Reg Requests	
Received	The number of initial registration requests received.
Accepted	The number of initial registration requests accepted.
Denied	The number of initial registration requests denied.
Renew Reg Requests	
Received	The number of renewal registration requests received.
Accepted	The number of renewal registration requests accepted.
Denied	The number of renewal registration requests denied.
DeReg Requests	
Received	The number of requests for de-registration received.
Accepted	The number of requests for de-registration accepted.
Denied	The number of requests for de-registration denied.
Handoff Requests	The number of handoff requests by HA for an existing session. • Total: • 3GPP2 => 3GPP2: • 3GPP2 => WiMax: • WiMax => 3GPP2: • WiMax => WiMax:
Received	The number of handoff request received by HA for an existing session.
Accepted	The number of handoff request accepted by HA.
Denied	The number of handoff request denied by HA.
Registration Reply Sent	
Total	The number of registration replies sent.
Accepted Reg	The number of successful registration replies sent.
Accepted DeReg	The number of successful de-registration replies sent.
Denied	The number of denied registration replies sent.
Bad Request	The number of denied registration replies that were sent with a reply code of 86H (Registration Denied - poorly formed request).

Field	Description
Mismatched ID	The number of denied registration replies that were sent with a reply code of 85H (Registration Denied - registration identification mismatch).
MN Auth Failure	The number of denied registration replies that were sent with a reply code of 83H (Registration Denied - mobile node failed authentication).
FA Auth Failure	The number of denied registration replies that were sent with a reply code of 84H (Registration Denied - home agent failed authentication).
Admin Prohibited	The number of denied registration replies that were sent with a reply code of 81H (Registration Denied - administratively prohibited).
No Resources	The number of denied registration replies that were sent with a reply code of 82H (Registration Denied - insufficient resources).
Simul Bindings Exceeded	The number of denied registration replies that were sent with a reply code of 87H (Registration Denied - too many simultaneous mobility bindings).
Unknown HA	The number of denied registration replies that were sent with a reply code of 88H (Registration Denied - unknown home agent address).
Rev Tunnel Unavailable	The number of denied registration replies that were sent with a reply code of 89H (Registration Denied - reverse tunneling unavailable).
Rev Tunnel Mandatory	The number of denied registration replies that were sent with a reply code of 8AH (Registration Denied - reverse tunneling mandatory).
Encap Unavailable	The total number of denied registration replies that were sent with a reply code of 8BH (Registration Denied - reverse tunneling encapsulation style unavailable).
Send Error	The total number of errors that occurred while sending replies.
Unspecified Reason	The total number of denied registration replies that were sent with a reply code of 80H (Registration Denied - reason unspecified).
Unknown CVSE Rcvd	The total number of messages discarded because of an FA reply code of 100 (Critical Vendor Specific Extension Received).
UDP Encap Unavailable	Indicates registration denial caused by unavailable (minimal or GRE) UDP tunnel encapsulation modes.
RRQ Denied Overload/Congestion Control	
Admin Prohibited(reject)	The number of RRQs rejected when congestion control is enabled and the system is in a congested state.
Unknown HA (redirect)	The number of RRQs redirected to an alternate HA when congestion control is enabled and the system is in a congested state.
Registration Revocation	
Sent	Total registration revocation messages sent to the FA.

Field	Description
Retries Sent	Total registration revocation messages re-sent to the FA.
Ack Rcvd	Total registration revocation request acknowledgements received from the FA.
Not Acknowledged	Total registration revocation request messages that timed-out before an acknowledgement was received from the FA.
Rcvd	Total registration revocation request messages received from the FA.
Ack Sent	Total registration revocation request acknowledgements sent to the FA.
P-AAA Messages:	
BC Query Requests:	
Received	The total number of Binding Cache requests received from the proxy-AAA server.
Accepted	The total number of Binding Cache requests received from the proxy-AAA server that were accepted.
Denied	The total number of Binding Cache requests from the proxy-AAA server that were denied.
Discarded	The total number of Binding Cache requests from the proxy-AAA server that were discarded.
BC Query Responses:	
Sent	The total number of Binding Cache responses that were sent to the proxy-AAA server.
BC Found	The total number of Binding Cache responses that were sent to the proxy-AAA server that indicated that the requested binding context was found.
BC Not Found	The total number of Binding Cache responses that were sent to the proxy-AAA server that indicated that the requested binding context was not found.
IP Pool Overflow	The total number of Binding Cache responses that were sent to the proxy-AAA server that indicated that there is an IP Pool overflow condition for the requested binding context.
Miscellaneous	The total number of Binding Cache responses that were sent to the proxy-AAA server that indicated other miscellaneous errors for the requested binding context.
HA-IPSEC Tunnels	
Requests Received	The total number of HA-IPSEC tunnel session requests received.
Initiated	The total number of HA-IPSEC session requests received and initiated.
Denied	The total number of HA-IPSEC session requests received and denied.
Discarded	The total number of HA-IPSEC sessions initiated and discarded.
Connected	The total number of HA-IPSEC sessions initiated and connected.

Field	Description
Failed	The total number of HA-IPSEC sessions initiated, connected and failed.
Tunnel Data Received	
Total Packets	Total number of encapsulated packets received by this system.
IPIP	Total number of IP-in-IP encapsulated packets received by this system.
GRE	Total number of GRE tunneled packets received by this system.
IP-UDP	Total number of IP-in-UDP packets received by the system.
MIP-IPSEC	Total Number of MIP IP Sec packets received by the system.
Total Bytes	Total number of encapsulated bytes received by this system.
IPIP	Total number of IP-in-IP encapsulated bytes received by this system.
GRE	Total number of GRE encapsulated bytes received by this system
IP-UDP	Total number of IP-in-UDP bytes received by the system.
MIP-IPSEC	Total Number of MIP IP Sec bytes received by the system.
Errors	
Protocol Type Error	Total number of encapsulated packets received with protocol type errors.
GRE Key Absent	Total number of GRE tunneled key absent errors received.
GRE Checksum Error	Total number of checksum errors that occurred in GRE tunnels received by this system.
Invalid Packet Length	Total number of encapsulated packets received with invalid packet lengths.
No Session Found	Total number of errors that occurred due to no session being present in received tunnels.
Tunnel Data Sent	
Total Packets	The total number of encapsulated packets sent by this system.
IPIP	The total number of IP-in-IP encapsulated packets sent by this system.
GRE	The total number of GRE encapsulated packets sent by this system.
IP-UDP	Total number of IP-in-UDP packets sent by the system.
MIP-IPSEC	Total Number of MIP IP Sec packets sent by the system.
Total Bytes	The total number of encapsulated bytes sent by this system.
IPIP	The total number of IP-in-IP encapsulated bytes sent by this system.
GRE	The total number of GRE encapsulated bytes sent by this system
IP-UDP	Total number of IP-in-UDP bytes sent by the system.

Field	Description
MIP-IPSEC	Total Number of MIP IP Sec bytes sent by the system.
Total Disconnects	The total number of sessions that were disconnected.
Lifetime expiry	The total number of sessions that were disconnected due to the expiration of their lifetime setting.
Deregistrations	The total number of sessions that were disconnected due to de-registrations.
Admin Drops	The total number of sessions that were disconnected due to an administrative clearing of calls (i.e. executing the **clear subscribers** command).
FA Revocations	The total number of disconnects that were due to revocations received from the FA.
IPSEC Tunnel Down	The total number of sessions that were disconnected due to IPSEC tunnels down.
Stale Key Disconnect	The number of sessions that were disconnected due to a Stale Key.
Other Reasons	The total number of disconnects that were due to reasons other than those already listed.
HA Monitoring	
Monitor RRQ Received	The total number of HA monitor request messages received by this HA due to inactivity.
Monitor RRP Sent	The total number of HA monitor response messages sent by this HA.
DMU Refresh Key	
Attempted	The number of Dynamic Mobile IP Key Update refreshes attempted.
Invalid Packets	
Discarded	The number of invalid packets discarded

show mipha full username

Table 411: show mipha full username Command Output Descriptions

Field	Description
Username	Subscriber's username
Callid	Subscriber's call identification number
MSID	Subscriber's mobile station identification number (MSID)
Home Address	IP address assigned to the subscriber's mobile node for the session
HA Address	IP address of the HA facilitating the subscriber's MIP session

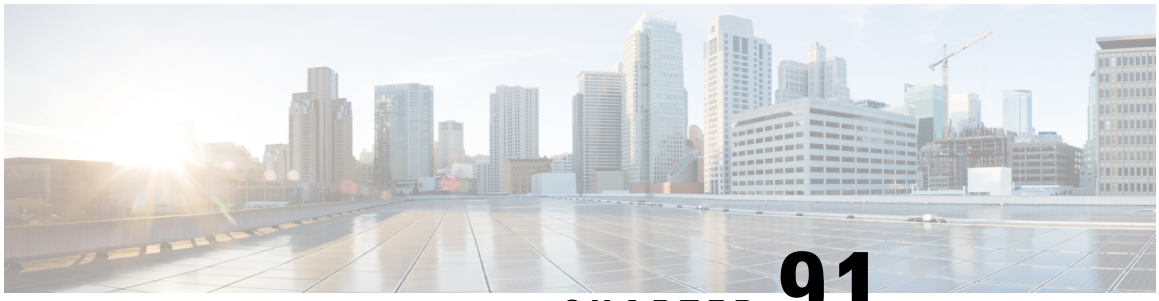
Field	Description
Send NAI Extension in Revocation Message	Indicates whether or not an NAI extension is sent in a revocation message for this user. Options are: • No • Yes
Binding #	The mobility binding record (MBR) number associated with a particular subscriber session. Since it is possible for a single subscriber to have multiple bindings, information for each of the subscriber's binding records will be displayed according to the MBR number.
Care of Address	The IP address of the device terminating the tunnel to the mobile node. The address may belong to either a Foreign Agent that is facilitating the subscriber's Mobile IP session or another device that the mobile node is associated (co-located) with.
FA Address	The IP address of the Foreign Agent that is facilitating the subscriber's Mobile IP session.
Lifetime	The maximum amount of time that the subscriber's session can remain registered.
Remaining Life	The amount of time that is currently available to the subscriber to remain registered.
Reverse Tunneling	Displays whether or not reverse tunneling is enabled for the subscriber's session.
Encapsulation Type	The encapsulation method used for the subscriber's session.
GRE Key	The key that uniquely identifies the subscriber session when the Generic Routing Encapsulation (GRE) protocol Encapsulation Type
IPSec Required	Indicates whether or not IPSec is required for the subscriber Mobile IP session.
IPSec Ctrl Tunnel Estab.	If IPSec is required for the session, this field indicates whether or not the control tunnel has been established.
IPSec Data Tunnel Estab.	If IPSec is required for the session, this field indicates whether or not the data tunnel has been established.
Revocation Negotiated	Indicates whether or not MIP Registration Revocation was negotiated between the FA and the HA for this subscriber session. Options are: • No • Yes
Rev I bit Negotiated	Indicates whether or not the Revocation I bit was negotiated. Possible values are : • No • Yes

Field	Description
Colocated COA	Indicates whether or not the subscribers that registered a MIP colocated COA directly with the HA. Options are: • No • Yes
NAT Detected	Indicates whether or not network address translation (NAT) is detected.Options are: • No • Yes
MN-HA-Key-Present	The security parameter index (SPI) key used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of mobile node (MN) - home agent (HA) key. Options are: • True • False
MN-HA-SPI	Mobile node (MN) - home agent (HA) security parameter index (SPI).
FA-HA-Key-Present	The security parameter index (SPI) key used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of the FA - HA key. Options are: • True • False
FA-HA-SPI	FA - HA security parameter index (SPI)
HA-RK-Key-Present	The HA root key (RK) received by the HA from the AAA in the Radius Access-Accept. Checks for presence of HA-RK key. Options are: • True • False Note: True indicates a WiMAX session.
HA-RK-SPI	HA - RK security parameter index (SPI) Note: This field applies to WiMAX sessions only.
HA-RK-Lifetime	The total lifetime applied to an HA-RK. Note: This field applies to WiMAX sessions only.
HA-RK-Remaining-Lifetime	Thew total remaining lifetime for the HA-RK. Note: This field applies to WiMAX sessions only.

show mipha peers ha-service

Table 412: show mipha peers ha-service Command Output Descriptions

Field	Description
Context	The name of the context where the HA service is located.
HA Service	The name of the HA service.
Peer Address	The IP address of the peer.
Current Sessions	The number of sessions currently running on the peer.
Total Sessions	The total number of current and past sessions for the peer.
IP Security	Specifies if IP security is enabled or disabled on the peer.
FA-HA Authentication	Specifies if FA-HA authentication is enabled or disabled on the peer.
Total Peers	The total number of peers in the output of this show command.
Total Current Sessions	The total number of sessions across all peers in the output of this show command.



CHAPTER 91

show mipv6ha

This chapter includes the **show mipv6ha** command output tables.

- show mipv6ha-service all, on page 1447
- show mipv6ha statistics, on page 1448

show mipv6ha-service all

Table 413: show mipv6ha-service all Command Output Descriptions

Field	Description
Service Name	The mipv6ha service name.
Context	The context in which the service is configured.
Bind	The bind status.
Max Subscribers	The maximum number of subscribers.
Local IPv6 Address	IPv6 address of the server where this service is located.
Lifetime	The accepted lifetime interval for this session.
Simul Bindings	Specifies the maximum number of "care-of" addresses that can simultaneously be bound for the same user as identified by NAI and Home address.
Setup Timeout	The session setup timeout duration.
Sequence Number Validation	Specifies the sequence number validation of the received MIPV6 control packet by the Home Agent (HA) as per RFC 3775.
Refresh Advice Option	Displays the refresh advice option in the binding acknowledgements sent by the home agent.
Refresh Interval Percent	Displays the amount of the granted lifetime to be used in the refresh interval mobility option in Binding Acknowledgement sent by the HA.
Timestamp Replay Protection	Displays the acceptable difference in timing (between timestamps) before rejecting packet.

Field	Description
Timestamp Tolerance	Total variation allowed in timestamp mismatch.
Default Subscriber	Name of the default subscriber.
AAA accounting	Displays if AAA accounting is enabled or disabled.
Service Status	Status of this service.
Newcall Policy	Specify that the new call policy enabled or disabled to handle new calls. Possible values are: • NONE • REJECT

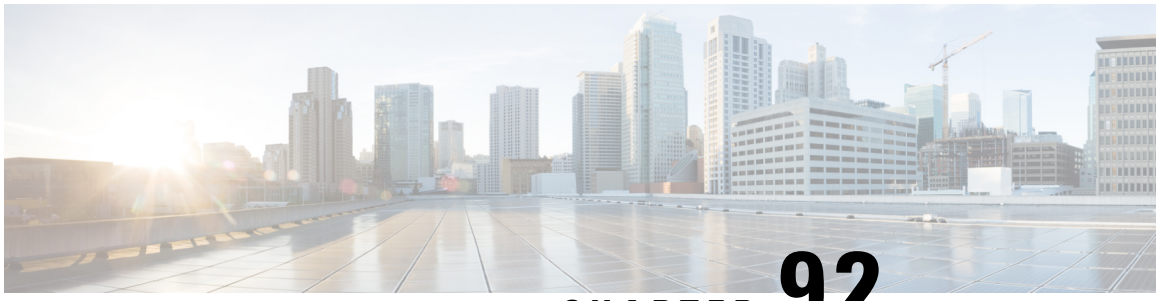
show mipv6ha statistics

Table 414: show mipv6ha statistics Command Output Descriptions

Field	Description
MIP AAA Authentication:	
Attempts:	Total MIP AAA Au the tic at ion attempts.
Success:	Total MIP AAA Authentication attempts that were successful.
Total Failures:	Total MIP AAA Au the tic at ion attempts that failed.
Actual Auth Failures:	Actual number of MIP AAA Au the tic at ion that failed.
Misc Auth Failures:	Total number of MIP AAA Au the tic at ion that failed.
Binding Updates Received:	
Total Received:	Total number of Binding Updates that were received.
Total Accepted:	Total number of Binding Updates that were accepted.
Total Denied:	Total number of Binding Updates that were denied.
Total Discarded:	Total number of Binding Updates that were discarded.
Congestion Discarded Reg:	The total number of requests discarded when congestion control is enabled and the system is in a congested state.
Initial Binding Update Requests:	
Received:	Total number of Initial Binding Update Requests that were received.
Accepted:	Total number of Initial Binding Update Requests that were accepted.

Field	Description
Denied:	Total number of Initial Binding Update Requests that were denied.
Refresh Binding Update Requests:	
Received:	Total number of Refresh Binding Update Requests that were received.
Accepted:	Total number of Refresh Binding Update Requests that were accepted.
Denied:	Total number of Refresh Binding Update Requests that were denied.
DeReg Requests:	
Received:	Total number of requests for de-registration that were received.
Accepted:	Total number of requests for de-registration that were accepted.
Denied:	Total number of requests for de-registration that were denied.
Handoff Requests:	
Received:	Total number of requests for handoffs that were received.
Accepted:	Total number of requests for handoffs that were accepted.
Denied:	Total number of requests for handoffs that were denied.
Binding Acknowledgements Sent:	
Total:	Total number of requests for Binding Acknowledgements.
Accepted Reg:	The total number of registration requests accepted.
Accepted DeReg:	The total number of deregistration requests accepted.
Denied:	The total number of registration requests denied.
Send Error:	The total number of errors that occurred while sending replies.
Binding Update Deny Reasons:	
Insufficient Resources:	The total number of binding update requests that were denied because of insufficient resources.
Mismatched ID:	The total number of binding update requests that were denied because of a mismatched ID.
MN Auth Failure:	The total number of binding update requests that were denied because of a MN authentication failure.
Admin Prohibited:	The total number of registration requests that were denied due to being administratively prohibited.
Msg ID Required:	The total number of bind update denied with status code 91H (Mesg-Id-Required).

Field	Description
DAD Failed:	The total number of bind update denied with status code 86H (Duplicate Address Detection failed).
Not Home Subnet:	The total number of bind update denied with status code 84H (Not Home Subnet)
Sequence Out Of Window:	The total number of bind update denied with status code 87H (Sequence number Out of Window).
Reg Type Change Disallowed:	The total number of bind update denied with status code 8BH (Registration Type change disallowed).
Unspecified Reason:	The total number of bind update denied with status code 80H (Reason Unspecified).
Update Denied - Insufficient Resource Reasons:	The total number of binding update requests that were denied because of Insufficient Resources.
No Session Manager:	The total number of binding update requests that were denied due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly.
Binding Updates Discard Reasons:	
Congestion Discarded:	HAMGR discards when configured to drop packets on congestion
Checksum Error:	v6HA driver discard on checksum failure for BU packet
Initial Auth Pending:	V6HA driver discard when retry BU's are received. Discarded packet is included as part of Init/Renew/Dereg/Handoff request counters as packet is discarded before processing them in detail.
Session Not Found:	When HAMGR forwards RRQ for existing session but session is not found in Sessmgr
HAMGR Not Ready:	When HAMGR is not yet ready and packet buffering limit is exceeded
Decode Failure:	When BU packet decoding fails in HAMGR.
Invalid Buffer Length:	When there is mismatch in BU packet buffer length and expected length.



CHAPTER 92

show mme

This chapter includes the **show mme** command output tables.

- show mme-service all, on page 1451
- show mme-service db record all, on page 1468
- show mme-service db record imsi, on page 1469
- show mme-service db statistics, on page 1473
- show mme-service enodeb-association full, on page 1474
- show mme-service id summary, on page 1475
- show mme-service msc-status [mme-service-name *name* | msc-name *name*], on page 1475
- show mme-service name <mme_svc_name>, on page 1476
- show mme-service name <mme_svc_name> offload statistics, on page 1476
- show mme-service session all, on page 1477
- show mme-service session counters, on page 1478
- show mme-service session full, on page 1482
- show mme-service session full all | grep Paging, on page 1488
- show mme-service session summary, on page 1495
- show mme-service sgw-blockedlist [mme-service-name] [smgr-instance], on page 1496
- show mme-service statistics, on page 1496
- show mme-service statistics 5gs-interworking, on page 1554
- show mme-service statistics decor, on page 1555
- show mme-service statistics decor decor-profile <profile_name>, on page 1558
- show mme-service statistics lte-emergency-profile , on page 1561
- show mme-service statistics paging-profile profile-name <paging_profile_name>, on page 1562
- show mme-service statistics recovered-values, on page 1563
- show mme-service statistics tai, on page 1564
- show update-bearer-request-stats, on page 1574

show mme-service all

Table 415: show mme-service all Command Output Descriptions

Field	Description
Service name	The name of the MME service configured and running on the system.

Field	Description
Context	The name of the VPN context in which MME service configured and running on the system.
Status	Indicates whether MME service is started or not.
Bind	Indicates whether an S1-MME reference point is bound to an interface in the configured MME service or not.
Dynamic TAL Depth	Displays the configured number of unique historic entries in a Tracking Area List (TAL).
S1-MME IP Address	The IP address of the chassis on which MME service is configured. This is the S1-MME interface IP address of MME service.
Crypto-Template Name	The configured crypto-template name associated with the MME service.
Max Subscribers	The configured number of subscribers allowed on the MME service.
S1-MME sctp port	The source port number for SCTP communication. This source SCTP port will be used for binding the SCTP socket to communicate with the eNodeB using S1-MME with this MME service
MME Code	The MME identifier in EPC networks. This is used to construct the MME identifier.
MME Group	The MME group identifier in EPC networks. This works as a group of MMEs in a shared network. The MME group is used to construct the MME identifier.
PLMN Id	The Public Land Mobile Network identifier of which this MME service belongs to. It contains Mobile Country Code (MCC) and Mobile Network Code (MNC).
PS-LTE Operation	Displays whether the MME service has been enabled for Public Service LTE (PS-LTE) mode (as configured by the**ps-lte** command). If enabled, this field also displays the IPv4 or IPv6 address for the S11 interface of the co-located S-GW as configured by the same command.
Network-Global-MME-ID-Mgmt-DB	The LTE Network Global MME ID Management Database to which this MME Service is associated. This management database is used to manage associations between PLMN IDs and MME group ID ranges.
Foreign-PLMN-GUTI-Mgmt-DB	The LTE Foreign PLMN GUTI Management Database to which this MME Service is associated. This management database is used to control the acceptance or immediate reject of Attach Requests and TAU Requests containing a GUTI from a specific PLMN.
EGTP Context	The name of the VPN context in which Evolved GPRS Tunnelling Protocol (eGTP) service is configured and associated with this MME service to configure different interfaces with MME. Typically it is the destination context on system.
EGTP Service	The name of the Evolved GPRS Tunnelling Protocol (eGTP) service which is associated with this MME service to configure different interfaces with MME.
EGTP Sv Context	The name of the context in which the egtp-sv-service is configured.
EGTP Sv Service	The name of the eGTP Sv service associated with the MME service.
SGTPC Context	The name of the context in which the sgtpc-service is configured.

Field	Description
SGTPC Service	The name of the SGTPC service associated with the MME service.
MME HSS Context	The name of the context in which the HSS peer service is configured.
MME HSS Service	The name of the HSS peer service that communicates with an HSS associated with this MME service.
SGS Context	The name of the context in which the SGs service is configured.
SGS Service	The name of the SGs service associated with this MME service.
SMSC Context	The name of the context in which the SMSC service is configured.
SMSC Service	The name of the name of the SMSC service associated with the MME service.
Location Service	The name of the Location Service (SLg interface) associated with this MME service.
Max bearers per MS	The maximum number of bearers per MS allowed with in this MME service. This can be configured between 1 and 11. By default 11 bearers supported per MS.
Max PDNs per MS	The maximum number of PDNs per MS allowed with in this MME service. This can be configured between 1 and 3. By default 3 bearers supported per MS.
Peer MME GUMMEI	Displays the IP addresses of peer MMEs looked up using GUMMEI during handovers between any radio access technology and the E-UTRAN.
Peer MME TAI	Displays the configured TAI Management Database name associated with the service used for peer MME selection.
Peer SGSN RAI	Displays the parameters configured for peer SGSN discovery using the Routing Area Identity.
Peer SGSN RNCID	Displays the parameters configured for peer SGSN discovery using the Radio Network Controller ID.
NRI Length	Displays the NRI length entries configured for this MME service. If none are configured, the display shows "None".

Field	Description
PGW	This group The parameters related to Packet Data Network Gateway (P-GW), which is selected by this MME service for providing PDN connectivity to subscribers. This group contains following parameters: • **Address**: The IP address of P-GW which is selected by this MME service for providing PDN connectivity to subscribers. • **S5-S8 Protocol**: The protocol configured to communicate between Serving Gateway (S-GW) and P-GW on S5 and S8 interface. P-MIP and GTP can be configured on this interface. By default GTP is supported on this interface. • **Ue-usage-Type**: Configures UE usage type for disconnecting PDN for up service area. • **Collocated-node**: Configures the Collocation name to select the collocated S/PGW node IP addresses and/or P-GW Node name for 5GS Interworking. **Note** PGW Node name should be configured under **Collocated-node** for 5GS interworking with N26 interface. This configuration allows the **P-GW Node Name** to include the configured name in **Context Response** and **Forward relocation Request Response** messages from MME to AMF over N26 interface. • **Smf-combined**: Configures a combined P-GW and SMF. • **Weight**: The weight allotted the selected P-GW for selection of P-GW by MME service.
SGW Pool	Displays the configured TAI Management Object name associated with the service used for creating S-GW pools that, in turn, are used for S-GW selection.
Peer MME DNS Context	The name of the context where the DNS configuration resides for peer MME associations and discoveries.
Peer SGSN DNS Context	The name of the context where the DNS configuration resides for peer SGSN associations and discoveries.
PGW DNS Context	The name of the context in which the DNS service configured to locate and select the P-GW by this MME Service.
Send EMM Info for Periodic TAU	Indicates whether the EMM information for periodic TAU is enabled or disabled.
Access Type	Indicates the access type—WB-EUTRAN, NB-IOT, or WB-EUTRAN and NB-IOT.
SGW DNS Context	The name of the context in which the DNS service is configured to locate and select the S-GW by this MME Service.
DNS MSC Context	The name of the context in which the DNS service is configured to locate and select the MSC by this MME Service.
SMSC Context	The name of the context in which the SMSC service is associated to the MME service.

Field	Description
Implicit Detach Timeout	The timeout duration in seconds after which subscriber will implicitly be detached from the network if there is no activity. This value can be configured from 1 second to 3600 seconds. By default timeout duration for this timer is 3600 seconds. This timer starts when mobile reachable timer expires while the network is in EMM-IDLE mode and Idle mode Signaling Reduction (ISR) is activated and stops when NAS signalling connection established. Note: Generally this timer value is 240 seconds (4 minutes) more than the timeout value of T3423 timer.
T3346 Timeout	Displays the timeout duration configured for the T3346 timer. This timer can be configured to any value from 0 to 18600 seconds. Default: 1500 seconds (25 minutes). If an EMM request is rejected by MME because of congestion, it shall have EMM cause as congestion (#22) and shall include back-off timer (T3346) IE. The back-off timer shall be chosen randomly and shall be 10% below or above the configured T3346 timer value.
T3412 Timeout	Displays the timeout duration configured for the T3412 timer. This timer is used for periodic tracking area update (P-TAU). When this timer expires, the periodic tracking area updating procedure starts and the timer is set to its initial value for the next start. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the UE goes from EMM-CONNECTED to EMM-IDLE mode and stops when the UE returns to EMM-CONNECTED mode.
T3412 Extended Timeout	Displays the timeout duration configured for the T3412 extended timer. This timer is used for periodic tracking area update (P-TAU). This timer helps the MME to reduce network load from periodic TAU signaling and to increase the time until the UE detects a potential need for changing the RAT or PLMN. This timer can be configured to any value from 0 to 1116000 seconds. Default: 3600 seconds (60 minutes).
T3413 Timeout	Displays the timeout duration configured for the T3413 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. The timer starts when MME initiates the EPS paging procedure to the EMM entity in the network and requests the lower layer to start paging. This timer stops for the paging procedure when a response is received from the UE.
T3422 Timeout	Displays the timeout duration configured for the T3422 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the MME initiates the detach procedure by sending a DETACH REQUEST message to the UE and stops upon receipt of the DETACH ACCEPT message.
T3423 Timeout	Displays the timeout duration configured for the T3423 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the UE enters the EMM-DEREGISTERED state or when entering the EMM-CONNECTED mode. It stops while the UE is in EMM-REGISTERED-NO-CELL-AVAILABLE state and Idle mode Signaling Reduction (ISR) is activated.

Field	Description
T3450 Timeout	Displays the timeout duration configured for the T3450 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the MME initiates the Globally Unique Temporary Identifier (GUTI) reallocation procedure by sending a GUTI REALLOCATION COMMAND message to the UE and stops upon receipt of the GUTI REALLOCATION COMPLETE message. This timer is also used for tracking area update procedures.
T3460 Timeout	Displays the timeout duration configured for the T3460 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. The timers starts when the network initiates the authentication procedure by sending an AUTHENTICATION REQUEST message to the UE and stops upon receipt of the AUTHENTICATION RESPONSE message.
T3470 Timeout	Displays the timeout duration configured for the T3470 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. The timers starts when the network initiates the identification procedure by sending an IDENTITY REQUEST message to the UE and stops upon receipt of the IDENTITY RESPONSE message.
ISDA Guard Timeout	Specifies the expiry time to wait to receive the UEs current location information.
ISDA Location Validity Time	Specifies the expiry time for the age of the UE's location information. During this time, if the EPS Location Information with current location is requested in the ISDR, the MME does not process a location procedure with the eNodeB, but sends the location information from the cache.
Mobile Reachable Timeout	Displays the timeout duration after which the reachability procedure will be discarded and a reattempt starts. This duration can be configured to any value between 1 and 20 seconds. By default it is 4 second.
T3396 Timeout	Displays the timeout duration configured for the T3396 timer. This timer can be configured to any value from 0 to 18600 seconds. Default: 1500 seconds (25 minutes). If an ESM request is rejected because of congestion, the rejects shall have ESM cause #26: "Insufficient resources" and the MME will include the back-off timer IE (T3396). The back-off timer shall be chosen randomly and shall be 10% below or above the configured T3396 timer value.
T3485 Timeout	Displays the timeout duration configured for the T3485 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer is used for default EPS bearer context activation procedure. This timer starts when the MME sends an ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message to the UE and stops when it receives an ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT or ACTIVATE DEFAULT EPS BEARER CONTEXT REJECT message from the UE.

Field	Description
T3486 Timeout	Displays the timeout duration configured for the T3486 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the MME sends a MODIFY EPS BEARER CONTEXT REQUEST message to the UE and stops when it receives a MODIFY EPS BEARER CONTEXT ACCEPT or REJECT message from the UE.
T3495 Timeout	Displays the timeout duration configured for the T3495 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer is used for default EPS bearer context deactivation procedure. This timer starts when the MME sends a DEACTIVATE EPS BEARER CONTEXT REQUEST message to the UE and stops when it receives a DEACTIVATE EPS BEARER CONTEXT ACCEPT or DEACTIVATE EPS BEARER CONTEXT REJECT message from the UE.
T3489 Timeout	Displays the timeout duration configured for the T3489 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the MME sends an ESM INFORMATION REQUEST message to the UE and stops when it receives an ESM INFORMATION RESPONSE message from the UE.
TC1N Timeout	Displays the timeout duration configured for the TC1N timer. This timer can be configured to any value between 1 and 20 seconds. By default, it is 5 seconds.
TR1N Timeout	Displays the timeout duration configured for the TR1N timer. This timer can be configured to any value between 1 and 300 seconds. By default, it is 30 seconds.
TR2N Timeout	Displays the timeout duration configured for the TR2N timer. This timer can be configured to any value between 1 and 300 seconds. By default, it is 30 seconds.
MT Queue Timeout	Displays the timeout duration configured for the MT Queue timer. This timer can be configured to any value between 1 and 300 seconds. By default, it is 30 seconds.
CP Data Max Retransmissions Count	Displays the number of times CP Data for SMS is retransmitted.
HO Resource Release Timeout	Displays the configuration of the **ho-resource-release-timeout** command. This is the amount of time in milliseconds that the MME will hold on to bearers and E-RABs after an S1-based handover has been initiated. When this timer expires, the source MME will send a UE Context Release to the source eNodeB. Refer to 3GPP TS 23.401 Section 5.5.1.2.2 for additional information about the use of this timer.

Field	Description
Encryption Algorithms	The encryption algorithm and its priority applied for security procedures through this MME service. It indicates following settings: • **Priority**: The priority set for applied encryption algorithm. The least value has the highest preference. Possible priority values are between 1 to 3. • **Algorithm**: The applied encryption algorithm. Possible algorithms are: • **128-eea0**: Null ciphering algorithm (128-EEA0) for LTE encryption as the encryption algorithm for security procedures. This is the default encryption algorithm applicable for security procedures. • **128-eea1**: SNOW 3G synchronous stream ciphering algorithm (128-EEA1) for LTE encryption as the encryption algorithm for security procedures. • **128-eea2**: Advance Encryption Standard (AES) ciphering algorithm (128-EEA2) for LTE encryption as the encryption algorithm for security procedures. • **128-eea3**: ZUC algorithm (128-EEA3) for LTE encryption as the encryption algorithm for security procedures. By default, the **128-eea0** encryption algorithm is applicable.
Integrity Algorithms	The priority and the integrity algorithm applied for security procedures through the MME service. It indicates the following settings: • **Priority**: The priority set for the applied integrity algorithm. The least value has the highest preference. Possible priority values are between 1 to 3. • **Algorithm**: The applied integrity algorithm. Possible algorithms are: • **128-eia0**: Null ciphering algorithm (128-EIA0) for LTE integrity as the integrity algorithm for security procedures. • **128-eia1**: SNOW 3G synchronous stream ciphering algorithm (128-EIA1) for LTE integrity as the integrity algorithm for security procedures. • **128-eia2**: Advance Encryption Standard (AES) ciphering algorithm (128-EIA2) for LTE encryption as the integrity algorithm for security procedures. This is the default encryption algorithm applicable for security procedures. • **128-eia3**: ZUC algorithm (128-EIA3) for LTE integrity as the integrity algorithm for security procedures.
Setup Timeout	The setup timeout duration configured for call setup for MME calls. Range: 1 to 10000. Default: 60 seconds

Field	Description
UE DB Purge Timeout	The configured timeout duration in minutes to purge UE record from UE database which is maintained by MME as cache of EPS context per UE keyed by IMSI/GUTI to allow UE to attach by GUTI and reuse previously established security parameters. This cache will be maintained in each session manager where the first attach occurred for an UE and purge after configured timeout period expires. Range: 1 to 20160. Default: 10080 mins
Maximum paging attempts	Indicates number of paging attempts configured in an MME service to send for an UE while in idle mode. Range: 1 to 10 Default: 3
Policy for Idle Mode Detach	Displays the configured user policy in an MME service for detach procedure when a UE is in IDLE mode. Possible actions are: • Explicit: Detach procedure starts after paging the UE • Implicit: Detach procedure starts without paging the UE Default: Implicit detach
NAS Max Retransmissions Count	Displays the configured maximum number of retransmissions for each configured NAS message.
Set UE Time (attach processing)	Displays the configuration of the **set-ue-time** keyword in the **policy attach** command. Possible states are Enabled or Disabled. If enabled, this field also shows the preference for delivery of EMM information message to the UE, either MME Preferred or MSC Preferred.
Reject attach with non-3GPP char APN	Displays whether the feature is enabled or disabled at MME to reject APNs with non-standard characters in Attach request.
Reject pdn connect with non-3GPP char APN	Displays whether the feature is enabled or disabled at MME to reject APNs with non-standard characters in PDN Connect request.
IMEI Query (attach processing)	Displays the mobile equipment identity query type for the UE related procedure configured in the attach policy in the MME service. Possible actions are: • IMEI: System configured to use International Mobile Equipment Identity as query type for UE related procedures. • IMEI-SV: System configured to use International Mobile Equipment Identity (IMEI) - Software Version (SV) as query type for UE related procedures. • None: System configured to not to use any type, neither IMEI or IMEI-SV, as query type for UE related procedures. Default: None

Field	Description
EIR Query (attach processing)	Displays the Equipment Identity Register query status in the attach policy configuration for the MME service. Possible states are Enabled or Disabled.
Deny-greylisted (attach processing)	Displays whether the MME will deny a call if the equipment is determined to be on the grey list during the attach procedure. By default, this option is disabled; the MME will allow this call to go through. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Deny-unknown (attach processing)	Displays whether the MME will deny a call if the Equipment Identity Register responds with EQUIPMENT STATUS UNKNOWN to a Mobile Identity Check Request during the attach procedure. By default, this option is disabled; the MME will allow the call to go through. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Allow-ECA timeout (attach processing)	Displays whether the MME will allow a call to go through if no response is received from an Equipment Identity Register for a Mobile Identity Check Request during the attach procedure. By default, this option is disabled; the MME will deny this call. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Verify Emergency (attach processing)	Displays whether the MME will query the EIR for equipment status during Emergency attach processing. By default, this option is disabled. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Set UE Time (TAU processing)	Displays the configuration of the **set-ue-time** keyword in the **policy tau** command. Possible states are Enabled or Disabled. If enabled, this field also shows the preference for delivery of EMM information message to the UE, either MME Preferred or MSC Preferred.
IMEI Query (TAU processing)	Displays the mobile equipment identity query type for the UE related procedure configured in the TAU policy in the MME service. Possible actions are: • IMEI: System configured to use International Mobile Equipment Identity as query type for UE related procedures. • IMEI-SV: System configured to use International Mobile Equipment Identity (IMEI) - Software Version (SV) as query type for UE related procedures. • None: System configured to not to use any type, neither IMEI or IMEI-SV, as query type for UE related procedures. Default: None
EIR Query (TAU processing)	Displays the Equipment Identity Register query status in the TAU policy configuration for the MME service. Possible states are Enabled or Disabled.

Field	Description
Deny-greylisted (TAU processing)	Displays whether the MME will deny a call if the equipment is determined to be on the grey list during the TAU procedure. By default, this option is disabled; the MME will allow this call to go through. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Deny-unknown (TAU processing)	Displays whether the MME will deny a call if the Equipment Identity Register responds with EQUIPMENT STATUS UNKNOWN to a Mobile Identity Check Request during the TAU procedure. By default, this option is disabled; the MME will allow the call to go through. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Allow-ECA timeout (TAU processing)	Displays whether the MME will allow a call to go through if no response is received from an Equipment Identity Register for a Mobile Identity Check Request during the TAU procedure. By default, this option is disabled; the MME will deny this call. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Verify Emergency (TAU processing)	Displays whether the MME will query the EIR for equipment status during Emergency TAU processing. By default, this option is disabled. To enable this option, refer to the **verify-equipment-identity** option of the **policy attach** command.
Initial Context Setup Failure-TAU	Displays the behavior of the MME when an initial context failure is received from the eNodeB during the processing of a TAU request. By default, the MME moves the UE to IDLE MODE. The MME can optionally be configured to detach the UE when a specific cause code is returned from the eNodeB. The MME matches this cause code against those defined in the specified "Cause Code Group <name>". To configure this setting, refer to the **initial-context-setup-failure** option of the **policy tau** command.
Initial Context Setup Failure-Svc Req	Displays the behavior of the MME when an initial context failure is received from the eNodeB during the processing of a service request or extended service request. By default, the MME detaches the UE. The MME can optionally be configured to move the UE to Idle Mode when a specific cause code is returned from the eNodeB. The MME matches this cause code against those defined in the specified "Cause Code Group <name>". To configure this setting, refer to the **initial-context-setup-failure** option of the **policy tau** command.
PDN reconnect type	Displays the PDN reconnect type as configured for the MME service. Possible values are multiple, reject, or restart.
Newcall Policy	Indicates whether the policy to handle new call requests for busy-out conditions on MME service is configured or not. If configured, by default it will be set to reject the new calls during busy-out condition.

Field	Description
Policy Overload	The configured policy for system to act on any new session/call request when system is crossing the threshold limits of sessions/calls in an MME service. Possible actions are: • **Drop**: Drops the packets incoming with new session requests to avoid overload on MME node • **Reject**: Rejects the new session/call request and responds with a reject message when threshold for allowed call session is crossed on MME node
Location Reporting	Displays the configuration of the Location Reporting function for the service. Possible configurations are Enabled or Disabled.
CSG Change Notification	Displays the configuration of Closed Subscriber Group notification to the SGW/PGW for the service. Possible configurations are Enabled or Disabled.
Heuristic Paging	Displays the configuration of the Heuristic Paging function for the service. Possible configurations are Enabled or Disabled.
Heuristic Paging Map	Displays the paging-map that is associated with the MME service.
ISR Capability	Displays the configuration of the Idle mode Signaling Reduction (ISR) feature. Possible configurations are Enabled or Disabled.
Policy Sctp-Down	Displays the configuration of the SCTP-Down policy function for the service. Possible configurations are Detach-UE or Idle-Mode-Entry.
Policy Inter-RAT Indirect Fwd Tunnels	Display whether indirect forwarding is allowed during 3G to 4G handovers. Possible states are Enabled or Disabled. This field shows the configuration of the **policy inter-rat indirect-forwarding-tunnels** command.
Policy Inter-RAT Ignore SGSN ContextID	Displays whether the MME to configured to ignore any Context-ID mismatch between HSS and HLR and to use the Context-ID from the HSS to override the Context-ID from the source SGSN. If this option is disabled (default), the MME will drop the PDN when there is a Context-ID mismatch. This field shows the configuration of the **policy inter-rat ignore-sgsn-context-id** command.
Policy Inter-RAT Select Topologic SGW	Displays whether the MME to configured to determine and select the topologically-closest S-GW to the P-GW for Gn/Gp handoff scenarios. This field shows the configuration of the **policy inter-rat select-topologic-sgw** command.
Policy S1-Reset	Displays the configuration of the S1-Reset policy function for the service. Possible configurations are Detach-UE or Idle-Mode-Entry.
Overcharge Protection	Displays the configuration of the Overcharging Protection feature, either "Not configured" or, when enabled, the configured S1-AP cause code group name.
Relative Capacity	Displays the configuration of the Relative Capacity function for the service. This field displays a number between 0 and 255 representing the weight of the MME to the eNodeB for load balancing pools of MMEs.
Trap S1 Initial Establishment	Displays whether traps will be sent for every initial S1 connection between the MME and the eNodeB. Possible states are Enabled or Disabled.

Field	Description
Trap S1 Path Establishment	Displays whether a trap will be sent when the S1 Path is established.
ENodeB Cache Timeout	Shows the time in minutes the ENodeB information is cached after the ENodeB terminates a connection.
Subscriber Map	Displays the name of the subscriber map associated with the service.
Lte Emergency Profile	Displays the name of the lte emergency profile associated with the mme-service. In order to support LTE emergency services, an lte emergency profile must be configured under lte-policy and be associated with the mme-services.
Network (Across All RATs)	Displays the configuration of the Network policy function for the service. Possible configurations are Dual Addressing Supported or Dual Addressing Not Supported.
Inter-RAT Mapping RNCID to eNBID	Displays the configuration specifying how Inter-RAT Target RNC-ID fields are mapped to Target eNodeB-ID fields. Possible values are maptype-default-includes-only-enb (default) and maptype1-includes-enb-tai.
MME Manager Recovery	Displays the configuration of the MME Manager Recovery function for the service. Possible configurations are Reset S1 Peers or No Reset S1 Peers.
GTPv2 Piggybacking	Displays the configuration of the GTPv2 Piggybacking function for the service. Possible configurations are Enabled or Disabled.
Important The following fields are only available in 12.2 and earlier releases.	
MME Offloading	Specifies if MME offloading is enabled or disabled.
MME Init Release Timeout	The timeout for triggering the IDLE MODE ENTRY procedure with cause "Load balancing TAU required" for UEs that are ECM_CONNECTED. This field is only visible if MME offloading is enabled.
MME Paging Init Timeout	The timeout for triggering the PAGING procedure for UEs that are ECM_IDLE. After bringing the UE back to ECM_CONNECTED, the IDLE MODE ENTRY procedure is triggered with the cause "Load balancing TAU required". This field is only visible if MME offloading is enabled.
Important The previous fields are only available in 12.2 and earlier releases.	
S1 MME IP QOS DSCP	Displays the diffserv code point marking to be used for sending packets of a particular QoS class between the MME and eNodeB as configured in the MME service.
S1AP SCTP Parameters	
SCTP Param Template Associated	Displays the name of the SCTP Parameter Template associated with the service.
SCTP Param Timestamp	Displays the time when the SCTP Parameter Template was associated with the MME service.

Field	Description
SCTP Alpha	Displays the SCTP Retransmission Timeout (RTO) alpha value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Beta	Displays the SCTP Retransmission Timeout (RTO) beta value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Checksum Type	Displays the SCTP checksum type as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are ADLER32 or CRC32.
SCTP Valid Cookie Lifetime	Displays the SCTP cookie lifetime value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Max Assoc Retrans	Displays the maximum number of retransmissions for SCTP associations value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Max Number of In Streams	Displays the maximum number of incoming streams for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Init Retransmissions	Displays the maximum number of retransmissions for SCTP initiations value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Max MTU	Displays the maximum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Max Number of Out Streams	Displays the maximum number of outgoing streams for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Path Retransmissions	Displays the maximum number of retransmissions for SCTP paths value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Min MTU	Displays the minimum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP RTO Initial	Displays the initial time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP RTO Max	Displays the maximum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP RTO Min	Displays the minimum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Sack Frequency	Displays the frequency for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.

Field	Description
SCTP Sack Period	Displays the period of time for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Start MTU	Displays the initial Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Heartbeat Status	Displays the SCTP heartbeat status as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are Enabled or Disabled.
SCTP HeartBeat Timer	Displays the SCTP heartbeat timer value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Bundle Status	Displays the SCTP data chunk bundle status as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are Enabled or Disabled.
SCTP Bundle Timer	Displays the SCTP data chunk bundle timer value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Alternate Accept Flag	Displays the SCTP additional lifetime accept flag status as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are Enabled or Disabled.
MSC	Configuration of the SRVCC MSC Server for this MME service. This is the MSC server that the MME will use to interface with for the Sv interface. MSC selection using DNS will take precedence over locally configured MSCs. MSC address will be used only when DNS-based selection is not configured OR DNS selection fails.
MSC Echo Parameters	Indicates the MSC parameter value for the following: • interval • retransmission timeout • max retransmissions • reconnect interval
NAS GMM QOS Mapped From	Displays which QOS the MME uses in NAS GMM QoS IE and GTPv1 Context response messages when the subscriber comes to MME via a handover from a GN/GP SGSN. Possible options are "Native EPS QOS" (default) or "Gn/Gp Peer SGSN QOS". Refer to the MME Service configuration command **nas gmm-qos-ie-mapping** for more information.
Condition Restricted zone code	Displays the emm-cause-code to be returned to the UE when the UE requests access to a restricted zone. This field has been renamed to *Restricted Zone Code* in 15.0 and later releases.

Field	Description
Condition Congestion	Displays the emm-cause-code to be returned to the UE when the system has detected a congestion condition. This field has been renamed to *Congestion* in 15.0 and later releases.
Condition Newcall policy restrict	Displays the emm-cause-code to be returned to the UE when the policy restricts new calls. This field has been renamed to *Newcall policy restrict* in 15.0 and later releases.
Restricted zone code	Displays the emm-cause-code to be returned to the UE when the UE requests access to a restricted zone during an EMM procedure.
Congestion	Displays the emm-cause-code to be returned to the UE when the system has detected a congestion condition during an EMM procedure.
Newcall policy restrict	Displays the emm-cause-code to be returned to the UE when the policy restricts new calls.
APN mismatch	Displays the emm-cause-code to be returned to the UE when the system has detected an APN mismatch condition during an EMM procedure.
VLR down	Displays the emm-cause-code to be returned to the UE when the system has detected a VLR down condition during an EMM procedure.
VLR unreachable	Displays the emm-cause-code to be returned to the UE when the system has detected a VLR unreachable condition during an EMM procedure.
Auth failure	Displays the emm-cause-code to be returned to the UE when an authentication failure occurs.
PEER NODE unknown	Displays the emm-cause-code to be returned to the UE when peer node resolution is not successful.
CTXT transfer fail SGSN	Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer SGSN occurs.
CTXT transfer fail MME	Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer MME occurs.
HSS unavailable	Displays the emm-cause-code to be returned to the UE when HSS resolution fails in the MME or the HSS does not respond in time.
SGW selection failure	Displays the emm-cause-code to be returned to the UE when a failure occurs during S-GW selection.
PGW selection failure	Displays the emm-cause-code to be returned to the UE when a failure occurs during P-GW selection.
GW unreachable Attach	Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM Attach procedure.
GW unreachable TAU	Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM TAU procedure.
NO bearers active	Displays the emm-cause-code to be returned to the UE when the context received from a peer SGSN (during a TAU procedure) does not contain any active PDP contexts

Field	Description
APN not supported PLMN-RAT esm-proc	Displays the configured cause code for APN not supported PLMN-RAT in esm-proc.
APN not supported PLMN-RAT Attach	Displays the configured cause code for APN not supported PLMN-RAT for attach requests.
APN not supported PLMN-RAT TAU	Displays the configured cause code for APN not supported PLMN-RAT for TAU requests.
S13-additional-id-check:	Displays the configuration for the S13 Additional IMEI check ID feature, which is disabled by default. The following fields the feature is configured to be performed during the listed UE procedure(s).
Attach:	Indicates if S13 Additional IMEI checking is to be performed during UE attaches.
TAU:	Indicates if S13 Additional IMEI checking is to be performed during tracking area updates.
Handover:	Indicates if S13 Additional IMEI checking is to be performed during UE handovers.
Extended DRX:	
H-SFN Start	Displays the start time at which H-SFN=0 starts in the GPS or UTC time format. The UTC time format is **YYYY:MM:DD:hh:mm:ss**. For example: 2016:03:01:12:34:56.
H-SFN UTC Reference	Displays the reference time at which H-SFN=0 starts in the UTC time format **YYYY:MM:DD:hh:mm:ss**. For example: 1982:1:1:1:1:1.
Adjusted time	Displays the number of leap seconds configured.
SGW Blacklist Parameters	Specifies the configured S-GW Blacklist parameters.
timeout	Specifies the period of time the blacklisted S-GW cannot be used for call procedures. The timeout value is an integer ranging from 5 to 86400 seconds.
msg-timeouts-per-min	Specifies the configured number of message timeouts to wait, before blacklisting an S-GW locally in a session manager instance. Only Create Session Response timeout is considered. The number of messages is an integer ranging from 1 to 5000.
S1 UE Retention	
S1 UE Retention	
S1 UE Retention Timer	Specifies the timer value for retaining an SCTP association.
DDN Delay Value	Specifies the downlink-data-notification delay value in multiples of 50 milliseconds.
EPS Network	
5GS to EPS handover using N26 interface	When this feature is enabled under N1 mode, the MME allows 5GS-EPS interworking with N26 interface.
Peer AMF GUAMI	Configures Globally Unique AMF Identifier for this Peer.
Peer AMF TAI	Configures 5GS Tracking Area Information match for this Peer AMF.

Field	Description
buffer-ubreq-from-3g-to-4g	Displays the enabled and disabled bearer response during 3G-4G GnGp HO and TAU process.

show mme-service db record all

Displays the MME database records for all sessions.

Table 416: show mme-service db record imsi Command Output Descriptions

Field	Description
DB Record State	Displays the current state of the db record: • (C) - Connected • (c) - Connecting • (D) - Detached
Integrity Algorithm	Displays the integrity algorithm applied for security procedures for this subscriber: • **(S) - EIA1**: SNOW 3G synchronous stream ciphering algorithm (128-EIA1). • **(A) - EIA2**: Advance Encryption Standard (AES) ciphering algorithm (128-EIA2). • **(N) - EIA0**: No integrity protection.
Encryption Algorithms	Displays the encryption algorithm applied for security procedures for this subscriber. • **(S) - EEA1**: SNOW 3G synchronous stream ciphering algorithm (128-EEA1) for LTE encryption. • **(A) - EEA2**: Advance Encryption Standard (AES) ciphering algorithm (128-EEA2) for LTE encryption. • **(N) - EEA0**: No encryption algorithm.
Call ID	The unique call identifier value stored for a subscriber in MME database record as lookup key. Call identity is an 8 digit hex number of attached call to an MME service. Call-id will be zero if the db record is not bound to an attached call.
IMSI	The IMSI (International Mobile Subscriber Identity) value stored for a subscriber in MME database record as lookup key.
GUTI	The Globally Unique Temporary Identifier (GUTI) value stored for a subscriber in MME database record as lookup key. GUTI is constructed with following identifiers: • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI)
REALLOCATED GUTI	This parameter displays the reallocated GUTI if the reallocated GUTI is pending acknowledgement from UE.

show mme-service db record imsi

Displays the MME database records for sessions grouped in session instances on this system and filtered by IMSI.

Table 417: show mme-service db record imsi Command Output Descriptions 0

Field	Description
Sessmgr Instance	The instance of the running Session Manager that serves this MME database.
MME Service	The name of the MME service associated with the database record.
Lookup Keys	This group displays the various lookup key information stored in MME database record for specific Session Manager instance.
IMSI	The IMSI (International Mobile Subscriber Identity) value stored for a subscriber in MME database record as lookup key. IMSI includes the Mobile Country Code (MCC) and Mobile Network Code (MNC).
Service-id	The system-generated service ID number.
GUTI	The Globally Unique Temporary Identifier (GUTI) value stored for a subscriber in MME database record as lookup key. GUTI is constructed with following identifiers: • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI)
Call-ID	The unique call identifier value stored for a subscriber in MME database record as lookup key. Call identity is an 8 digit hex number of attached call to an MME service. Call-id will be zero if the db record is not bound to an attached call.
Subscription Data	This group lists the subscription data available in database record for subscriber.
IMEI	The International Mobile Equipment Identity (IMEI) value stored for a subscriber in MME database record as subscription data of that subscriber.
MSISDN	The MSISDN value stored for a subscriber in MME database record as subscription data of that subscriber.
Context Identifier	Context-identifier sent by the HSS. This represents the default APN.
RFSP Index	Indicates the RAT/Frequency Selection Priority (RFSP) Index sent by the HSS and used to identify a specific Radio Resource Management (RRM) configuration.
Charging characteristic	Indicates the charging characteristics for this subscriber sent by the HSS, for example: normal, prepaid, flat rate.

Field	Description
APN OI Replacement	Indicates the domain name to replace the APN OI when constructing the PDN-GW FQDN upon which to perform DNS queries. This replacement applies for all the APNs in the subscriber's profile.
Oper Determined Barring	Indicates that the status of the operator determined barring.
ICS Indicator	The IMS Centralized Services indicator set in the ULA, either (0) false/disabled, or (1) true/enabled.
CSG IDs	A list of all CSG IDs from the subscription data.
Max Req Bandwidth UL	The maximum bandwidth requested for upload for this UE (UE_AMBR_UL).
Max Req Bandwidth DL	The maximum bandwidth requested for download for this UE (UE_AMBR_DL).
EMM backoff Expiry Time	Displays the configuration of the extended t3346 timer.
Subscribed Periodic RAU TAU Timer Value	Displays the configuration of the extended t3412 timer.
ARD:	The following fields display either 'True' or 'False' to indicate configured subscriber ARD values received from the HSS.
UTRAN-not-allowed	True or False
GERAN-not-allowed	True or False
GAN-not-allowed	True or False
I-HSPA-Evolution-not-allowed	True or False
E-UTRAN-not-allowed	True or False
HO-To-Non-3GPP-Access-not-allowed	True or False
Dual-connectivity-NR-not-allowed	Displays True or False to identify if the ARD received from HSS indicates the DCNR feature is allowed for the given IMSI or not.
NR-in-5GS-Not-Allowed	Displays True or False.
Core Network Restrictions	This group displays core network restrictions data stored in MME database record.
5GC-not-allowed	Displays Trure or False.
Trace Data	This group displays trace data if it is provided as part of the UE subscription data from the HSS. For information about the trace data provided, refer to section 5 of 3GPP TS 32.422.
APN Config	This group displays the APN configuration data stored in MME database record.
Service Selection	The name of the APN selected.
Max Req Bandwidth UL	The maximum bandwidth requested for upload for this APN.

Field	Description
Max Req Bandwidth DL	The maximum bandwidth requested for download for this APN.
QoS Class Id	The QoS Class Identifier (QCI) configured for this APN. If the MME has not received the QCI from the HSS, "Not Available" will be displayed.
Priority level	The traffic priority level configured for this APN.
Context Identifier	The context identifier where APN is configured.
VPLMN Dynamic ADDR allowed	Indicates whether dynamic address is allowed for visiting PLMN or not.
3GPP-Chrg Characteristics	The configured charging characteristics for this APN.
PDN-GW Name	The name of the P-GW where this APN is configured.
PDN-GW Realm	The realm of the P-GW which contains the configuration for this APN.
PDN-GW Address	The IP address of the P-GW which contains the configuration for this APN.
APN Restoration Priority	Displays the priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN) where 1 is highest priority, 16 is lowest.
Interworking 5GS Indicator	Indicates whether the Interworking 5GS indicator is subscribed or not subscribed.
UE Tracking Information: Last Reported 5 eNBs (most recent first)	The following information is reported per eNB: • IMSI • eNB • Last Reported ECI • Last Update
UE Tracking Information: Last Reported 7 ECGIs (most recent first)	The following information is reported per ECGI: • Last Reported ECI • eNB • IMSI • Last Update
HSS-DB Data	This group displays HSS Database data information.
HSS Update Type	Displays the update type the MME must respond to when the HSS makes a request for UE reachability when the UE moves from idle-mode to connected mode. Possible update types are: • Notify Request: Specifies that the HSS will send the MME a Notify Request message and expect a Notify Response message in return. • Update Location Request: Specifies that the HSS will send a Cancel Location Request or a Reset Request message and expect an Update Location Request message in return. Cancel Location Request and Reset Request have a higher precedence then Notify Request, hence an Update Location Request is sent if a Cancel Location Request or Reset Request is received after a Notify Request, and a Notify Response is not sent.

Field	Description
ESMLC Location Estimate	This group shows information about the last known location of the UE that was derived using the E-SMLC. Refer to 3GPP TS 29.171 for more details about the information provided.
Location	Provides the Geographic Area information reported for this UE. **Type:** The Geographic Area Description (GAD) reported. **Co-ordinates:** Displays the geographical coordinates of the UE.
Positioning Data	This group displays information about the positioning estimates reported for this UE.
Positioning Data Set	Displays the following location estimate information for the UE: **Type:** Reserved, Reserved-n/w specific methods, Reserved-other technologies, CellId, E-CID, OTDOA, or U-TDOA. **Result:** Displays whether the positioning method was attempted successfully or unsuccessfully. **Used for computation:** Yes or No.
GNSS Positioning	Displays the following location estimate information provided by the Global Navigation Satellite System (GNSS): **Method:** Displays the positioning method used, such as Conventional, UE-Assisted, or UE-Based, or Reserved. **Type:** For example: Galileo, GLONASS, GPS, QZSS, Modernized GPS, SBAS, or Reserved. **Result:** Displays whether the positioning method was attempted successfully or unsuccessfully. **Used:** Displays whether the information reported was used: Yes, No, Multiple methods used, Cannot be determined, or Used to verify, but not to generate location.
Velocity Estimate	**Horizontal:** The reported Bearing and Velocity in kilometers per hour. **Vertical:** The reported Speed and Direction of travel (upward or downward).
Horizontal Uncertainty Speed	The uncertainty of the reported speed. The value gives the uncertainty speed in increments of 1 kilometer per hour, except for N=255 which indicates that the uncertainty is not specified.
Vertical Uncertainty Speed	The uncertainty of the reported speed. The value gives the uncertainty speed in increments of 1 kilometer per hour, except for N=255 which indicates that the uncertainty is not specified.
Requested Accuracy Fulfilled	Indicates if the requested accuracy is fulfilled, either Yes or No.
REALLOCATED GUTI	This group displays reallocated GUTI if the reallocated GUTI is pending acknowledgement from UE.
PLMN	Value of PLMN within the GUTI.
MME Group ID	Value of MME Group Id within the GUTI.

Field	Description
MME Code	Value MME Code within the GUTI.
M-TMSI	Value MTMSI within the GUTI.
GUTI Allocated time	Last GUTI allocated timestamp. This refers to reallocated GUTI time stamp if the Reallocated GUTI is being displayed.

show mme-service db statistics

Table 418: show mme-service db statistics Command Output Descriptions

Field	Description
Total DB record allocated	The total number of database records allocated to MME calls/UE.
Total DB record reactivated	The total number of database records for reactivated MME sessions.
Total DB record detached	The total number of database records for detached MME sessions.
Total DB record purged	The total number of database records for purged MME sessions.
Purge Type	This group The database record statistics for purged session of various types.
Timeout	The total number of sessions purged due to Timeout reason.
DB record limit reached	The total number of sessions purged due to database record limit crossed.
UE not connected	The total number of sessions purged as UE was not connected.
HSS initiated	The total number of sessions purged where purging was initiated by HSS.
IMSImgr initiated	The total number of sessions purged where purging was initiated by IMSI manager.
Others	The total number of sessions purged where purging was happened due to reasons other than listed in this table.
Current DB record count	The total record count in database including all states.
State Connecting	The total record count in database in connecting state.
State Connected	The total record count in database in connected state.
State Detached	The total record count in database in detached state.

show mme-service enodeb-association full

Important In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

Table 419: show mme-service enodeb-association full Command Output Descriptions

Field	Description
MMEMgr	The instance number MME Manager for which the information are displayed here.
Peerid	The identifier of peer MME of which statistic are displayed.
Global ENodeB ID	The global eNodeB identifier which is associated with this peer node.
Assoc Uptime	The uptime of the association between the MME and the eNodeB. The format is 0000d00h00m (where d= day, h=hour, m=minutes) when h > =24 hrs, otherwise it will be displayed as 00h00m00s.
eNodeB Name	The eNodeB name as reported by the eNodeB.
eNodeB Type	The NodeB type, either Home or Macro, as reported by the eNodeB. (HeNB-GW) is listed if this is a Home eNodeB Gateway.
MME Service Name	The name of the MME service running on peer node.
MME Service Address	The IP address which is used by MME service to connect with eNodeB.
MME Service Port	The port number which is used by MME service to connect with eNodeB.
eNodeB Port	The port number of eNodeB which is used by eNodeb to associate with MME service.
eNodeB IP Address(s)	The IP address of eNodeB which is used by eNodeb to associate with MME service.
Crypto-map Name	The name of the crypto map supporting this EnodeB association.
Paging DRX	The paging discontinuous reception set for paging procedure between eNodeB and MME.
Supported TAI(s)	The id of supported Tracking Area Identifier of which this eNodeB and MME belongs too. The Tracking Area Identity is constructed from the MCC (Mobile Country Code), MNC (Mobile Network Code) and TAC (Tracking Area Code).
CSG ID(s)	The closed subscriber groups Ids supported per eNodeB association with an MME service. A Closed Subscriber Group is a collection of cells within an eUTRAN and UTRAN that are open to only a certain group of subscribers. Within a PLMN, a Closed Subscriber Group is identified by a Closed Subscriber Group Identity (CSG-ID). The CSG ID shall be fix length 27 bit value.

Field	Description
S1 Paging Rate Limit	The S1 paging rate limit for the eNodeB as configured using the **network-overload-protection mme-tx-msg-rate-control enb s1-paging** command.
Path Source IP Address	The local MME address to establish the path towards VLR. In case of multiple addresses, the addresses will be shown as separated by space character.
Path Destination IP Address	The VLR (peer) address in the association. In case of multiple addresses, the addresses will be shown as separated by space character.
Path State	The state of the path (Up/Down) based on Heartbeat exchanged over the path.
Flow Id	The flow Id assigned by NPU manager to the path over which the packet will reach the MME manager. This flow ID will be in the range of Flow space created for specific application.

show mme-service id summary

This command displays the current number of MME-assigned and eNodeB-assigned S1AP session IDs.

Table 420: show mme-service id summary 1

Field	Description
Total MME S1AP IDs	The number of MME-assigned session identifiers between the MME and the eNodeB on the S1AP interface.
Total eNB S1AP IDs	The number of eNodeB-assigned session identifiers between the eNodeB and the MME on the S1AP interface.

show mme-service msc-status [mme-service-name *name* | msc-name *name*]

Table 421: show mme-service msc-status [mme-service-name name | msc-name name] Command Output Descriptions

Field	Description
MSC Status	Indicates the status of the MSC.
Name	Indicates the name of the configured MSC.
IP	Indicates the IP address of the MSC.
Node Status	Indicates the node status of the MSC.
Path State	Indicates the path state of the MSC.
MME service name	Indicates the MME service name of the MSC.

Field	Description
Static/DNS IP	Indicates if the MSC has a static IP address or a DNS IP address.

show mme-service name <mme_svc_name>

Displays service and session state information for all sessions currently on the system.

Table 422: show mme-service name <mme_svc_name> Command Output Descriptions

Field	Description
Service name	The name of the MME service configured and running on the system.
Context	The name of the VPN context in which MME service configured and running on the system.
Status	Indicates whether MME service is started or not.
Access Policy	Displays the configured access-policy name. If access-policy is not associated with mme-service, this field displays "Not Defined".
Cell Tracing	Indicates whether realtime cell tracing is enabled or disabled.
Trace Extension	Indicates whether cell trace extension is enabled or disabled.
Non-Broadcast TAI	Displays the configured values for MCC, MNC, and TAC.
DCNR	Indicates whether the DCNR feature is enabled or disabled at MME service.
UE Usage Type	Configures UE usage type for disconnecting PDN for up service area
Co-located Node	Configures the collocated node name to select the collocated SPGW node IP addresses.
Unsecured redirection to GERAN not allowed	Indicates whether the unsecured redirection to GERAN not allowed is enabled or disabled at MME service

show mme-service name <mme_svc_name> offload statistics

This section provides information regarding show commands and/or their outputs in support of load rebalancing (UE offload).

Table 423: show mme-service name <mme_svc_name> offload statistics 2

Field	Description
Current Offload Status	Current offload status of the specified mme-service. Possible values are Not Started, In Progress and Completed.

Field	Description
Implicit Detach Status	The Implicit Detach Status specified in the **mme offload**command. When enabled, if the UE context is not transferred to another MME within 5 minutes then it will be implicitly detached.
Preserve VoLTE subscribers Status	Is displayed as "Enabled" when the keyword **preserve-volte-subscribers** is configured in the mme offload command. The status is displayed as "Disabled", when VoLTE preservation is not configured. By default VoLTE preservation is disabled.
Time Duration Requested	The time-duration value specified in the **mme offload**command (in seconds). This is the maximum allowed time for the offload procedure to complete.
Percentage of Subscribers Requested	The offload-percentage specified in the **mme offload** command (specified as a percentage of all UEs on this mme-service).
Total Number of Subscribers	The total number of UEs on the specified mme-service.
Total Number of Subscribers Marked for Offloading	Displays the total number of subscribers marked for offloading during the current MME offload.
Total Number of Subscribers to be Offloaded	Total number of UEs on the specified mme-service selected for offloading.
Total Cumulative Number of Subscribers Offloaded	Displays the cumulative count of subscribers offloaded.
Total Number of VoLTE Subscribers Preserved	Displays the number of preserved VoLTE subscribers during and after MME offload.
Total Cumulative Number of VoLTE Subscribers Preserved	Displays the total numbers of subscribers preserved before starting the offload timer when the **mme offload** command is executed.
Total Number of Subscribers Offloaded	The total number of UEs which have been successfully offloaded from this mme-service (UE offloading State/Event = Done).
Total Number of Subscribers Received Context Transfer	Total number of UEs which has been successfully context transferred to another MME.
Remaining Time	The number of seconds remaining to complete the offload procedure.

show mme-service session all

Displays service and session state information for all sessions currently on the system.

Table 424: show mme-service session all Command Output Descriptions

Field	Description
Attach Type	Display the attach type that the subscriber is using. The possible access types are: • **A**: Initial EPS • **B**: Combined EPS IMSI • **C**: Handover EPS • **D**: Combined Handover EPS IMSI
Security Status	Displays the security status of the session. The possible call states are: • **A**: No Integrity Check, No Ciphering • **B**: Integrity Check, No Ciphering • **C**: Integrity Check, Ciphering
ESM State	Displays the ESM state of the session. The possible call states are: • **C**: Connected • **I**: Idle
IKEv2/IPSec	Displays if IPSec is used during the session.
CALLID	The EPS subscriber's call identity in 8 digit hex number of connected call to an MME service.
MSID	Displays the EPS subscriber's mobile station identification (MSID) number.
Num PDNs	Displays the total number of PDNs connected for a UE in this session.
Num Bearers	Displays the total number of bearers activated for a UE in this session.

show mme-service session counters

Table 425: show mme-service session counters Command Output Descriptions

Field	Description
Username	Displays the EPS subscriber's username.
Callid	The EPS subscriber's call identity in 8 digit hex number of connected call to an MME service.
MSID	Displays the EPS subscriber's mobile station identification (MSID) number.
EMM Events	This group displays the statistics of all Evolved Mobility Management (EMM) events associated with all MME services on the system.

Field	Description
Authentications	This group displays the all EMM authentication attempts/successes/failures with EMM events associated with all MME services on the system.
Attempted	The total number of EMM authentication attempts made for all MME services on the system.
Success	The total number of successful EMM authentication attempts for all MME services on the system.
Failures	The total number of failed EMM authentication attempts for all MME services on the system.
Tracking Area Update Events	This group displays the all tracking area update (TAU) event attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of EMM TAU attempts made for all MME services on the system.
Success	The total number of successful EMM TAU attempts for all MME services on the system.
Failures	The total number of failed EMM TAU attempts for all MME services on the system.
ECM Events	This group displays the statistics of all EMM Control Management (ECM) events associated with all MME services on the system.
Idle Mode Entry Events	This group displays the all idle mode entry event attempts/successes/failures associated with all MME services on the system.
Service Request Events	This sub-group displays the ECM service request event attempts/successes/ failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **UE Requested Service Request Events** and **NW Initiated Service Request Events** groups.
UE Requested Service Request Events	This group displays the ECM service request event attempts/successes/failures which have been requested by the UE for all MME services on the system.
NW Initiated Service Request Events	This group displays the ECM service request event attempts/successes/failures which have been initiated by the network for all MME services on the system.
Paging Initiation Events	This group displays the all paging initiation event attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for specific ECM event associated with all MME services on the system.
Success	The total number of successful attempts for specific ECM event associated with all MME services on the system.
Failures	The total number of attempts failed for specific ECM event associated with all MME services on the system.

Field	Description
ESM Events	This group displays the statistics of all EPS Session Management (ESM) events associated with all MME services on the system.
PDN Connections	This group displays the all statistics for PDN connection attempts/successes/failures associated with all MME services on the system.
PDN Disconnections	This group displays the all statistics for PDN disconnection attempts/successes/failures associated with all MME services on the system.
Default Bearer Activation	This group displays the all statistics of all default EPS bearer activation attempts/successes/failures associated with all MME services on the system.
NW Initiated Dedicated Bearer Activation	This group displays the all statistics of all network-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system.
UE Initiated Dedicated Bearer Activations	This group displays the all statistics of all UE-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Bearer Deactivations	This group displays the all statistics of all P-GW/S-GW-initiated EPS bearer deactivation attempts/successes/failures associated with all MME services on the system.
MME Initiated Bearer Deactivations	This group displays the all statistics of all MME-initiated EPS bearer deactivation attempts/successes/failures associated with all MME services on the system.
UE Initiated Bearer Deactivations	This group displays the all statistics of all UE-initiated EPS bearer deactivation attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Bearer Modifications	This group displays the all statistics of all P-GW/S-GW-initiated EPS bearer modification attempts/successes/failures associated with all MME services on the system.
HSS Initiated Bearer Modifications	This group displays the all statistics of all HSS-initiated EPS bearer modification attempts/successes/failures associated with all MME services on the system.
UE Initiated Bearer Modifications	This group displays the all statistics of all UE-initiated EPS bearer modification attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for specific ESM event associated with all MME services on the system.
Success	The total number of successful attempts for specific ESM event associated with all MME services on the system.
Failures	The total number of attempts failed for specific ESM event associated with all MME services on the system.
Handover Events	This group displays the statistics of all handover events associated with all MME services on the system.
X2-based handovers	This group displays the all X2-based (intra-MME) handover attempt/success/failure events associated with all MME services on the system.
S1-based handovers	This group displays the all S1-based (Inter-MME) handover attempt/success/failure events associated with all MME services on the system.

Field	Description
Attempted	The total number of attempts made for specific EPS handover event associated with all MME services on the system.
Success	The total number of successful attempts for specific EPS handover event associated with all MME services on the system.
Failures	The total number of attempts failed for specific EPS handover event associated with all MME services on the system.
Total NAS Control Messages	This group displays the statistics of all NAS control messages sent or received by an MME services on the system.
Sent	This sub-group displays the statistics of all NAS control messages sent by an MME services on the system.
Clear-text messages	The total number of NAS control messages with "clear-text" flag received by all MME services on the system.
Integrity-check enabled	The total number of NAS control messages with "Integrity-Check Enabled" flag received by all MME services on the system.
Ciphered messages	The total number of NAS control messages with "Ciphered" flag received by all MME services on the system.
Retransmissions sent	The total number of NAS control messages with "retransmission-sent" flag sent by all MME services on the system.
Failures	The total number of NAS control messages with "failure" flag sent by all MME services on the system.
Received	This sub-group displays the statistics of all NAS control messages received by an MME services on the system.
Clear-text messages	The total number of NAS control messages with "clear-text" flag received by all MME services on the system.
Integrity-check enabled	The total number of NAS control messages with "Integrity-Check Enabled" flag received by all MME services on the system.
Ciphered messages	The total number of NAS control messages with "Ciphered" flag received by all MME services on the system.
Accepted	The total number of NAS control messages received with "Accepted" flag by all MME services on the system.
Discarded	The total number of NAS control messages received with "Discarded" flag by all MME services on the system.
Denied	The total number of NAS control messages received with "Denied" flag by all MME services on the system.
Decode failures	The total number of NAS control messages received with "Decode failure" flag by all MME services on the system.

show mme-service session full

Table 426: show mme-service session full Command Output Descriptions

Field	Description
SessMgr Instance	The Session Manager instance managing this session.
MSID	The UE identity (MS Identity) of connected subscriber to an MME service, and whether the subscriber is unauthenticated (such as during emergency attach).
Callid	The call identity in 8 digit hex number of connected call to an MME service.
MME Service	The name of the serving MME service of which information is displayed.
MME HSS Service	The name of the serving MME-HSS service which is used for AAA for this subscriber with HSS on S6a interface.
EGTP S11 Service	The name of the serving eGTP service which is used for connectivity between MME and S-GW on S11 interface.
MME S1 Address	The IP address of MME used for connecting with eNodeB on S1-MME interface.
EGTP S11 Address	The IP address assigned to eGTP service which is used for connectivity between MME and S-GW on S11 interface.
ME Identity	The mobile equipment identity of connected UE.
GUTI	The Globally Unique Temporary Identifier (GUTI) used for this subscriber session. GUTI is constructed with following identifiers: • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI)
MSISDN	The Mobile Station International ISDN Number (MSISDN) of connected EPS subscriber to an MME service.
EMM State	The status of EPS Mobility Management (EMM) session of connected subscriber. Possible status are: • Registered • Connected

Field	Description
ECM State	The status of EPS Connection Management (ECM) session of connected subscriber. Possible status are: • Registered • Connected • Idle
Attach type	Indicate the type of UE attachment of active subscriber to MME service, for example: Emergency or Initial EPS.
Active SGW S11 Addr	The IP address of S-GW connected to MME on S11 interface.
SGW Control TEID	Displays the TEID of the S-GW currently serving the UE.
UE Offloading	Displays the UE offload state for load rebalancing. Possible values are None, Marked, In-Progress and Done.
UE Reachability Timer	The configured value of the mobile reachability timer set for tracking UE in EMM session.
Remaining Time	The remaining time in seconds out of the configured value of the mobile reachability timer in the EMM session.
Paging Proceed Flag (PPF)	The current state of the Paging Proceed Flag indicating whether or not the UE is sending periodic TAUs within the span of the mobile reachability timer. If the UE fails to send a TAU within the timer value, this flag is set to "Paging Disabled" indicating that the MME is no longer paging the UE.
ISR Status	Displays if the session is using Idle mode Signaling Reduction (ISR). Possible configurations are Activated or Not activated.
Low Access Priority Indication	Displays whether this session has LAPI indicator in any of attach/extended service/TAU/bearer resource allocation/bearer resource modification/PDN connectivity requests.
Initial UE establishment cause	Displays the establishment cause as set in the Initial UE message: Delay Tolerant Access / High Priority Access / Emergency / MT-Access / Unknown
Peer SGSN	Displays the IP address of the SGSN which has a context for this UE in support of Idle mode Signaling Reduction (ISR). A Peer SGSN address is only shown when ISR is activated for this session.
UE Capability Information	This group shows the UE Capability information for connected UE received by an MME service.
Radio Capability	The radio capability information received by an MME service for connected UE in UE capability exchange message.
Radio Capability for Paging	The radio capability information received by an MME service for paging the UE. This field displays the value in hexadecimal format if the UE receives "UE Radio Capability for Paging" IE in S1 "UE-CAPABILITY-INFO-INDICATION" message from eNB. Otherwise, this field displays N/A.

Field	Description
Supported Codec List	The Supported Codec List information received by an MME service for connected UE in UE capability exchange message.
Mobile Station Classmark 2	The Mobile Station Classmark 2 information received by an MME service for connected UE in UE capability exchange message.
Mobile Station Classmark 3	The Mobile Station Classmark 3 information received by an MME service for connected UE in UE capability exchange message.
Security Mode Information	This group shows the status of NAS integrity check and NAS ciphering along with applicable algorithm as security mode information. It contains following information: • NAS Integrity Check • NAS Integrity Check Algorithm • NAS Ciphering • NAS Ciphering Algorithm
Active ENodeB information	This group shows the information of active eNodeB serving to this session.
Global ENodeB ID	The global identifier of active eNodeB serving to this session.
S1AP End Point	The IP address used by eNodeB on S1AP interface to connect with MME service.
Crypto-map Name	The name of the crypto map supporting this EnodeB association.
MME UE S1AP ID	Indicates the session identifier between MME and UE on S1AP interface serving to this session.
ENodeB UE S1AP ID	Indicates the session identifier between eNodeB and UE on S1AP interface serving to this session.
MME UE S1AP ID (stack):	Indicates up to three MME UE S1AP session identifiers present in this S1AP stack.
ENodeB UE S1AP ID (stack):	Indicates up to three eNodeB UE S1AP session identifiers present in this S1AP stack.
Total S1AP ID (stack)	Indicates the total count of S1AP session identifiers present in the stack.
Idle Mode Information Data	This group shows the information for the sessions in ECM idle mode.
Last TAI	Tracking Area Identity of the last Tracking Area visited by UE.
Last ECGI	E-UTRAN Cell Global Identifier of the last Cell visited by UE.
Last Connected ENodeB	Displays information about the ENodeB to which the session was last connected. • **Global ENodeB ID:** Global ENodeB Identifier of the ENodeB to which the UE last connected. • **S1AP End Point:** End Point IP Address of the ENodeB to which the UE last connected.

Field	Description
UE Subscription Data	This group shows the subscribed aggregate maximum bit rate applicable for connected UE in this session.
UE-UL-AMBR	The subscribed aggregate maximum bit rate in bits per second in upload traffic for connected UE in this session.
UE-DL-AMBR	The subscribed aggregate maximum bit rate in bits per second in download traffic for connected UE in this session.
Enforced UE-UL-AMBR at eNodeB	The enforced aggregate maximum bit rate in bits per second in upload traffic for connected UE at eNodeB in this session.
Enforced UE-DL-AMBR at eNodeB	The enforced aggregate maximum bit rate in bits per second in download traffic for connected UE at eNodeB in this session.
PDN Information	This group shows the information of PDNs connected for this session.
APN Name	The APN name which is serving for this PDN in this session.
UE Requested APN	Displays the UE requested APN with non-standard characters in hexadecimal format and standard characters in normal string format.
APN Restriction	The total number of APN restriction applied to this PDN.
PDN Type	The type of PDN (IPv4 and/or IPv6) which is serving in this session for PDN.
PGW Address	The IP address of the P-GW which is serving this session for connected PDN.
PGW control TEID	The control tunnel end identifier at P-GW on S5/S8 interface for control messaging serving to this session.
UE IPv4 Address	The IP address allocated to UE while connected to PDN in this session.
APN-UL-AMBR	The applicable aggregate maximum bit rate in bits per second in upload traffic for APN serving this PDN.
APN-DL-AMBR	The applicable aggregate maximum bit rate in bits per second in download traffic for APN serving this PDN.
Bearer Suspension State	The current suspension state of the bearer.
CSG Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a closed CSG cell.
CSG Subscribed Hybrid Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell as a subscribed member of the CSG in question.
CSG Unsubscribed Hybrid Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell with unsubscribed (non-member) status of the CSG in question
Marked for Deletion	Displays whether the PDN has marked for deletion flag set.

Field	Description
APN Restoration Priority	Displays the priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN) where 1 is highest priority, 16 is lowest.
Low Access Priority Indication	Displays whether this PDN has LAPI indicator set as received in PDN connectivity requests.
Bearer Id	The identifier used for bearer between eNodeB and S-GW while connected to PDN in this session.
QCI	The quality class identifier applicable for this MME session.
AMBR	The applicable aggregate maximum bit rate in bits per second in download/upload direction for APN serving this PDN.
S1U ENodeB TEID	Indicate the tunnel end identifier at eNodeB on S1-U interface serving to this session.
S1U SGW TEID	Indicate the tunnel end identifier at S-GW on S1-U interface serving to this session.
S5S8 PGW TEID	Indicate the tunnel end identifier at P-GW on S5/S8 interface serving to this session.
S1U ENodeB IPv4 Addr	Indicate the IPv4 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session.
S1U ENodeB IPv6 Addr	Indicate the IPv6 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session.
S1U SGW IPv4 Addr	Indicate the IPv4 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session.
S1U SGW IPv6 Addr	Indicate the IPv6 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session.
S5S8 PGW Addr	Indicate the IP address used at P-GW while connecting to S-GW on S5/S8 interface serving to this session.
ESM State	The EPS session Management status serving to this session.
Bearer Type	The type of bearer used for this session. Possible values are: • Default • Dedicated
ARP	The Allocation Retention Priority value assigned to the bearer. The HSS assigns the value for default bearers and the P-GW assigns it for dedicated bearers.
PCI	Specifies the ARP Pre-emption Capability Indicator, either Enabled or Disabled.
PVI	Specifies the ARP Pre-emption Vulnerability Indicator, either Enabled or Disabled.
PGW-C+SMF Selected	Specifies that Combined PGW-C/SMF selection indicator, either Yes or No.
Marked for Deletion	Displays whether the bearer has marked for deletion flag set.
Total PDNs	The total number of PDNs connected through this session for a subscriber.

Field	Description
Total Bearers	The total number of bearers created for UE to use in this session.
Max APN Restrictions	The maximum number of APN restrictions applied to this PDN.
Tracking Area Information	This group displays the tracking area information available for this session.
TAI of last TAU	The tracking area identifier used in last Tracking Area Update (TAU) message received for TAU procedure in this session.
Current Tracking Area List	The tracking area list used for TAU procedure in this session.
CSG Information	This group displays Closed Subscriber Group information relating to this session.
CSG ID at Last Connection	Displays the CSG ID for this session. This is a unique identifier within the scope of PLMN which identifies a Closed Subscriber Group (CSG) in the PLMN.
CSG Cell Type	Displays the Closed Subscriber Group cell access mode (type) for this session, either Closed or Hybrid.
CSG Membership Status	Displays if the session is a member of the cell's CSG. Possible values are Member or Non-Member.
Operator Policy Association	The operator policy associated with this PDN.
CSFB Information	This group displays the Circuit-Switched Fall Back configuration associated with the session.
SGS Assoc State	The state of the SGs association with the VLR for the UE as determined by the MME. Possible states are: • SGs-NULL: Specifies that there is no SGs association with the VLR for the UE. In this state, no fields in this group will display information. • LA_UPDATE_REQUESTED: Specifies that the MME has requested an update location from the VLR before sending a response to the UE • SGs-ASSOCIATED: Specifies that the MME has stored an SGs association for the UE.
SGS Service	The name of the configured SGs service associated with the session.
VLR	The name of the VLR, as configured in the SGs service, associated with the session.
LAI	The Location Area Identifier to which the UE is mapped.
Pool Area	The name of the configured Location Area Code (LAC) pool area associated with the SGs service and the session.
P-TMSI	The Packet-Temporary Mobile Subscriber Identifier allocated by the MSC for the UE.

Field	Description
Flags	The current active variables associated with the UE. Possible states are: • SMS-Only: Specifies that the UE is combined attached for SMS services only. • MME Reset Indicator: Specifies that the MME has restarted after a failure. • VLR Reliable Indicator: Specifies that the MME has received a reset indication from the VLR. • VLR Offload: Specifies that the UE is set to offload state. • Non-EPS Alert: Specifies that the VLR is requesting from the MME an indication when any signaling activity from the UE is detected.
CIoT Optimisation Information	Displays the CIoT optimization information.
NB-IoT RAT	Displays if the RAT type NB-IoT is either enabled or disabled.
Attach Without PDN Support	Displays if attach without PDN support is either enabled or disabled.
UE capable of operating in CE-mode-B	Displays "TRUE" or "FALSE" to indicate if UE is operating in CE Mode-B.
Access Profile Association	Displays the configured access-profile name.
DECOR Information:	
UE Usage type	Displays the configured UE usage types.
DCN Id	Displays the configured DCN identifier.
UE DC-NR Information:	
DC-NR capable UE	Indicates whether the UE is DCNR capable.
DC-NR operation allowed	Indicates whether the DCNR operation is allowed by MME for the DCNR capable UE.
UE N1-Mode Information	
N1-mode capable UE	Indicates whether the UE N1 mode information is allowed by MME for the N1-mode capable UE.

show mme-service session full all | grep Paging

Table 427: show mme-service session full all | grep Paging Command Output Descriptions

Field	Description
SessMgr Instance	The Session Manager instance managing this session.

Field	Description
Paging eDRX	The following are the paging eDRX parameters: • eDRX cycle length • PTW
MSID	The UE identity (MS Identity) of a connected subscriber to an MME service, and whether the subscriber is unauthenticated (such as during emergency attach).
Callid	The call identity in 8 digit hex number of connected calls to an MME service.
MME Service	The name of the serving MME service of which information is displayed.
MME HSS Service	The name of the serving MME-HSS service which is used for AAA for this subscriber with HSS on S6a interface.
EGTP S11 Service	The name of the serving eGTP service which is used for connectivity between MME and S-GW on S11 interface.
MME S1 Address	The IP address of MME used for connecting with eNodeB on S1-MME interface.
EGTP S11 Address	The IP address assigned to eGTP service which is used for connectivity between MME and S-GW on S11 interface.
ME Identity	The mobile equipment identity of connected UE.
GUTI	The Globally Unique Temporary Identifier (GUTI) used for this subscriber session. GUTI is constructed with following identifiers: • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI)
MSISDN	The Mobile Station International ISDN Number (MSISDN) of connected EPS subscriber to an MME service.
EMM State	The status of EPS Mobility Management (EMM) session of connected subscriber. Possible status are: • Registered • Connected
ECM State	The status of EPS Connection Management (ECM) session of connected subscriber. Possible status are: • Registered • Connected • Idle

Field	Description
Attach type	Indicates the type of UE attachment of active subscriber to MME service, for example: Emergency or Initial EPS.
Active SGW S11 Addr	The IP address of S-GW connected to MME on S11 interface.
SGW Control TEID	Displays the TEID of the S-GW currently serving the UE.
UE Offloading	Displays the UE offload state for load rebalancing. Possible values are None, Marked, In-Progress and Done.
UE Reachability Timer	The configured value of the mobile reachability timer set for tracking UE in EMM session.
Remaining Time	The remaining time in seconds out of the configured value of the mobile reachability timer in the EMM session.
Paging Proceed Flag (PPF)	The current state of the Paging Proceed Flag indicating whether or not the UE is sending periodic TAUs within the span of the mobile reachability timer. If the UE fails to send a TAU within the timer value, this flag is set to "Paging Disabled" indicating that the MME is no longer paging the UE.
ISR Status	Displays if the session is using Idle mode Signaling Reduction (ISR). Possible configurations are Activated or Not activated.
Low Access Priority Indication	Displays whether this session has LAPI indicator in any of attach/extended service/TAU/bearer resource allocation/bearer resource modification/PDN connectivity requests.
Initial UE establishment cause	Displays the establishment cause as set in the Initial UE message: Delay Tolerant Access / High Priority Access / Emergency / MT-Access / Unknown
Peer SGSN	Displays the IP address of the SGSN which has a context for this UE in support of Idle mode Signaling Reduction (ISR). A Peer SGSN address is only shown when ISR is activated for this session.
UE Capability Information	This group shows the UE Capability information for connected UE received by an MME service.
Radio Capability	The radio capability information received by an MME service for connected UE in UE capability exchange message.
Radio Capability for Paging	The radio capability information received by an MME service for paging the UE. This field displays the value in hexadecimal format if the UE receives "UE Radio Capability for Paging" IE in S1 "UE-CAPABILITY-INFO-INDICATION" message from eNB. Otherwise, this field displays N/A.
Supported Codec List	The Supported Codec List information received by an MME service for connected UE in UE capability exchange message.
Mobile Station Classmark 2	The Mobile Station Classmark 2 information received by an MME service for connected UE in UE capability exchange message.
Mobile Station Classmark 3	The Mobile Station Classmark 3 information received by an MME service for connected UE in UE capability exchange message.

Field	Description
Security Mode Information	This group shows the status of NAS integrity check and NAS ciphering along with applicable algorithm as security mode information. It contains following information: • NAS Integrity Check • NAS Integrity Check Algorithm • NAS Ciphering • NAS Ciphering Algorithm
Active ENodeB information	This group shows the information of active eNodeB serving to this session.
Global ENodeB ID	The global identifier of active eNodeB serving to this session.
S1AP End Point	The IP address used by eNodeB on S1AP interface to connect with MME service.
Crypto-map Name	The name of the crypto map supporting this EnodeB association.
MME UE S1AP ID	Indicates the session identifier between MME and UE on S1AP interface serving to this session.
ENodeB UE S1AP ID	Indicates the session identifier between eNodeB and UE on S1AP interface serving to this session.
MME UE S1AP ID (stack):	Indicates up to three MME UE S1AP session identifiers present in this S1AP stack.
ENodeB UE S1AP ID (stack):	Indicates up to three eNodeB UE S1AP session identifiers present in this S1AP stack.
Total S1AP ID (stack)	Indicates the total count of S1AP session identifiers present in the stack.
Idle Mode Information Data	This group shows the information for the sessions in ECM idle mode.
Last TAI	Tracking Area Identity of the last Tracking Area visited by UE.
Last ECGI	E-UTRAN Cell Global Identifier of the last Cell visited by UE.
Last Connected ENodeB	Displays information about the ENodeB to which the session was last connected. • **Global ENodeB ID:** Global ENodeB Identifier of the ENodeB to which the UE last connected. • **S1AP End Point:** End Point IP Address of the ENodeB to which the UE last connected.
UE Subscription Data	This group shows the subscribed aggregate maximum bit rate applicable for connected UE in this session.
UE-UL-AMBR	The subscribed aggregate maximum bit rate in bits per second in upload traffic for connected UE in this session.
UE-DL-AMBR	The subscribed aggregate maximum bit rate in bits per second in download traffic for connected UE in this session.

Field	Description
Enforced UE-UL-AMBR at eNodeB	The enforced aggregate maximum bit rate in bits per second in upload traffic for connected UE at eNodeB in this session.
Enforced UE-DL-AMBR at eNodeB	The enforced aggregate maximum bit rate in bits per second in download traffic for connected UE at eNodeB in this session.
PDN Information	This group shows the information of PDNs connected for this session.
APN Name	The APN name which is serving for this PDN in this session.
UE Requested APN	Displays the UE requested APN with non-standard characters in hexadecimal format and standard characters in normal string format.
APN Restriction	The total number of APN restriction applied to this PDN.
PDN Type	The type of PDN (IPv4 and/or IPv6) which is serving in this session for PDN.
PGW Address	The IP address of the P-GW which is serving this session for connected PDN.
PGW control TEID	The control tunnel end identifier at P-GW on S5/S8 interface for control messaging serving to this session.
UE IPv4 Address	The IP address allocated to UE while connected to PDN in this session.
APN-UL-AMBR	The applicable aggregate maximum bit rate in bits per second in upload traffic for APN serving this PDN.
APN-DL-AMBR	The applicable aggregate maximum bit rate in bits per second in download traffic for APN serving this PDN.
Bearer Suspension State	The current suspension state of the bearer.
CSG Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a closed CSG cell.
CSG Subscribed Hybrid Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell as a subscribed member of the CSG in question.
CSG Unsubscribed Hybrid Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell with unsubscribed (non-member) status of the CSG in question
Marked for Deletion	Displays whether the PDN has marked for deletion flag set.
APN Restoration Priority	Displays the priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN) where 1 is highest priority, 16 is lowest.
Low Access Priority Indication	Displays whether this PDN has LAPI indicator set as received in PDN connectivity requests.
Bearer Id	The identifier used for bearer between eNodeB and S-GW while connected to PDN in this session.
QCI	The quality class identifier applicable for this MME session.

Field	Description
AMBR	The applicable aggregate maximum bit rate in bits per second in download/upload direction for APN serving this PDN.
S1U ENodeB TEID	Indicates the tunnel end identifier at eNodeB on S1-U interface serving to this session.
S1U SGW TEID	Indicates the tunnel end identifier at S-GW on S1-U interface serving to this session.
S5S8 PGW TEID	Indicates the tunnel end identifier at P-GW on S5/S8 interface serving to this session.
S1U ENodeB IPv4 Addr	Indicates the IPv4 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session.
S1U ENodeB IPv6 Addr	Indicates the IPv6 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session.
S1U SGW IPv4 Addr	Indicates the IPv4 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session.
S1U SGW IPv6 Addr	Indicates the IPv6 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session.
S5S8 PGW Addr	Indicates the IP address used at P-GW while connecting to S-GW on S5/S8 interface serving to this session.
ESM State	The EPS session Management status serving to this session.
Bearer Type	The type of bearer used for this session. Possible values are: • Default • Dedicated
ARP	The Allocation Retention Priority value assigned to the bearer. The HSS assigns the value for default bearers and the P-GW assigns it for dedicated bearers.
PCI	Specifies the ARP Pre-emption Capability Indicator, either Enabled or Disabled.
PVI	Specifies the ARP Pre-emption Vulnerability Indicator, either Enabled or Disabled.
PGW-C+SMF Selected	Specifies that Combined PGW-C/SMF selection indicator, either Yes or No.
Marked for Deletion	Displays whether the bearer has marked for deletion flag set.
Total PDNs	The total number of PDNs connected through this session for a subscriber.
Total Bearers	The total number of bearers created for UE to use in this session.
Max APN Restrictions	The maximum number of APN restrictions applied to this PDN.
Tracking Area Information	This group displays the tracking area information available for this session.
TAI of last TAU	The tracking area identifier used in last Tracking Area Update (TAU) message received for TAU procedure in this session.

Field	Description
Current Tracking Area List	The tracking area list used for TAU procedure in this session.
CSG Information	This group displays Closed Subscriber Group information relating to this session.
CSG ID at Last Connection	Displays the CSG ID for this session. This is a unique identifier within the scope of PLMN which identifies a Closed Subscriber Group (CSG) in the PLMN.
CSG Cell Type	Displays the Closed Subscriber Group cell access mode (type) for this session, either Closed or Hybrid.
CSG Membership Status	Displays if the session is a member of the cell's CSG. Possible values are Member or Non-Member.
Operator Policy Association	The operator policy associated with this PDN.
CSFB Information	This group displays the Circuit-Switched Fall Back configuration associated with the session.
SGS Assoc State	The state of the SGs association with the VLR for the UE as determined by the MME. Possible states are: • SGs-NULL: Specifies that there is no SGs association with the VLR for the UE. In this state, no fields in this group will display information. • LA_UPDATE_REQUESTED: Specifies that the MME has requested an update location from the VLR before sending a response to the UE • SGs-ASSOCIATED: Specifies that the MME has stored an SGs association for the UE.
SGS Service	The name of the configured SGs service associated with the session.
VLR	The name of the VLR, as configured in the SGs service, associated with the session.
LAI	The Location Area Identifier to which the UE is mapped.
Pool Area	The name of the configured Location Area Code (LAC) pool area associated with the SGs service and the session.
P-TMSI	The Packet-Temporary Mobile Subscriber Identifier allocated by the MSC for the UE.
Flags	The current active variables associated with the UE. Possible states are: • SMS-Only: Specifies that the UE is combined attached for SMS services only. • MME Reset Indicator: Specifies that the MME has restarted after a failure. • VLR Reliable Indicator: Specifies that the MME has received a reset indication from the VLR. • VLR Offload: Specifies that the UE is set to offload state. • Non-EPS Alert: Specifies that the VLR is requesting from the MME an indication when any signaling activity from the UE is detected.
CIoT Optimisation Information	Displays the CIoT optimization information.

Field	Description
NB-IoT RAT	Displays if the RAT type NB-IoT is either enabled or disabled.
Attach Without PDN Support	Displays if attach without PDN support is either enabled or disabled.
UE capable of operating in CE-mode-B	Displays "TRUE" or "FALSE" to indicate if UE is operating in CE Mode-B.
Access Profile Association	Displays the configured access-profile name.
DECOR Information:	
UE Usage type	Displays the configured UE usage types.
DCN Id	Displays the configured DCN identifier.
UE DC-NR Information:	
DC-NR capable UE	Indicates whether the UE is DCNR capable.
DC-NR operation allowed	Indicates whether the DCNR operation is allowed by MME for the DCNR capable UE.
UE N1-Mode Information	
N1-mode capable UE	Indicates whether the UE N1 mode information is allowed by MME for the N1-mode capable UE.

show mme-service session summary

Table 428: show mme-service session summary Command Output Descriptions

Field	Description
Total connected sessions	The total number of MME sessions in ECM-CONNECTED mode.
Total idle-mode sessions	The total number of MME sessions in ECM-IDLE mode.
Total attached sessions	The total number of sessions attached to this MME.
Total LAPI sessions	The current number of sessions with LAPI indicator set.
Total connected PDNs	The total number of PDNs associated with UEs in ECM-CONNECTED mode.
Total idle-mode PDNs	The total number of PDNs associated with UEs in ECM-IDLE mode.
Total attached PDNs	The total number of PDNs present in this MME.
Total IPv4 PDNs	The total number of PDNs with IPv4 addresses.
Total IPv6 PDNs	The total number of PDNs with IPv6 addresses.
Total IPv4+IPv6 PDNs	The total number of PDNs with dual addressing.

Field	Description
Total connected dedicated bearers	The total number of dedicated bearers associated with UEs in ECM-CONNECTED mode.
Total idle-mode dedicated bearers	The total number of dedicated bearers associated with UEs in ECM-IDLE mode.
Total attached dedicated bearers	The total number of dedicated bearers present in this MME.
Total combined-attached subscribers	The total number of MME sessions which are both PS and CS attached.
Total EPS-only attached subscribers	The total number of MME sessions which are PS attached only.
Total ISR-activated sessions	The total number of MME sessions which are activated for ISR.

show mme-service sgw-blockedlist [mme-service-name] [smgr-instance]

Table 429: show mme-service sgw-blockedlist [mme-service-name] [smgr-instance] Command Output Descriptions

Field	Description
Node Level	Specifies the number of Blockedlisted SGWs at a Node Level.
Instance Level	Specifies the number of Blockedlisted SGWs at a Node Level.
SGW IP	Specifies the IP Address of the Blockedlisted SGW.
Blockedlist Type	Specifies if the Blockedlist Type is either Node level or Instance level.
Expiry Timestamp	Specifies the SGW Blockedlisting expiry time.
Blockedlist Time left	Specifies the time left for SGW blockedlisting .

show mme-service statistics

Table 430: show mme-service statistics Output Descriptions

Field	Description
SCTP Statistics	
Transmitted SCTP Data	This sub-group displays the statistics of the total data processed and transmitted over Stream Control Transmission Protocol (SCTP) interface by this MME manager.

Field	Description
Init Chunks	The total SCTP packets with INIT transmitted over SCTP interface by this MME manager.
Init Ack Chunks	The total SCTP packets with INIT-ACK transmitted over SCTP interface by this MME manager.
Shutdown Chunks	The total SCTP packets with SHUTDOWN transmitted over SCTP interface by this MME manager.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK transmitted over SCTP interface by this MME manager.
Cookie Chunks	The total SCTP packets with COOKIE transmitted over SCTP interface by this MME manager.
Cookie Ack Chunks	The total SCTP packets with COOKIE-ACK transmitted over SCTP interface by this MME manager.
Data Chunks	The total SCTP packets with DATA transmitted over SCTP interface by this MME manager.
Data Ack Chunks	The total SCTP packets with DATA-ACK transmitted over SCTP interface by this MME manager.
Shutdown Complete Chunks	The total SCTP packets with SHUTDOWN-COMPLETE transmitted over SCTP interface by this MME manager.
Heartbeat Chunks	The total SCTP packets with HEARTBEAT transmitted over SCTP interface by this MME manager.
HeartBeat Ack Chunks	The total SCTP packets with HEARTBEAT-ACK transmitted over SCTP interface by this MME manager.
Abort Chunks	The total SCTP packets with ABORT transmitted over SCTP interface by this MME manager.
Error Chunks	The total SCTP packets with ERROR transmitted over SCTP interface by this MME manager.
Received SCTP Data	This sub-group displays the statistics of the total data received over SCTP interface and processed by this MME manager.
Init Chunks	The total SCTP packets with INIT received over SCTP interface by this MME manager.
Init Ack Chunks	The total SCTP packets with INIT-ACK received over SCTP interface by this MME manager.
Shutdown Chunks	The total SCTP packets with SHUTDOWN received over SCTP interface by this MME manager.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK received over SCTP interface by this MME manager.

Field	Description
Cookie Chunks	The total SCTP packets with COOKIE received over SCTP interface by this MME manager.
Cookie Ack Chunks	The total SCTP packets with COOKIE-ACK received over SCTP interface by this MME manager.
Data Chunks	The total SCTP packets with DATA received over SCTP interface by this MME manager.
Data Ack Chunks	The total SCTP packets with DATA-ACK received over SCTP interface by this MME manager.
Shutdown Complete Chunks	The total SCTP packets with SHUTDOWN-COMPLETE received over SCTP interface by this MME manager.
Heartbeat Chunks	The total SCTP packets with HEARTBEAT received over SCTP interface by this MME manager.
HeartBeat Ack Chunks	The total SCTP packets with HEARTBEAT-ACK received over SCTP interface by this MME manager.
Abort Chunks	The total SCTP packets with ABORT received over SCTP interface by this MME manager.
Error Chunks	The total SCTP packets with ERROR received over SCTP interface by this MME manager.
Receive Window Adjusted	The number of times the SCTP stack adjusts the SCTP peer receive window size.
Retransmitted SCTP Data	This sub-group displays the statistics of the total data processed and retransmitted over SCTP interface by this MME manager.
Init Chunks	The total SCTP packets with INIT retransmitted over SCTP interface by this MME manager.
Shutdown Chunks	The total SCTP packets with SHUTDOWN retransmitted over SCTP interface by this MME manager.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK retransmitted over SCTP interface by this MME manager.
Cookie Chunks	The total SCTP packets with COOKIE retransmitted over SCTP interface by this MME manager.
Data Chunks	The total SCTP packets with DATA transmitted over SCTP interface by this MME manager.
Total Bytes Sent	The total bytes processed and sent over SCTP interface by this MME manager.
Total Bytes Received	The total bytes received over SCTP interface by this MME manager for processing.
Total Packets Sent	The total packets processed and sent over SCTP interface by this MME manager.

Field	Description
Total Packets Received	The total packets received over SCTP interface by this MME manager for processing.
TAI Statistics	
PDN type IPv4 only	Counter for PDN Connectivity Reject with cause 50.
PDN type IPv6 only	Counter for PDN Connectivity Reject with cause 51.
S1AP Statistics	
Transmitted S1AP Data	This sub-group displays the statistics of the total data processed and transmitted over S1 Application Protocol (S1AP) interface by this MME manager to eNodeB.
S1 Setup Resp	The total number of S1 SETUP RESPONSE messages for S1 setup procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
S1 Setup Fail	The total number of S1 SETUP FAILURE messages for S1 setup procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Reset	The total number of S1 RESET messages for S1 reset procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Reset Ack	The total number of S1 RESET-ACK messages for S1 reset procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Overload Start	The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Overload Stop	The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
MME Dir Information Transfer	The total number of MME DIRECT INFORMATION TRANSFER messages for MME Direct Information Transfer procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Paging	The total number of PAGING messages for paging procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
eNB Config Update Ack	The total number of ENB CONFIGURATION UPDATE ACK messages for eNodeB Configuration Update procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
eNB Config Update Fail	The total number of ENB CONFIGURATION UPDATE FAILURE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
S1AP Msg Encode Fail	The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
E-RAB Setup Req	The total number of E-RAB setup request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.

Field	Description
E-RAB Modify Req	The total number of E-RAB modify request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
E-RAB Release Command	The total number of E-RAB release request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
E-RAB Bearer Setup Attempted	The total number of bearers for which E-RAB setup request message was sent.
E-RAB Bearer Setup Success Rate	The percentage of total number of E-RABs successfully setup at RAN, as perceived on MME from S1-AP messages
E-RAB Bearer Setup Failure Rate	The percentage of total number of E-RABs failed to setup at RAN, as perceived on MME from S1-AP messages
E-RAB Bearer Modify Attempted	The total number of bearers for which E-RAB modification request message was sent.
E-RAB Bearer Modify Success Rate	The percentage of total number of E-RABs successfully modified at RAN, as perceived on MME from S1-AP messages
E-RAB Bearer Modify Failure Rate	The percentage of total number of E-RABs failure to modified at RAN, as perceived on MME from S1-AP messages
E-RAB Modification Cfm	Indicates the number of E-RAB Modification Confirm messages sent by MME upon successful E-RAB modification procedure.
Initial Ctxt Setup Req	The total number of initial context setup request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
UE Ctxt Release Command	The total number of initial UE context release command messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
UE Context Modify Req	The total number of UE context modify request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
Downlink NAS Transport	The total number of NAS Transport in downlink messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
Error Ind	The total number of S1AP messages with error-indication processed and transmitted over S1AP interface by this MME manager to eNodeB.
Handover Command	The total number of S1AP messages with handover command processed and transmitted over S1AP interface by this MME manager to eNodeB.
Handover Prep Fail	The total number of S1AP messages generated for handover preparation failure procedure and transmitted over S1AP interface by this MME manager to eNodeB.
Handover Request	The total number of S1AP messages with handover request processed and transmitted over S1AP interface by this MME manager to eNodeB.
Handover Cancel Ack	The total number of HANDOVER_CANCEL_ACK messages processed and transmitted over S1AP interface by this MME manager to eNodeB.

Field	Description
Path Switch Request Ack	The total number of PATH_SWITCH_REQ_ACK messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
Path Switch Request Fail	The total number of PATH_SWITCH_REQ_FAIL messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
Downlink S1 CDMA2000	The total number of CDMA2000 request messages processed and transmitted over S1AP interface by S1 tunneling to interact with cdma2000 network in downlink direction by this MME manager to eNodeB.
Trace Start	The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace started for specific session by this MME manager to eNodeB.
Deactivate Trace	The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace deactivated for specific session by this MME manager to eNodeB.
MME Status Transfer	The total number of messages processed and transmitted over S1AP interface to indicate the MME status by this MME manager to eNodeB.
Loc Report Control	The total number of LOCATION REPORT CONTROL messages sent by the MME to the eNodeB requesting the current location of the UE.
MME Config Update	The total number of MME CONFIGURATION UPDATE messages sent by the MME to the eNodeB for the purpose of updating the Transport Network Layer (TNL) association. The TNL association is required for the MME and eNodeB to interoperate correctly across the S1 interface.
S1AP Encode Fail	The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
MME Config Transfer	The total number of MME CONFIGURATION TRANSFER messages sent by the MME to the eNodeB for the purpose of transferring RAN configuration information.
Paging Dropped	The total number of S1 Paging requests dropped for all MME services. This counter increments when an S1 paging request is dropped because the number of S1 paging requests received exceeded the S1 paging rate threshold as configured in the Global Config Mode command: **network-overload-protection mme-tx-msg-rate-control enb s1-paging**.
Downlink Non-UE LPPaTpt	The total number of non-UE downlink transport messages sent by the MME to the eNodeB for LPPa (LTE Positioning Protocol annex).
Downlink UE LPPaTpt	The total number of UE downlink transport messages sent by the MME to the eNodeB for LPPa.
Kill Request	The total number of CMAS Kill Request messages sent by the MME to the eNodeB. This message is forwarded by the MME to eNodeB to cancel an already ongoing broadcast of a warning message.

Field	Description
Write-Replace Warn Req	The total number of CMAS Write-Replace Warning Request messages sent by the MME to the eNodeB. This message is sent by the MME to request the start or overwrite of the broadcast of a warning message.
Received S1AP Data	This sub-group displays the statistics of the total data received over S1AP interface by this MME manager from eNodeB.
S1 Setup Req	The total number of S1 SETUP REQUEST messages for S1 setup procedure received over S1AP interface by this MME manager from eNodeB.
Reset	The total number of S1 RESET messages for S1 reset procedure received over S1AP interface by this MME manager from eNodeB.
Reset Ack	The total number of S1 RESET-ACK messages for S1 reset procedure received over S1-P interface by this MME manager from eNodeB.
eNB Dir Info Transfer	The total number of ENB DIRECT INFORMATION TRANSFER messages for eNodeB Direct Information Transfer procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
eNB Config Update	The total number of ENB CONFIGURATION UPDATE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
S1AP Msg Decode Failure	The total number of failure occurred during S1AP control message decoding procedure by eNodeB and S1AP DECODE FAILURE messages received over S1AP interface by this MME manager from eNodeB.
S1AP Msg Unexpected	The total number of failure occurred due to unexpected events during S1AP control message procedure at eNodeB and S1AP UNEXPECTED EVENT messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Setup Resp	The total number of E-RAB setup request response messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Modify Resp	The total number of E-RAB modify request response messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Release Resp	The total number of E-RAB release request response messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Release Ind	The total number of E-RAB release indicator messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Mod Ind	Indicates the number of E-RAB Modification Indication messages received from the master eNodeB.
Initial Ctxt Setup Resp	The total number of initial context setup request response messages received over S1AP interface by this MME manager from eNodeB.
Initial Ctxt Setup Fail	The total number of initial UE context setup failure messages received over S1AP interface by this MME manager from eNodeB.

Field	Description
UE Contxt Release Req	The total number of initial UE context release command messages received over S1AP interface by this MME manager from eNodeB.
UE Ctxt Release Comp	The total number of UE context release request messages received over S1AP interface by this MME manager from eNodeB.
UE Context Modify Resp	The total number of UE context modify request messages received over S1AP interface by this MME manager from eNodeB.
UE Ctxt Modify Fail	The total number of UE context modify request failure messages received over S1AP interface by this MME manager from eNodeB.
Initial UE Message	The total number of initial UE messages received over S1AP interface by this MME manager from eNodeB.
Uplink NAS Transport	The total number of NAS Transport in Uplink direction messages received over S1AP interface by this MME manager from eNodeB.
NAS Non-Delivery Ind	The total number of S1AP messages for NAS non delivery indication received over S1AP interface by this MME manager from eNodeB.
Error Indication	The total number of S1AP messages with error-indication received over S1AP interface by this MME manager from eNodeB.
Handover Request Ack	The total number of ACK messages for handover request received over S1AP interface by this MME manager from eNodeB.
Handover Cancel	The total number of handover cancel messages received over S1AP interface by this MME manager from eNodeB.
Handover Required	The total number of handover required messages received over S1AP interface by this MME manager from eNodeB.
Handover Fail	The total number of HANDOVER_FAILURE messages received over S1AP interface by this MME manager from eNodeB.
Handover Notify	The total number of HANDOVER_NOTIFY messages received over S1AP interface by this MME manager from eNodeB.
Path Switch Req	The total number of PATH_SWITCH_REQ messages received over S1AP interface by this MME manager from eNodeB.
eNB Status Transfer	The total number of messages received for eNodeB status transfer message over S1AP interface by this MME manager from eNodeB.
UE Capability Info Ind	The total number of messages with UE capability information indication received over S1AP interface by this MME manager from eNodeB.
Uplink S1 CDMA2000	The total number of response messages for S1 tunneling with cdma2000 network in uplink direction received over S1AP interface by this MME manager from eNodeB.

Field	Description
Trace Failure Ind	The total number of response messages with Session Trace failure indication for specific session received over S1AP interface by this MME manager from eNodeB.
Location Report	The total number of LOCATION REPORT messages sent by the eNodeB to the MME providing the UE's location.
Loc Report Fail Ind	The total number of LOCATION REPORT FAILURE INDICATION messages sent by the eNodeB to the MME indicating that a LOCATION REPORT CONTROL procedure has failed due to an interaction with a handover procedure.
S1AP Decode Fail	The total number of response message indicating S1AP decode failure received over S1AP interface by this MME manager from eNodeB.
MME Config Update Fail	The total number of MME CONFIGURATION UPDATE FAILURE messages sent by the eNodeB to the MME indicating an S1-MME configuration update failure.
MME Config Update Ack	The total number of MME CONFIGURATION UPDATE ACKNOWLEDGEMENT messages sent by the eNodeB indicating the receipt of the Transport Network Layer (TNL) association information.
S1AP Unexpected Event	The total number of message indicating failure due to unexpected event received over S1AP interface by this MME manager from eNodeB.
eNB Config Transfer	The total number of ENB CONFIGURATION TRANSFER message received by the MME from the eNodeB for the purpose of transferring RAN configuration information.
Uplink Non-UE LPPaTpt	The total number of non-UE uplink transport messages received by the MME from the eNodeB for LPPa (LTE Positioning Protocol annex).
Uplink UE LPPaTpt	The total number of UE uplink transport messages received by the MME from the eNodeB for LPPa.
Kill Response	The total number of CMAS Kill Response messages received by the MME from the eNodeB. This message is sent by the eNodeB to indicate the list of warning areas where cancellation of the broadcast of the identified message was successful and unsuccessful.
Write-Replace Warn Resp	The total number of CMAS Write-Replace Warning Response messages received by the MME from the eNodeB. This message is sent by the eNodeB to acknowledge the MME on the start or overwrite request of a warning message.
Cell Traffic Trace	The total number of Cell Traffic Trace messages by the MME from eNodeB.
Radio Network Error Statistics	This sub-group displays error indication statistics between the MME and the eNodeB.
Unknown MME UE S1AP Id	The total number of times an MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB.
Unknown ENB UE S1AP Id	The total number of times an ENB UE S1AP ID was not included in an error indication message received by the MME from the eNodeB.

Field	Description
Unknown UE S1AP Id Pair	The total number of times an ENB and MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB.
Protocol Error Statistics	This sub-group displays protocol error statistics for S1AP messages received by the MME.
Transfer Syntax Error	The total number of messages received by the MME from the eNodeB containing a Transfer Syntax Error.
Semantic Error	The total number of messages received by the MME from the eNodeB containing a Semantic Error.
Message Not Compatible	The total number of messages received by the MME from the eNodeB that were not compatible with the receiver state.
Abstract Syntax Error	This sub-group displays abstract syntax error statistics for S1AP messages received by the MME from the eNodeB.
Reject	The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "reject".
Ignore And Notify	The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "ignore and notify".
Falsely Constr Msg	The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error because the message contained IEs or IE groups in the wrong order or with too many occurrences.
eNodeB Statistics	This sub-group displays eNodeB statistics for S1AP messages received by the MME from the eNodeB.
Total eNodeB Associations	The total number of eNodeB associations
EMM (Evolved Mobility Management) Statistics	
EPS Associations by Attach using IMSI	This sub-group displays all EMM Evolved Packet System (EPS) IMSI attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations for Emergency Bearer Services	This sub-group displays all EMM Emergency Bearer Service attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by Attach using IMEI	This sub-group displays all EMM IMEI (International Mobile Equipment Identity) attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by Attach using Local GUTI	This sub-group displays all EMM EPS local GUTI (Globally Unique Temporary ID) attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by Attach using Foreign GUTI	This sub-group displays all EMM EPS foreign GUTI attach association attempts/successes/failures associated with all MME services on the chassis.

Field	Description
EPS Associations by Attach using P-TMSI	This sub-group displays all EMM EPS P-TMSI (Packet Temporary Mobile Subscriber Identity) attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by TAU using Foreign GUTI	This sub-group displays all EMM EPS foreign GUTI tracking area update association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by TAU using P-TMSI	This sub-group displays all EMM EPS P-TMSI tracking area update association attempts/successes/failures associated with all MME services on the chassis.
Associations by Combined Attach using IMSI	This sub-group displays all EMM EPS IMSI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Associations by Combined Attach using Local GUTI	This sub-group displays all EMM EPS local GUTI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Associations by Combined Attach using Foreign GUTI	This sub-group displays all EMM EPS foreign GUTI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Associations by Combined Attach using P-TMSI	This sub-group displays all EMM EPS P-TMSI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.

Field	Description
Associations by Combined TAU using Foreign GUTI	This sub-group displays all EMM EPS foreign GUTI combined tracking area update association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Associations by Combined TAU using P-TMSI	This sub-group displays all EMM EPS P-TMSI combined tracking area update association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Authentications	This sub-group displays all EMM authentication attempts/successes/failures associated with all MME services on the system.
Identity	This sub-group displays all EMM identity event attempts/successes/failures associated with all MME services on the system.
Security	This sub-group displays all EMM security event attempts/successes/failures associated with all MME services on the system.
Dynamic TAI List Periodic TAU	This sub-group displays the number of attempts, successes, and failures of Dynamic TAI list periodic tracking area update (TAU).
Dynamic TAI List Normal TAU without SGW Relocation	This sub-group displays the number of Dynamic TAI List Norma TAU, without S-GW relocation, attempts, successes, or failures associated with all MME services.
Dynamic TAI List TAU with Bearer Activation	This sub-group displays the number of Dynamic TAI list TAU, with bearer actvation, attempts, successes, or failures associated with all MME services.
Dynamic TAI List TAU with SGW Relocation	This sub-group displays the number of Dynamic TAI List TAU, with S-GW relocation, attempts, successes, or failures associated with all MME services.
ESM (Evolved S Management) Statistics	
PDN type IPv4 only	Counter for PDN Connectivity Reject with cause 50.
PDN type IPv6 only	Counter for PDN Connectivity Reject with cause 51.
GUTI Relocation	This sub-group displays all GUTI relocation event attempts/successes/failures associated with all MME services on the system.
Periodic TAU	This sub-group displays all periodic tracking area update (TAU) attempts/successes/failures associated with all MME services on the system.

Field	Description
Normal TAU without SGW Relocation	This sub-group displays all EMM normal tracking area update, without S-GW relocation, attempts/successes/failures associated with all MME services on the chassis. **Important** In Release 15.0 and later, this counter will only display EPC related TAU.
TAU with Bearer Activation	This sub-group displays all EMM tracking area update, with bearer activation, attempts/successes/failures associated with all MME services on the chassis.
TAU with SGW Relocation	This sub-group displays all EMM tracking area update, with S-GW relocation, attempts/successes/failures associated with all MME services on the chassis. **Important** In Release 15.0 and later, this counter will only display EPC related TAU.
Combined TA/LA Updating without SGW Relocation	This sub-group displays all TAU procedures with update type "combined TA/LA updating" and the signaled Tracking area did not need SGW relocation.
Attempted	The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area does not need SGW relocation.
Success	The total number of TAU procedures with update type "combined TA/LA updating" that is executed successfully by the MME.
Success EPS Only	The total number of TAU procedures with update type "combined TA/LA updating" that failed during updating the VLR.
Failure	The total number of TAU procedures with update type "combined TA/LA updating" that failed. Usually, this would be the case where no SGW could be found for the tracking area.
Combined TA/LA Updating with SGW Relocation	This sub-group displays all TAU procedures with update type "combined TA/LA updating" and the signaled Tracking area required change of the SGW.
Attempted	The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area required change of the SGW.
Success	The total number of TAU procedures with update type "combined TA/LA updating" successfully attempted by the UE and the signaled Tracking area required change of the SGW.
Success EPS Only	The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during updating the VLR.
Failure	The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during EPC procedures. Usually, during SGW relocation procedure.

Field	Description
TAU with IMSI attach without SGW Relocation	This sub-group displays all TAU procedures with update type "combined TA/LA updating with IMSI attach" and the signaled Tracking area did not require change of the SGW.
Attempted	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area did not require change of the SGW.
Success	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" successfully attempted by the UE and the signaled Tracking area did not require change of the SGW.
Success EPS Only	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area did not require change of the SGW, and failed during updating the VLR.
Failure	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area did not require change of the SGW, and failed during EPC procedures. Usually, during SGW relocation procedure.
TAU with IMSI attach and SGW Relocation	This sub-group displays all TAU procedures with update type "combined TA/LA updating with IMSI attach" and the signaled Tracking area required change of the SGW
Attempted	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area required change of the SGW.
Success	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" successfully attempted by the UE and the signaled Tracking area required change of the SGW.
Success EPS Only	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during updating the VLR.
Failure	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during EPC procedures. Usually, during SGW relocation procedure.
Detaches UE Initiated	This sub-group displays all UE-initiated detach attempts/successes/failures associated with all MME services on the system.
Detaches NW Initiated	This sub-group displays all network-initiated detach attempts/successes/failures associated with all MME services on the system.
Detaches HSS Initiated	This sub-group displays all HSS-initiated (Home Subscriber Server) detach attempts/successes/failures associated with all MME services on the system.

Field	Description
Mobile Terminated Location Service	This sub-group displays all Mobile Terminated Location Request (MT-LR) Location Service (LCS) attempts/successes/failures associated with all MME services on the system.
Network Induced Location Request	This sub-group displays all Network Induced Location Request (NI-LR) Location Service (LCS) attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for specific EMM event associated with all MME services on the system.
Success	The total number of successful attempts for specific EMM event associated with all MME services on the system.
Success EPS Only	The total number of successful, EPS-only, attempts for specific EMM event associated with all MME services on the system.
Failures	The total number of attempts failed for specific EMM event associated with all MME services on the system.
SGW Selection	Specifies the Blackisted SGW selected.
Blacklisted SGW chosen	specifies the number of times a blacklisted SGW is selected when all SGWs are blacklisted.
ECM Statistics	This group displays the statistics of all EMM Control Management (ECM) events associated with all MME services on the system.
Idle Mode Entry Events	This sub-group displays all idle mode entry event attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts made for the specific ECM event associated with all MME services on the system.
Success	The total number of successful attempts for the specific ECM event associated with all MME services on the system.
Failures	The total number of attempts failed for the specific ECM event associated with all MME services on the system.
Service Request Events	This sub-group displays the ECM service request event attempts/successes/ failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **UE Requested Service Request Events** and **NW Initiated Service Request Events** groups.
UE Initiated Service Request Events	This group displays the ECM service request event attempts/successes/failures which have been initiated by the UE for all MME services on the system.
NW Initiated Service Request Events	This group displays the ECM service request event attempts/successes/failures which have been initiated by the network for all MME services on the system.

Field	Description
Paging Initiation Events	This group displays all paging initiation event attempts/successes/failures associated with all MME services on the system. **Important** In Release 15.0 and later, this group of counters is deprecated and replaced by the more granular groups, such as:**Paging Initiation Events for PS QCI-*n* Events**, **Paging Initiation Events for CS Voice Events**, **Paging Initiation Events for CS SMS Events**, and **Paging Initiation Events for CS Other Events**.
Attempted	The total number of attempts made for the specific ECM event associated with all MME services on the system.
Success	The total number of successful attempts for the specific ECM event associated with all MME services on the system.
Failures	The total number of attempts failed for the specific ECM event associated with all MME services on the system.
Success at Last eNBs	The total number of successful pages where the UE responded at the last known eNodeB. **Important** In Release 14.0 and later, this output field has been replaced by the following "Success at Last n eNBs" output field.
Success at Last n eNBs	The total number of successful pages where the UE responded at the last n known eNodeBs.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked.
Paging Initiation for PS QCI-*n* Events	This group displays the ECM Paging Initiation Events for PS Event attempts/successes/failures associated with all MME services on the system. Statistics are grouped according to the QoS Class Identifier (QCI) value, where *n* represents the specific QCI value.
Attempted	The total number of attempts made for PS events.
Success	The total number of successful attempts made for PS events.
Failures	The total number of attempts failed for PS events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for PS events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for PS events.

Field	Description
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for PS events.
Paging Initiation for CS Voice Events	This group displays the ECM Paging Initiation Events for CS Voice Event attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts made for CS Voice events.
Success	The total number of successful attempts made for CS Voice events.
Failures	The total number of attempts failed for CS Voice events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for CS Voice events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for CS Voice events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for CS Voice events.
Paging Initiation for CS SMS Events	This group displays the ECM Paging Initiation Events for CS SMS Event attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts made for CS SMS events.
Success	The total number of successful attempts made for CS SMS events.
Failures	The total number of attempts failed for CS SMS events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for CS SMS events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for CS SMS events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for CS SMS events.
Paging Initiation for CS Other Events	This group displays the ECM Paging Initiation Events for CS Other Event attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts made for CS Other events.
Success	The total number of successful attempts made for CS Other events.
Failures	The total number of attempts failed for CS Other events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for CS Other events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for CS Other events.

Field	Description
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for CS Other events.
Paging Initiation for CS Unknown UE:	
Attempted	Displays the number of times when the session manager sends paging request to at least 1 MME manager.
Skipped	Displays the number of times when the session manager skips sending paging request to at least 1 busy MME manager.
Paging Initiation for SIGNALING IDR Events	This group displays the ECM Paging Initiation Events for IDR Signaling attempts/successes/failures associated with all MME services on the system
Attempted	The total number of attempts made for IDR Signaling events.
Success	The total number of successful attempts made for IDR Signaling events.
Failures	The total number of attempts failed for IDR Signaling events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for IDR Signaling events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for IDR Signaling events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for IDR Signaling events.
Paging Initiation for SIGNALING DETACH Events	This group displays the ECM Paging Initiation Events for Detach Signaling attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for Detach Signaling events.
Success	The total number of successful attempts made for Detach Signaling events.
Failures	The total number of attempts failed for Detach Signaling events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for Detach Signaling events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for Detach Signaling events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for Detach Signaling events.
Paging Initiation for SIGNALING LCS Events	This group displays the ECM Paging Initiation Events for Location Services Signaling attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for Location Services Signaling events.

Field	Description
Success	The total number of successful attempts made for Location Services Signaling events.
Failures	The total number of attempts failed for Location Services Signaling events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for Location Services Signaling events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for Location Services Signaling events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for Location Services Signaling events.
Paging Initiation for SIGNALING Node Restoration Events	This group displays the ECM Paging Initiation Events for Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) Signaling attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that were attempted.
Success	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that were successful.
Failures	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that failed.
Success at Last n eNB	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that succeeded at the last known eNodeB (paging profile used: last-n-enb-last-tai).
Success at Last TAI	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that succeeded at an eNodeB in the TAI from which the UE was last heard (paging profile used: all-enb-last-tai).
Success at TAI List	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that succeeded at an eNodeB in all TAIs present in the TAI list assigned to the UE (paging profile used: all-enb-all-tai).
S1 release for load rebalancing	The number of S1 releases occurring due to IDLE MODE ENTRY procedure with a load rebalancing cause.
CSFB Statistics	
UE Initiated Voice Procedures	This group displays the total number of CSFB Statistics-related UE initiated Voice procedures attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for UE initiated Voice procedures.
Success	The total number of successful attempts for UE initiated Voice procedures.

Field	Description
Failures	The total number of failed attempts for UE initiated Voice procedures.
NW Initiated Voice Procedures	This group displays the total number of CSFB Statistics-related network initiated Voice procedures attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for network initiated Voice procedures.
Success	The total number of successful attempts for network initiated Voice procedures.
Failures	The total number of failed attempts for network initiated Voice procedures.
UE Initiated SMS Procedures	This group displays the total number of CSFB Statistics-related UE initiated SMS procedures attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for UE initiated SMS procedures.
Success	The total number of successful attempts for UE initiated SMS procedures.
Failures	The total number of failed attempts for UE initiated SMS procedures.
NW Initiated SMS Procedures	This group displays the total number of CSFB Statistics-related network initiated SMS procedures attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for network initiated SMS procedures.
Success	The total number of successful attempts for network initiated SMS procedures.
Failures	The total number of failed attempts for network initiated SMS procedures.
UE Initiated IMSI Detaches	This group displays the total number of CSFB Statistics-related UE initiated IMSI detaches attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for UE initiated IMSI detaches.
Success	The total number of successful attempts for UE initiated IMSI detaches.
Failures	The total number of failed attempts for UE initiated IMSI detaches.
NW Initiated IMSI Detaches	This group displays the total number of CSFB Statistics-related network initiated IMSI detaches attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for network initiated IMSI detaches.
Success	The total number of successful attempts for network initiated IMSI detaches.
Failures	The total number of failed attempts for network initiated IMSI detaches.
Total EMM Control Messages	

Field	Description
Sent	This sub-group displays the total number of EPS Mobility Management (EMM) control messages sent for specific event associated with all MME services on the system.
Clear-text messages	The total number of plain EMM messages (neither integrity protected nor ciphered) sent by all MME services on the system.
Integrity-check enabled	The total number of integrity protected EMM messages sent by all MME services on the system.
Ciphered messages	The total number of ciphered EMM messages sent by all MME services on the system.
Retransmissions sent	The total number of EMM retransmission messages sent by all MME services on the system. For example, an Attach Accept may be retransmitted *n* number of times if no response (Attach Complete) is received from the UE.
Failures	The total number of EMM control messages not sent due to lower layer failure for all MME services on the system.
Attach Accept	The total number of EMM Attach Accept messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Attach Accept messages sent for a specific ECM event associated with all MME services on the system.
IMSI Unknown in HSS	The total number of EMM Control messages sent – Attach Accept with a cause code of IMSI unknown.
MSC Unreachable	The total number of EMM Control messages sent – Attach Accept with a cause code of MSC not available.
Network Failure	The total number of EMM Control messages sent – Attach Accept with a cause code of Network Failure.
CS Domain Not Available	The total number of EMM Control messages sent – Attach Accept with a cause code of CS domain not available.
Congestion	The total number of EMM Control messages sent – Attach Accept with a cause code of Congestion.
Attach Reject	The total number of EMM Attach Reject messages sent.
IMSI Unknown in HSS	The total number of EMM Attach Reject messages sent, with the cause code #2: "IMSI Unknown in HSS".
Illegal UE	The total number of EMM Attach Reject messages sent with the cause code #3: "Illegal UE".
Illegal ME	The total number of EMM Attach Reject messages sent with the cause code #6: "Illegal ME".

Field	Description
EPS Not Allowed	The total number of EMM Attach Reject messages sent with the cause code #7: "EPS Services Not Allowed".
Network Failure	The total number of EMM Attach Reject messages sent with the cause code #17: "Network Failure".
CSG Not Subscribed	The total number of EMM Attach Reject messages sent with the cause code of #25: "Not authorized for this CSG".
Decode Failure	The total number of EMM Attach Reject messages sent with the cause code #23: "Decode Failure".
IMEI Not Accepted	The total number of EMM Attach Reject messages sent with the cause code #5: "IMEI Not Accepted".
Roaming restricted TA	The total number of EMM Attach Reject messages sent with the cause code #13: "Roaming restricted in TA".
PLMN not allowed	The total number of EMM Attach Reject messages sent with the cause code #11: "PLMN not allowed".
TA not allowed	The total number of EMM Attach Reject messages sent with the cause code #12: "Tracking Area not allowed".
No suitable cells in TA	The total number of EMM Attach Reject messages sent with the cause code #15: "No suitable cells in TA".
EPS non-EPS Not Allwd	The total number of EMM Attach Reject messages sent with the cause code #8: "EPS services and non-EPS services not allowed".
No EPS Svc in this PLMN	The total number of EMM Attach Reject messages sent with the cause code #14: "EPS service not allowed in this plmn".
Congestion	The total number of EMM Attach Reject messages sent with cause #22: "Congestion".
Severe Network Failure	The total number of EMM Attach Reject messages sent with cause #42: "Severe Network Failure".
ESM Failure	The total number of EMM Attach Reject messages sent with the cause "ESM Failure" for a specific ECM event associated with all MME services on the system.
Rejected by PGW/SGW	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #30: "Rejected by PGW/SGW".
Authentication Failed	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #29: "Authentication Failed".
Svc Opt Not Supported	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #32: "Svc Opt Not Supported".
Svc Opt Not Subscribed	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #33: "Svc Opt Not Subscribed".

Field	Description
Unknown APN	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #27: "Unknown or Missing APN".
Opr Determined Barring	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #8: "Operator Determined Barring".
Insufficient Resource	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #26: "Insufficient Resources".
Activation Rejected	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #31: "Request rejected, unspecified".
Svc Opt Tmp OutofOrder	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #34: "Service Option Temporarily Out of Order".
Protocol Errors	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with any of the following Protocol Error cause codes: #95-101, or #111.
APN Restrict Incomt	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #112: "APN Restriction Value Incompatible with Active EPS Bearer Content".
No Attach Reject/Accept	The total number of Attach Accept or Reject messages not sent for Attach requests.
Authentication Fail	The total number of authentication failed and an Attach Accept or Reject message is not sent.
UE initiated detach	The total number of attach requests failed due to collision between an attach request and UE initiated detach and an Attach Accept or Reject message is not sent.
Detach in progress	The total number of attach requests failed due to collision between an attach request and NW initiated detach and an Attach Accept or Reject message is not sent.
Different Attach Recvd	The total number of attach request failed due to collision between two different attach requests with different IEs and the first attach request is dropped and an Attach Accept or Reject message is not sent.
Authentication Reject	The total number of EMM Attach Reject messages sent with the cause "Authentication Reject".
Authentication Request	The total number of EMM Authentication Request messages sent.
Retransmissions	The total number of retransmitted EMM Authentication Request messages sent.
Detach Request	The total number of EMM Detach Request messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Detach Request messages sent for a specific ECM event associated with all MME services on the system.
Reattach Required	The total number of EMM Detach Request messages sent, with the reason "Reattach Required", for a specific ECM event associated with all MME services on the system.

Field	Description
Reattach Not Required	The total number of EMM Detach Request messages sent, with the reason "Reattach Not Required", for a specific ECM event associated with all MME services on the system.
IMSI Detach	The total number of EMM Detach Request messages sent, with the reason "IMSI Detach", for a specific ECM event associated with all MME services on the system. **Important** This statistic is available in Releases prior to 12.2 as well as 15.0 and later.
CSG Not Subscribed	The total number of EMM Detach Request messages sent with the cause code of #25: "Not authorized for this CSG". This occurs when the Initial UE Message sent from the eNodeB specifies a non-hybrid CSG cell whose CSG ID is not included in the UE's CSG subscription list. In this circumstance, the MME initiates a Detach procedure with this cause code.
Detach Accept	The total number of EMM Detach Accept messages sent for a specific ECM event associated with all MME services on the system.
Downlink NAS Transport	The total number of EMM Downlink NAS Transport messages sent for a specific ECM event associated with all MME services on the system.
EMM Information	The total number of EMM Information messages sent for a specific ECM event associated with all MME services on the system.
EMM Status	The total number of EMM Status messages sent for a specific ECM event associated with all MME services on the system.
GUTI Relocation	The total number of EMM GUTI Relocation messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM GUTI Relocation messages sent for a specific ECM event associated with all MME services on the system.
Identity Request	The total number of EMM Identity Request messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Identity Request messages sent for a specific ECM event associated with all MME services on the system.
Security Mode Command	The total number of EMM Security Mode Command messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Security Mode Command messages sent for a specific ECM event associated with all MME services on the system.
Service Reject	The total number of EMM Service Reject messages sent.
UE Identity Unknown	The total number of EMM Service Reject messages sent, with a cause code of #9:"UE identity cannot be derived by the network".

Field	Description
Implicitly Detached	The total number of EMM Service Reject messages sent, with a cause code of #10: "Implicitly Detached".
No Bearer Active	The total number of EMM Service Reject messages sent, with a cause code of #40: "No EPS bearer context activated".
CSG Not Subscribed	The total number of EMM Service Reject messages sent, with a cause code of #25: "Not authorized for this CSG".
Roaming Restricted TA	The total number of EMM Service Reject messages sent, with a cause code of #13: "Roaming not allowed in this tracking area".
No suitable cells in TA	The total number of EMM Service Reject messages sent, with a cause code of #15: "No suitable cells in tracking area".
TA Not Allowed	The total number of EMM Service Reject messages sent, with a cause code of #12: "Tracking area not allowed".
Congestion	The total number of EMM Service Reject messages sent with cause #22: "Congestion".
TAU Accept Total	The total number of EMM TAU Accept messages sent (for either an Inter- or Intra-MME TAU request). **Note:** If the MME retransmits a TAU Accept message, only the "Retransmissions" counter will be incremented.
Retransmissions	The total number of EMM TAU Accept messages retransmitted (for either an Inter- or Intra-MME TAU request).
IMSI Unknown in HSS	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #22: "Congestion".
TAU Accept Intra MME	The total number of TAU Accept messages sent for an Intra-MME TAU request.
Retransmissions	The total number of TAU Accept messages retransmitted for an Intra-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".

Field	Description
MSC Unreachable	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #22: "Congestion".
TAU Accept Inter MME	The total number of TAU Accept messages sent for an Inter-MME TAU request.
Retransmissions	The total number of TAU Accept messages retransmitted for an Inter-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #22: "Congestion".
TAU Reject Total	The total number of EMM TAU Reject messages sent.
IMSI Unknown in HSS	The total number of EMM TAU Reject messages sent with the cause code #2: "IMSI unknown in HSS".
Illegal UE	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #5: "IMEI not accepted".

Field	Description
ESM Failure	The total number of EMM TAU Reject messages sent with the cause "ESM Failure". **Important** This statistic has been deprecated in Release 12.2.
Decode Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #25: Not authorized for this CSG.
EPS non-EPS not Allwd	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #8: EPS services and non-EPS services not allowed.
Congestion	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with cause #22: "Congestion".
Severe Network Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with cause #42: "Severe Network Failure".
TAU Reject Intra MME	The total number of TAU Reject messages sent for an Intra-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #2: IMSI unknown in HSS.

Field	Description
Illegal UE	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #25: "Not authorized for this CSG".
EPS non-EPS not Allwd	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed".
Congestion	The total number of TAU Reject messages sent for an Intra-MME TAU request, with cause #22: "Congestion".
Severe Network Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request, with cause #42: "Severe Network Failure".

Field	Description
TAU Reject Inter MME	The total number of TAU Reject messages sent for an Inter-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
Illegal UE	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #25: "Not authorized for this CSG".
EPS non-EPS not Allwd	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed".

Field	Description
Congestion	The total number of TAU Reject messages sent for an Inter-MME TAU request, with cause #22: "Congestion".
Severe Network Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with cause #42: "Severe Network Failure".
No TAU Rej/Accept Total	The total number of TAU Accept or Reject messages not sent for TAU (Intra-MME + Inter-node) requests.
Authentication Failed	The total number of TAU (Intra-MME + Inter-node) requests failed due to authentication failures and no TAU Accept or Reject message is sent.
UE initiated detach	The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between a TAU (Intra-MME or Inter-node) request and UE initiated detach and no TAU Accept or Reject message is sent.
Detach in progress	The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between a TAU (Intra-MME or Inter-node) request and NW initiated detach and no TAU Accept or Reject message is sent.
Different TAU Recvd	The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between two different TAU (Intra-MME or Inter-node) requests with different IEs and the first TAU request is dropped and no TAU Accept or Reject message is sent.
Attach awaits MBResp	The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between a TAU (Intra-MME or Inter-node) request and an Attach waiting for a Modify Bearer Response and no TAU Accept or Reject message is sent.
No IntraMME TAU Rej/Act	The total number TAU Accept or Reject messages not sent for Intra-MME TAU requests.
Authentication Failed	The total number Intra-MME TAU requests failed due to authentication failures and no TAU Accept or Reject message is sent.
UE initiated detach	The total number of Intra-MME TAU requests failed due to collision between an Intra-MME TAU request and UE initiated detach and no TAU Accept or Reject message is sent.
Detach in progress	The total number of Intra-MME TAU requests failed due to collision between an Intra-MME TAU request and NW initiated detach and no TAU Accept or Reject message is sent.
Different TAU Recvd	The total number of Intra-MME TAU requests failed due to collision between two different Intra-MME TAU requests with different IEs and the first TAU request is dropped and no TAU Accept or Reject message is sent.
Attach awaits MBResp	The total number of Intra-MME TAU requests failed due to collision between an Intra-MME TAU request and an Attach waiting for a Modify Bearer Response and no TAU Accept or Reject message is sent.
No InterNode TAU Rej/Act	The total number of TAU Accept or Reject messages not sent for Inter-node TAU requests.

Field	Description
Authentication Failed	The total number of Inter-node TAU requests failed due to authentication failure and a TAU Accept or Reject message is not sent.
UE initiated detach	The total number of Inter-node TAU requests failed due to collision between an Inter-node TAU request and UE initiated detach and a TAU Accept or Reject message is not sent.
Different TAU Recvd	The total number of Inter-node TAU requests failed due to collision between two different Inter-node TAU requests with different IEs and the first TAU request is dropped and a TAU Accept or Reject message is not sent.
CS Service Notification	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #100: "CS Service notification".
Received	This sub-group displays the statistics of all EPS Mobility Management (EMM) control messages received by an MME services on the system.
Clear-text messages	The total number of plain EMM messages (neither integrity protected nor ciphered) received by all MME services on the system.
Integrity-check enabled	The total number of integrity protected EMM messages received by all MME services on the system.
Ciphered messages	The total number of ciphered EMM messages received by all MME services on the system.
Accepted	The total number of EMM messages received by all MME services on the system and accepted for further processing.
Ignored messages	The total number of EMM control messages received by all MME services on the system, but were ignored because the MME was busy processing some other procedure.
Denied	The total number of EMM control messages received by all MME services on the system, but the security check failed for the EMM message.
Decode failures	The total number of EMM control messages received by all MME services on the system, but the MME was unable to decode the EMM message as per 3GPP TS 24.301.
Attach Complete	The total number of EMM Attach Complete messages received for a specific ECM event associated with all MME services on the system.
Attach Request	The total number of EMM Attach Request messages received for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Attach Request messages received for a specific ECM event associated with all MME services on the system. **Important** This field was deprecated in Release 14.0. It was introduced again in Release 15.0.

Field	Description
Authentication Failure	The total number of EMM Authentication Failure messages received for a specific ECM event associated with all MME services on the system.
Authentication Response	The total number of EMM Authentication Response messages received for a specific ECM event associated with all MME services on the system.
Identity Response	The total number of IMSI Identity Response messages received for a specific ECM event associated with all MME services on the system.
Detach Request	The total number of EMM Detach Request messages received for a specific ECM event associated with all MME services on the system.
Switch Off	The total number of EMM Detach Request messages received, with the reason "Switch Off", for a specific ECM event associated with all MME services on the system.
Not Switch Off	The total number of EMM Detach Request messages received, with the reason "Not Switch Off", for a specific ECM event associated with all MME services on the system.
IMSI Detach	The total number of EMM Detach Request messages received, with the reason "IMSI Detach", for a specific ECM event associated with all MME services on the system.
EMM Status	The total number of EMM Status messages received for a specific ECM event associated with all MME services on the system.
GUTI Reloc Complete	The total number of EMM GUTI Reloc Complete messages received for a specific ECM event associated with all MME services on the system.
Security Mode Complete	The total number of EMM Security Mode Complete messages received for a specific ECM event associated with all MME services on the system.
Security Mode Reject	The total number of EMM Security Mode Reject messages received for a specific ECM event associated with all MME services on the system.
Service Request	The total number of EMM Service Request messages received for a specific ECM event associated with all MME services on the system.
TAU Request Total	The total number of TAU Request messages received (either an Inter- or Intra-MME TAU request). **Note:** If the MME receives a TAU Request message for the same UE while the first TAU Request is in process, both the "TAU Request Total" and "Retransmissions" counters will be incremented.
Retransmissions	The total number of retransmitted TAU Request messages received (includes both Inter- and Intra-MME TAU requests). **Important** This field was deprecated in Release 14.0. It was introduced again in Release 15.0.
TAU Request Intra-MME	The total number of Intra-MME TAU Request messages received.

Field	Description
Retransmissions	The total number of retransmitted Intra-MME TAU Request messages received.
TAU Request Inter-MME	The total number of Inter-MME TAU Request messages received.
Retransmissions	The total number of retransmitted Inter-MME TAU Request messages received.
TAU Complete	The total number of EMM TAU Complete messages received for a specific ECM event associated with all MME services on the system.
Extended Service Request	The total number of EMM Extended Service Request messages received for a specific ECM event associated with all MME services on the system.
ESM Statistics	
PDN Connections	This group displays the statistics for PDN connection attempts/successes/failures associated with all MME services on the system.
PDN Connections with PDN-type Override to IPv4	This group displays the statistics for PDN connection attempts/successes/failures associated with all MME services on the system which have had the requested PDN-type overrided to IPv4.
PDN Connections with PDN-type Override to IPv6	This group displays the statistics for PDN connection attempts/successes/failures associated with all MME services on the system which have had the requested PDN-type overrided to IPv6.
UE Initiated PDN Disconnections	This group displays the statistics for UE-initiated PDN disconnection attempts/successes/failures associated with all MME services on the system.
MME Initiated PDN Disconnections	This group displays the statistics for MME-initiated PDN disconnection attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated PDN Disconnections	This group displays the statistics for P-GW/S-GW-initiated PDN disconnection attempts/successes/ failures associated with all MME services on the system.
HSS Initiated PDN Disconnections	This group displays the statistics for HSS-initiated PDN disconnection attempts/successes/ failures associated with all MME services on the system.
Default Bearer Activations	This group displays the statistics of all default EPS bearer activation attempts/successes/failures associated with all MME services on the system.
NW Initiated Dedicated Bearer Activations	This group displays the statistics of all network-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system.
UE Initiated Dedicated Bearer Activations	This group displays the statistics of all UE-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system.
MME Initiated Dedicated Bearer Deactivations	This group displays the statistics of all MME-initiated dedicated bearer deactivation attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Dedicated Bearer Deactivations	This group displays the statistics of all P-GW/S-GW-initiated dedicated bearer deactivation attempts/successes/failures associated with all MME services on the system.

Field	Description
UE Initiated Dedicated Bearer Deactivations	This group displays the statistics of all UE-initiated dedicated bearer deactivation attempts/successes/failures associated with all MME services on the system.
MME Initiated Default Bearer Deactivations	This group displays the statistics of all MME-initiated default bearer deactivation attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Default Bearer Deactivations	This group displays the statistics of all P-GW/S-GW-initiated default bearer deactivation attempts/successes/failures associated with all MME services on the system.
UE Initiated Default Bearer Deactivations	This group displays the statistics of all UE-initiated default bearer deactivation attempts/successes/failures associated with all MME services on the system.
MME Initiated Bearer Deactivations	This group displays the statistics of all MME-initiated bearer deactivation attempts/successes/failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **MME Initiated Dedicated Bearer Deactivations** and **MME Initiated Default Bearer Deactivations** groups.
PGW/SGW Initiated Bearer Deactivations	This group displays the statistics of all P-GW/S-GW-initiated bearer deactivation attempts/successes/failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **PGW/SGW Initiated Dedicated Bearer Deactivations** and **PGW/SGW Initiated Default Bearer Deactivations** groups.
UE Initiated Bearer Deactivations	This group displays the statistics of all UE-initiated bearer deactivation attempts/successes/failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **UE Initiated Dedicated Bearer Deactivations** and **UE Initiated Default Bearer Deactivations** groups.
HSS Initiated Bearer Modifications	This group displays the statistics of all HSS-initiated bearer modification attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Bearer Modifications	This group displays the statistics of all P-GW/S-GW-initiated bearer modification attempts/successes/failures associated with all MME services on the system.
UE Initiated Bearer Modifications	This group displays the statistics of all UE-initiated bearer modification attempts/successes/failures associated with all MME services on the system.
UE Initiated Emergency PDN Connections	This group displays the statistics of all UE-initiated emergency PDN connection attempts/successes/failures associated with all MME services on the system.
DCNR User PDN Connections	This group displays the statistics of all DCNR user PDN connection attempts/successes/failures associated with all MME services on the system.

Field	Description
Attempted	The total number of attempts made for specific ESM event associated with all MME services on the system.
Success	The total number of successful attempts for specific ESM event associated with all MME services on the system.
Failures	The total number of attempts failed for specific ESM event associated with all MME services on the system.
Total ESM Control Messages	
Sent	This sub-group displays the statistics of all EPS Session Management (ESM) control messages sent by an MME services on the system.
Clear-text messages	The total number of plain ESM messages (neither integrity protected nor ciphered) sent by all MME services on the system.
Integrity-check enabled	The total number of integrity protected ESM messages sent by all MME services on the system.
Ciphered messages	The total number of ciphered ESM messages sent by all MME services on the system.
Retransmissions sent	The total number of ESM retransmission messages sent by all MME services on the system. For example, an Attach Accept may be retransmitted *n* number of times if no response (Attach Complete) is received from the UE.
Failures	The total number of ESM control messages not sent due to lower layer failure for all MME services on the system.
Act Dedicated Bearer	The total number of ESM Activate Dedicated Bearer messages sent for a specific ESM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted ESM Activate Dedicated Bearer messages sent for a specific ECM event associated with all MME services on the system.
Act Default Bearer	The total number of ESM Activate Default Bearer messages sent for a specific ESM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted ESM Activate Default Bearer messages sent for a specific ECM event associated with all MME services on the system.
Bearer Alloc Reject	The total number of ESM Bearer Allocate Reject messages sent for a specific ESM event associated with all MME services on the system.
PTI Already in Use	The total number of ESM Bearer Allocate Reject messages sent, with the cause "PTI Already in Use", for a specific ESM event associated with all MME services on the system.
Semantic Error TFT	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Semantic Error TFT", for a specific ESM event associated with all MME services on the system.

Field	Description
Syntactic Error TFT	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Syntactic Error TFT", for a specific ESM event associated with all MME services on the system.
Invalid Bearer Id	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Invalid Bearer Id", for a specific ESM event associated with all MME services on the system.
Collision with NW Op	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Collision with NW Op", for a specific ESM event associated with all MME services on the system.
Rejected By PGW/SGW	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Rejected By PGW/SGW", for a specific ESM event associated with all MME services on the system.
Invalid PTI	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Invalid PTI", for a specific ESM event associated with all MME services on the system.
Insufficient Resources	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Insufficient Resources", for a specific ESM event associated with all MME services on the system.
Authentication failed	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Authentication failed", for a specific ESM event associated with all MME services on the system.
Sv opt not supported	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Service Option Not Supported", for a specific ESM event associated with all MME services on the system.
Svc opt not subscribed	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Service Option Not Subscribed", for a specific ESM event associated with all MME services on the system.
EPS QoS Not Accepted	The total number of ESM Bearer Allocate Reject messages sent, for bearer allocation failures, with the cause "EPS QoS Not Accepted".
Bearer Modify Reject	The total number of ESM Bearer Modify Reject messages sent for a specific ESM event associated with all MME services on the system.
PTI Already in Use	The total number of ESM Bearer Modify Reject messages sent, with the cause "PTI Already in Use", for a specific ESM event associated with all MME services on the system.
Semantic Error TFT	The total number of ESM Bearer Modify Reject messages sent, with the cause "Semantic Error TFT", for a specific ESM event associated with all MME services on the system.

Field	Description
Syntactic Error TFT	The total number of ESM Bearer Modify Reject messages sent, with the cause "Syntactic Error TFT", for a specific ESM event associated with all MME services on the system.
Invalid Bearer Id	The total number of ESM Bearer Modify Reject messages sent, with the cause "Invalid Bearer Id", for a specific ESM event associated with all MME services on the system.
Collision with NW Op	The total number of ESM Bearer Modify Reject messages sent, with the cause "Collision with NW Op", for a specific ESM event associated with all MME services on the system.
Rejected By PGW/SGW	The total number of ESM Bearer Modify Reject messages sent, with the cause "Rejected By PGW/SGW", for a specific ESM event associated with all MME services on the system.
Invalid PTI	The total number of ESM Bearer Modify Reject messages sent, with the cause "Invalid PTI", for a specific ESM event associated with all MME services on the system.
Insufficient Resources	The total number of ESM Bearer Modify Reject messages sent, with the cause "Insufficient Resources", for a specific ESM event associated with all MME services on the system.
Authentication failed	The total number of ESM Bearer Modify Reject messages sent, with the cause "Authentication failed", for a specific ESM event associated with all MME services on the system.
Sv opt not supported	The total number of ESM Bearer Modify Reject messages sent, with the cause "Service Option Not Supported", for a specific ESM event associated with all MME services on the system.
Svc opt not subscribed	The total number of ESM Bearer Modify Reject messages sent, with the cause "Service Option Not Subscribed", for a specific ESM event associated with all MME services on the system.
EPS QoS Not Accepted	The total number of ESM Bearer Modify Reject messages sent, for bearer modification failures, with the cause "EPS QoS Not Accepted".
Deactivate Bearer	The total number of ESM Deactivate Bearer messages sent for a specific ESM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted ESM Deactivate Bearer messages sent for a specific ECM event associated with all MME services on the system.
ESM Information Req	The total number of ESM Information Request messages sent for a specific ESM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted ESM Information Request messages sent for a specific ECM event associated with all MME services on the system.
Modify Bearer	The total number of ESM Modify Bearer messages sent for a specific ESM event associated with all MME services on the system.

Field	Description
Retransmissions	The total number of retransmitted ESM Modify Bearer messages sent for a specific ECM event associated with all MME services on the system.
PDN Connectivity Reject	The total number of ESM PDN Connectivity Reject messages sent.
PTI Already in Use	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #35: "PTI Already in Use".
Unknown or Missing APN	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #27: "Unknown or Missing APN".
Unknown PDN Type	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #28: "Unknown PDN Type".
Invalid Bearer Id	The total number of ESM PDN Connectivity Reject messages sent, with the cause code code #43: "Invalid EPS Bearer Id".
Invalid PTI	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #81: "Invalid PTI value".
Rejected By PGW/SGW	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #30: "Rejected By SGW or PGW".
Authentication failed	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #29: "User Authentication failed".
Sv opt not supported	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #32: "Service Option Not Supported".
Svc opt not subscribed	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #33: "Service Option Not Subscribed".
Opr Determined Barring	The total number of ESM PDN Connectivity Reject messages sent with cause code #8: "Operator Determined Barring".
Insufficient Resource	The total number of ESM PDN Connectivity Reject messages sent with cause code #26: "Insufficient Resources".
Activation Rejected	The total number of ESM PDN Connectivity Reject messages sent with cause code #31: "Request rejected, unspecified".
Svc Opt Tmp OutofOrder	The total number of ESM PDN Connectivity Reject messages sent with cause code #34: "Service Option Temporarily Out of Order".
Protocol Errors	The total number of ESM PDN Connectivity Reject messages sent with any of the following Protocol Error cause codes: #95-101, or #111.
APN Restrict Incomt	The total number of ESM PDN Connectivity Reject messages sent with cause code #112: "APN Restriction Value Incompatible with Active EPS Bearer Content".
PDN Disconnect Reject	The total number of ESM PDN Disconnect Reject messages sent for a specific ESM event associated with all MME services on the system.

Field	Description
PTI Already in Use	The total number of ESM PDN Disconnect Reject messages sent, with the cause "PTI Already in Use", for a specific ESM event associated with all MME services on the system.
Last PDN Disconnection	The total number of ESM PDN Disconnect Reject messages sent, with the cause "Last PDN Disconnection", for a specific ESM event associated with all MME services on the system.
Invalid PTI	The total number of ESM PDN Disconnect Reject messages sent, with the cause "Invalid PTI", for a specific ESM event associated with all MME services on the system.
Invalid Bearer Id	The total number of ESM PDN Disconnect Reject messages sent, with the cause "Invalid Bearer Id", for a specific ESM event associated with all MME services on the system.
Received	This sub-group displays the statistics of all EPS Session Management (ESM) control messages received by an MME services on the system.
Clear-text messages	The total number of plain ESM messages (neither integrity protected nor ciphered) received by all MME services on the system.
Integrity-check enabled	The total number of integrity protected ESM messages received by all MME services on the system.
Ciphered messages	The total number of ciphered ESM messages received by all MME services on the system.
Accepted	The total number of ESM messages received by all MME services on the system and accepted for further processing.
Decode failures	The total number of ESM control messages received by all MME services on the system which the MME was unable to decode the message as per 3GPP TS 24.301.
Act Dedicated Brr Accept	The total number of ESM Activate Dedicated Bearer Accept messages received for a specific ESM event associated with all MME services on the system.
Act Dedicated Brr Reject	The total number of ESM Activate Dedicated Bearer Reject messages received for a specific ESM event associated with all MME services on the system.
Act Default Brr Accept	The total number of ESM Activate Default Bearer Accept messages received for a specific ESM event associated with all MME services on the system.
Act Default Brr Reject	The total number of ESM Activate Default Bearer Accept messages received for a specific ESM event associated with all MME services on the system.
Deactivate Brr Accept	The total number of ESM Deactivate EPS Bearer Context Accept messages received for a specific ESM event associated with all MME services on the system.
Brr Rsrc Alloc Request	The total number of ESM Bearer Resource Allocation Request messages received for a specific ESM event associated with all MME services on the system.

Field	Description
Brr Rsrc Modify Request	The total number of ESM Bearer Resource Modify Request messages received for a specific ESM event associated with all MME services on the system.
ESM Information Response	The total number of ESM Information Response messages received for a specific ESM event associated with all MME services on the system.
ESM Status	The total number of ESM Status messages received for a specific ESM event associated with all MME services on the system.
Modify Brr Ctxt Accept	The total number of ESM Modify Bearer Context Accept messages received for a specific ESM event associated with all MME services on the system.
Modify Brr Ctxt Reject	The total number of ESM Modify Bearer Context Reject messages received for a specific ESM event associated with all MME services on the system.
PDN Connectivity Request	The total number of ESM PDN Connectivity Request messages received for a specific ESM event associated with all MME services on the system.
PDN Disconnect Request	The total number of ESM PDN Disconnect Request messages received for a specific ESM event associated with all MME services on the system.
Handover Statistics	
Intra MME Handover	This sub-group displays statistics of intra-MME handovers associated with all MME services on the system.
Path Update procedures	This sub-group under "Intra MME Handover" displays statistics of E-RAB Modification Indication procedures (procedure level stats) associated with all MME services on the system.
X2-based handovers	This sub-group displays the all X2-based (intra-MME) handover attempts/successes/failures associated with all MME services on the system.
S1-based handovers	This sub-group displays the all S1-based (Inter-MME) handover attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> EUTRAN using S10 Interface	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures associated with all MME services on the system.
Outbound relocation using TAU procedure	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on outbound relocation using TAU (Tracking Area Update) procedures and associated with all MME services on the system.

Field	Description
Outbound relocation using S1 HO procedure	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on outbound relocation using S1 handover procedures and associated with all MME services on the system.
Inbound relocation using TAU procedure	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on inbound relocation using TAU procedures and associated with all MME services on the system.
Inbound relocation using S1 HO procedure	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on inbound relocation using S1 handover procedures and associated with all MME services on the system for emergency bearer service attempted.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> UTRAN (Iu mode) SRNS Relocations using GnGp Interface	This sub-group displays the all GnGp-based (MME-3G/SGSN) attempts/successes/failures for SRNS (Serving Radio Network Subsystem) relocations associated with all MME services on the system.
Outbound relocation	This sub-group displays the all GnGp-based (MME-3G/SGSN) attempts/successes/failures for outbound SRNS relocations associated with all MME services on the system.
Inbound relocation	This sub-group displays the all GnGp-based (MME-3G/SGSN) attempts/successes/failures for inbound SRNS relocations associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> GERAN (A/Gb Mode) PS Handovers using GnGp Interface	This sub-group displays the all GnGp-based (MME-2G/SGSN) packet-switched handover via A/Gb mode attempts/successes/failures associated with all MME services on the system.
Outbound relocation	This sub-group displays the all GnGp-based (MME-2G/SGSN) packet-switched handover attempts/successes/failures based on outbound relocation and associated with all MME services on the system.

Field	Description
Inbound relocation	This sub-group displays the all GnGp-based (MME-2G/SGSN) packet-switched handover attempts/successes/failures based on inbound relocation and associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> UTRAN (Iu or A/Gb Mode) Cell Reselections using GnGp Interface	This sub-group displays the all GnGp-based (MME-R8/SGSN) cell reselection attempts/successes/failures associated with all MME services on the system.
Outbound relocation using RAU procedure	This sub-group displays the all GnGp-based (MME-R8/SGSN) cell reselection attempts/successes/failures based on outbound relocation using RAU procedures and associated with all MME services on the system.
Inbound relocation using TAU procedure	This sub-group displays the all GnGp-based (MME-R8/SGSN) cell reselection attempts/successes/failures based on inbound relocation using TAU procedures and associated with all MME services on the system for emergency bearer services successes.
EUTRAN<-> UTRAN (Iu mode) Inter-RAT Handovers using S3 Interface	This sub-group displays the all S3-based (MME-R8/SGSN) Inter-RAT handover attempts/successes/failures via Iu mode associated with all MME services on the system.
Outbound relocation	This sub-group displays the all S3-based (MME-R8/SGSN) Inter-RAT handover attempts/successes/failures based on outbound relocation and associated with all MME services on the system.
Inbound relocation	This sub-group displays the all S3-based (MME-R8/SGSN) Inter-RAT handover attempts/successes/failures based on inbound relocation and associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> GERAN (A/Gb mode) Inter-RAT Handovers using S3 Interface	This sub-group displays the all S3-based (MME-2.5G/SGSN) Inter-RAT handover attempts/successes/failures via A/Gb mode associated with all MME services on the system.

Field	Description
Outbound relocation	This sub-group displays the all S3-based (MME-2.5G/SGSN) Inter-RAT handover attempts/successes/failures via A/Gb mode based on outbound relocation and associated with all MME services on the system.
Inbound relocation	This sub-group displays the all S3-based (MME-2.5G/SGSN) Inter-RAT handover attempts/successes/failures via A/Gb mode based on inbound relocation and associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> UTRAN/GERAN (Iu or A/Gb Mode) Cell Reselections using S3 Interface	This group displays the all S3-based (MME-R8/2.5G/SGSN) cell reselection via Iu or A/Gb mode attempts/successes/failures associated with all MME services on the system.
Outbound relocation using RAU procedure	This sub-group displays the all GnGp-based (MME-R8/2.5G/SGSN) cell reselection attempts/successes/failures based on outbound relocation using RAU procedures and associated with all MME services on the system.
Inbound relocation using TAU procedure	This sub-group displays the all GnGp-based (MME-R8/2.5G/SGSN) cell reselection attempts/successes/failures based on inbound relocation using TAU procedures and associated with all MME services on the system.
Attempted	The total number of attempts that are made for the specific EPS handover type that is associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> UTRAN/GERAN using Sv Interface	This group displays the all Sv-based (MME-R8/2.5G/SGSN) handover attempts/successes/failures associated with all MME services on the system.
CS only handover with no DTM support	This sub-group displays the all Sv-based (MME-R8/2.5G/SGSN) circuit-switched, non-DTM (Dual Transfer Mode) handover attempts/successes/failures and associated with all MME services on the system.
CS only handover	This sub-group displays the all Sv-based (MME-R8/2.5G/SGSN) circuit-switched handover attempts/successes/failures associated with all MME services on the system.
CS and PS handover	This sub-group displays the all Sv-based (MME-R8/2.5G/SGSN) circuit-switched and packet-switched handover attempts/successes/failures associated with all MME services on the system.

Field	Description
Attempted	The total number of attempts made for the specific handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific handover associated with all MME services on the system.
EUTRAN<-> Non-3GPP Unoptimized Handovers	This group displays all non-3GPP non-optimized handover attempts/successes/failures associated with all MME services on the system.
Outbound relocation (Per PDN)	This sub-group displays all outbound non-3GPP handover attempts/successes/failures associated with all MME services on the system. These counters increment on a per-PDN basis.
Inbound relocation (Per PDN)	This sub-group displays the all outbound non-3GPP handover attempts/successes/failures associated with all MME services on the system. These counters increment on a per-PDN basis.
Attempted	The total number of attempts made for the specific handover type associated with all MME services on the system.
Success	The total number of successful handovers made for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed made for the specific handover type associated with all MME services on the system.
PDN Statistics	
All PDNs	Displays statistics for all PDNs, connected and idle, through the MME service(s) on the system.
Connected PDNs	Displays statistics for connected PDNs through the MME service(s) on the system.
Idle PDNs	Displays statistics for idle PDNs through the MME service(s) on the system.
Emergency PDN Statistics	
All PDNs	Displays statistics for all emergency PDNs, connected and idle, through the MME service(s) on the system.
Connected PDNs	Displays statistics for connected emergency PDNs through the MME service(s) on the system.
Idle PDNs	Displays statistics for idle emergency PDNs through the MME service(s) on the system.
DCNR User PDN Statistics	
All PDNs	Displays statistics for all DCNR user PDNs, connected and idle, through the MME service(s) on the system.

Field	Description
Connected PDNs	Displays statistics for connected DCNR user PDNs through the MME service(s) on the system.
Idle PDNs	Displays statistics for idle DCNR user PDNs through the MME service(s) on the system.
Bearer Statistics	
All Bearers	This sub-group displays statistics for all bearers, connected and idle, through the MME service(s) on the system.
Connected Bearers	This sub-group displays statistics for connected bearers through the MME service(s) on the system.
Idle Bearers	This sub-group displays statistics for idle bearers through the MME service(s) on the system.
Bearers Using Operator-Specific QCI	This sub-group displays statistics for all bearers, connected and idle, through the MME service(s) on the system, using operator specific QCI values.
ERAB Modification Indication:	
Attempted	Indicates the number of bearers for which the E-RAB Modification Indication procedure is attempted (bearer level stats).
Success	Indicates the number of bearers for which the E-RAB Modification Indication procedure has succeeded (bearer level stats).
Failures	Indicates the number of bearers for which the E-RAB Modification Indication procedure has failed (bearer level stats).
Session Statistics	
Attached Calls	This sub-group displays statistics for all calls, connected and idle, through the MME service(s) on the system.
Connected Calls	This sub-group displays statistics for connected calls through the MME service(s) on the system.
Idle Calls	This sub-group displays statistics for idle calls through the MME service(s) on the system.
Emergency Session Statistics	
Attached Calls	This sub-group displays statistics for all emergency calls, connected and idle, through the MME service(s) on the system.
Connected Calls	This sub-group displays statistics for connected emergency calls through the MME service(s) on the system.
Idle Calls	This sub-group displays statistics for idle emergency calls through the MME service(s) on the system.

Field	Description
Unauthenticated Session Statistics	
Attached Calls	This sub-group displays statistics for all unauthenticated emergency calls, connected and idle, through the MME service(s) on the system.
Connected Calls	This sub-group displays statistics for connected and unauthenticated emergency calls through the MME service(s) on the system.
Idle Calls	This sub-group displays statistics for idle unauthenticated emergency calls through the MME service(s) on the system.
Disconnect Statistics	
UE detached	The total number of disconnected sessions, with the reason "UE detached", originally connected through the MME service(s) on the system.
PGW detached	The total number of disconnected sessions, with the reason "PGW detached", originally connected through the MME service(s) on the system.
HSS detached	The total number of disconnected sessions, with the reason "HSS detached", originally connected through the MME service(s) on the system.
MME detached	The total number of disconnected sessions, with the reason "MME detached", originally connected through the MME service(s) on the system.
Implicit detach	The total number of disconnected sessions, with the reason "Implicit detach", originally connected through the MME service(s) on the system.
Local abort	The total number of disconnected sessions, with the reason "Local abort", originally connected through the MME service(s) on the system.
Authentication failure	The total number of disconnected sessions, with the reason "Authentication failure", originally connected through the MME service(s) on the system.
Sub parameter failure	The total number of disconnected sessions, with the reason "Sub parameter failure", originally connected through the MME service(s) on the system.
Other reasons	The total number of disconnected sessions, with the reason "Other reasons", originally connected through the MME service(s) on the system.
ISR Deactivation Statistics	
S3 path failure	The total number of Idle mode Signaling Reduction (ISR) deactivations due to failure in the S3 interface.
SGSN local detach	The total number of Idle mode Signaling Reduction (ISR) deactivations due to SGSN detach notification.
SGW relocation	The total number of Idle mode Signaling Reduction (ISR) deactivations due to SGW relocation of the session to an MME/SGSN which does not support ISR.
CN Node relocation	The total number of Idle mode Signaling Reduction (ISR) deactivations due to CN Node relocation of the session to an MME/SGSN which does not support ISR.

Field	Description
Implicit detach	The total number of Idle mode Signaling Reduction (ISR) deactivations due to an idle timeout (implicit detach) initiated by either the MME or Peer SGSN.
Other detach procedures	The total number of Idle mode Signaling Reduction (ISR) deactivations due to an idle timeout (implicit detach) initiated by either the MME or Peer SGSN.
Other reasons	The total number of Idle mode Signaling Reduction (ISR) deactivations due to a reason not otherwise classified by one of the other ISR Deactivation Statistics categories.
GUTI Reallocation	This group displays policy triggered GUTI re-allocation procedure statistics.
Attempted	The total number of GUTI Reallocation procedures attempted for this MME service.
Failures	The total number of GUTI Reallocation procedure failures for this MME service.
Success	The total successful number of GUTI Reallocations procedures completed successfully for this MME service.
GUTI Reallocation	This group displays message statistics for policy triggered GUTI re-allocation.
Attach Accept	Number of non-retransmitted NAS Attach Accept messages sent that contained the reallocated GUTI identifier.
Retransmissions	Number of retransmitted NAS Attach Accept messages sent that contained the reallocated GUTI identifier.
TAU Accept	Number of non-retransmitted NAS TAU Accept messages sent that contained the reallocated GUTI identifier.
Retransmissions	Number of retransmitted NAS TAU Accept messages sent that contained the reallocated GUTI identifier.
GUTI Reallocation cmd	Number of non-retransmitted NAS GUTI Reallocation Command messages sent.
Retransmissions	Number of retransmitted NAS GUTI Reallocation Command messages sent.
Paging Initiation for PS ARP-N Events	Displays paging initiation information for packet switched ARP events.
Attempted	Displays the number of paging events attempted.
Success	Displays the number of successful paging events.
Failures	Displays the number of failed paging events.
Success at Last n eNB	Displays the number of successful paging events at the last known eNodeB.
Success at Last TAI	Displays the number of successful paging events at the last TAI.
Success at TAI List	Displays the number of S13 additional IMEI checks that timed out during attach procedures.
Paging Initiation for PS APN-Profile Events	Displays paging initiation information for packet switched APN profile events.

Field	Description
Attempted	Displays the number of paging events attempted.
Success	Displays the number of successful paging events.
Failures	Displays the number of failed paging events.
Success at Last n eNB	Displays the number of successful paging events at the last known eNodeB.
Success at Last TAI	Displays the number of successful paging events at the last TAI.
Success at TAI List	Displays the number of successful paging events at the TAI list.
Paging Initiation for PS SMS Events:	
Attempted	The total number of ECM statistics-related PS SMS Paging Initiation events that were attempted.
Success	The total number of ECM statistics-related PS SMS Paging Initiation events that were successful.
Failures	The total number of ECM statistics-related PS SMS Paging Initiation events that failed.
Success at Last n eNB	The total number of ECM statistics-related PS SMS Paging Initiation events that succeeded at the last known eNodeB.
Success at Last TAI	The total number of ECM statistics-related PS SMS Paging Initiation events that succeeded at an eNodeB in the TAI from which the UE was last heard.
Success at TAI List	The total number of ECM statistics-related PS SMS Paging Initiation events that succeeded at an eNodeB in all TAIs present in the TAI list assigned to the UE.
S13 Statistics:	
Additional ME Identity Check Procedures (Attach):	
Requests:	Displays the number of S13 additional IMEI checks requested during attach procedures.
Answer:	Displays the number of S13 additional IMEI checks answered during attach procedures.
Success:	Displays the number of S13 additional IMEI checks that were successful during attach procedures.
Failure:	Displays the number of S13 additional IMEI checks that failed during attach procedures.
Additional ME Identity Check Procedures (TAU):	
Requests:	Displays the number of S13 additional IMEI checks requested during a TAU.
Answer:	Displays the number of S13 additional IMEI checks answered during a TAU.

Field	Description
Success:	Displays the number of S13 additional IMEI checks that were successful during TAU.
Failure:	Displays the number of S13 additional IMEI checks that failed during TAU.
Timeout:	Displays the number of S13 additional IMEI checks that timed out during TAU.
Additional ME Identity Check Procedures (Handover):	
Requests:	Displays the number of S13 additional IMEI checks requested during handover procedures.
Answer:	Displays the number of S13 additional IMEI checks answered during handover procedures.
Success:	Displays the number of S13 additional IMEI checks that were successful during handover procedures.
Failure:	Displays the number of S13 additional IMEI checks that failed during handover procedures.
Timeout:	Displays the number of S13 additional IMEI checks that timed out during handover procedures.
EDRX Subscribers	Displays information about the eDRX subscribers.
Attached Calls	Displays the number of attached subscribers for which eDRX is enabled.
DDN Rejects	Displays the number of DDNs rejected when eDRX subscribers cannot be paged (UE is out of the paging window).
NB-IoT Subscribers	Displays information about NB-IoT subscribers
Attached Calls	Displays the number of attached calls for NB-IoT subscribers.
Connected Calls	Displays the number of connected calls for NB-IoT subscribers.
Idle Calls	Displays the number of idle calls for NB-IoT subscribers.
Attach Without PDN Subscribers	Displays information about the Attach without PDN subscribers.
Attached Calls	Displays the number of attached calls for Attach without PDN subscribers.
Connected Calls	Displays the number of connected calls for Attach without PDN subscribers.
Idle Calls	Displays the number of idle calls for Attach without PDN subscribers.
Low Power Subscribers:	
NB-IoT Attached Calls	The current total number of attached low power subscribers which are operating in NB-IoT.
EUTRAN Attached Calls	The current total number of attached low power subscribers which are operating in E-UTRAN.

Field	Description
CE-mode-B Capable Subscribers:	
Attached Calls	Displays the number of attached calls by CE Mode-B subscribers.
Connected Calls	Displays the number of connected calls by CE Mode-B subscribers.
Idle Calls	Displays the number of idle calls by CE Mode-B subscribers.
NB-IoT Statistics	Displays the following NB-IoT statistics: • Handover Denied • Path Sw Failure • HO Prep Failure • Inter MME Denied (TAU Reject) • Src Peer Node Gn SGSN • Src Peer Node S3 SGSN • NB-IoT RAT as Src • NB-IoT RAT as Tgt • Intra MME Denied (TAU Reject) • NB-IoT RAT as Src • NB-IoT RAT as Tgt • Inter MME Denied (Context Failure) • Tgt Peer Node Gn SGSN • Tgt Peer Node S3 SGSN • NB-IoT RAT as Src • NB-IoT RAT at Tgt • Inter MME Denied (Forward Relocation Reject) • NB-IoT RAT as Tgt

Field	Description
Attach Without PDN Statistics	Displays the following Attach without PDN statistics: • Attach Procedure • Attach Request Rcvd • Attach Accept Sent • Attach Complete Rcvd • Attach Reject Sent • Config Err NB-IoT • Config Err WB-Eutran • Intra MME TAU Procedure • TAU Request Rcvd • TAU Accept Sent • TAU Complete Rcvd • Inter MME TAU Procedure • TAU Request Rcvd • TAU Accept Sent • TAU Complete Rcvd • TAU Reject Sent • Config Err NB-IoT • Config Err WB-Eutran • PDN Procedure • PDN Conn Req after wopdn • PDN Conn Succ wopdn • Last PDN Del wo Detach • Inter MME Denied (Context Failure) • No WOPDN sup by S3 SGSN • No WOPDN sup by Peer MME • No WOPDN sup by MME
S-GW Restoration	
Attempted	Indicates the total number of PDNs attempted for S-GW restoration at a service level.

Field	Description
Down	Indicates the total number of PDNs attempted for S-GW restoration at service level due to an S-GW being down.
Restart	Total number of PDNs attempted for S-GW restoration at service level due to an S-GW being restarted.
UE PDN Restored	
Emergency	Indicates the number of emergency PDNs restored during S-GW restoration.
IMS	Indicates the number of IMS PDNs restored during S-GW restoration
Normal	Indicates the number of normal PDNs restored during S-GW restoration
UE PDN Failed	
Emergency	Indicates the number of unsuccessful emergency PDNs during S-GW restoration.
IMS	Indicates the number of unsuccessful IMS PDNs during S-GW restoration.
Normal	Indicates the number of unsuccessful IMS PDNs during S-GW restoration.
SGW Restoration Failure	
Invalid UE S-GW context	Indicates S-GW restoration procedure failure due to invalid S-GW context.
No EPS Bearer Active	Indicates S-GW restoration procedure failure because of unavailable EPC bearers active for the UE.
S-GW Selection Failure	Indicates S-GW restoration procedure failure due to S-GW selection failure for a UE.
S-GW Reloc Proc Failed	Indicates S-GW restoration procedure failure when the procedure responsible to trigger S-GW relocation has failed.
Create Session Failure	Indicates S-GW restoration procedure failure when a Create Session Response failure message is received from a peer.
Abort	Indicates S-GW restoration procedure failure due to timeout or high priority procedure.
Decor Statistics	
Attached Calls	Indicates the number of MME sessions attached that have an associated UE usage type.
Initial Requests:	
ATTACH	
Accepts	Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN.

Field	Description
Reroutes	Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
Rerouted Requests:	
ATTACH	
Accepts	Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN.
UE-Usage-Type Source	
HSS	Indicates the number of MME subscriber sessions, where UE usage type was obtained from HSS/AUC.
UE Context	Indicates the number of MME subscriber sessions, where UE usage type was obtained from MME DB record.
Peer MME	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer MME as part of handover.
Peer SGSN	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer SGSN as part of handover.
Config	Indicates the number of MME subscriber sessions, where UE usage type was obtained from local configuration.

Field	Description
eNodeB	Indicates the number of MME subscriber sessions, where UE usage type was obtained from the eNodeB, in the S1 message as part of reroute.
GUTI Reallocation Cmd due to UE-Usage-Type Change	
Attempted	Tracks the number of GUTI Reallocation procedures attempted due to UE-Usage-Type Change from HSS through ISDR OR after connected mode handover and UE-Usage-Type not served by the MME (NAS GUTI Reallocation Command message was sent by MME).
Success	Tracks the number of successful GUTI Reallocation procedures.
Failures	Tracks the number of GUTI Reallocation procedure failures.
Handover from service area	
DCN	Indicates the total number of inbound handovers from the service area where DCN is supported.
Non DCN	Indicates the total number of inbound handovers from the service area where DCN is not supported.
Explicit AIR	
Attach	Indicates the number of explicit AIR messages during Attach.
Inbound relocation	Indicates the number of explicit AIR messages during inbound relocation.
Inbound relocation using TAU procedure	Indicates the number of explicit AIR messages during inbound relocation using TAU.
ISDR UE-Usage-Type Change	Tracks the number of ISDR Messages received with different UE-Usage-Type from the HSS.
MMEGI Selection	
DNS	Indicates the total number of times MMEGI is selected through DNS from a dedicated pool (DNS records having UE Usage Type which is matching).
Local	Indicates the total number of times MMEGI is selected from local configuration.
Failure	Indicates the total number of times MMEGI is selected from failure.
Node Selection	
S-GW DNS: Common	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR excluding UE usage type. This counter increments only when the DNS RR with UE usage type is absent.
S-GW DNS: Dedicated	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is present.

Field	Description
SGW Local Config: Common	Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the UE usage type.
PGW DNS: Common	Indicates the number of times PGW DNS selection procedures were performed with DNS RR *excluding* UE usage type. This counter increments only when the DNS RR with UE usage type is *absent*.
PGW DNS: Dedicated	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR *including* UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is *present*.
PGW Local Config: Common	Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address without considering the UE usage type.
MME DNS: Common	Indicates the number of times MME DNS selection procedures were performed with DNS RR *excluding* UE usage type. This counter increments only when the DNS RR with UE usage type is *absent*.
MME DNS: Dedicated	Indicates the number of times MME DNS selection procedures were performed with DNS RR *including* UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is *present*.
MME Local Config: Common	Indicates the number of times MME selection procedures were performed with locally configured MME address without considering the UE usage type.
SGSN DNS: Common	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR *excluding* UE usage type. This counter increments only when the DNS RR with UE usage type is *absent*.
SGSN DNS: Dedicated	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR *including* UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is *present*.
SGSN Local Config: Common	Indicates the number of times SGSN selection procedures were performed with locally configured SGSN address without considering the UE usage type.
Dual Connectivity with NR Statistics:	
Attach Procedure	
Attach Request Rcvd	Indicates the number of Attach Requests received with UE advertising DCNR support.
Attach Acc DCNR allowed	Indicates the number of Attach Accept messages sent by the MME acknowledging the DCNR support for the UE (Restrict DCNR bit not set in Attach Accept).
Attach Acc DCNR denied	Indicates the number of Attach Accept messages sent by the MME rejecting the DCNR support for the UE (Restrict DCNR bit set in Attach Accept).

Field	Description
Attach Reject Sent	Indicates the number of Attach Reject messages sent by MME whose corresponding Attach Request messages have DCNR support capability.
Attach Complete Rcvd	Indicates the number of Attach Complete messages received by MME whose corresponding Attach Request messages have DCNR support capability.
Intra MME TAU Procedure	
TAU Request Rcvd	Indicates the number of TAU Request messages received for Intra-MME TAU procedure with UE advertising DCNR support.
TAU Accept DCNR allowed	Indicates the number of TAU Accept messages sent by the MME acknowledging the DCNR support for the UE (Restrict DCNR bit not set in TAU Accept) for Intra-MME TAU procedure.
TAU Accept DCNR denied	Indicates the number of TAU Accept messages sent by the MME rejecting the DCNR support for the UE (Restrict DCNR bit set in TAU Accept) for Intra-MME TAU procedure.
TAU Complete Rcvd	Indicates the number of TAU Complete messages received by the MME whose corresponding Intra-MME TAU Requests have DCNR support capability.
Inter MME TAU Procedure	
TAU Request Rcvd	Indicates the number of TAU Request messages received for Inter-MME TAU procedure with UE advertising DCNR support.
TAU Accept DCNR allowed	Indicates the number of TAU Accept messages sent by the MME acknowledging the DCNR support for the UE (Restrict DCNR bit not set in TAU Accept) for Inter-MME TAU procedure.
TAU Accept DCNR denied	Indicates the number of TAU Accept messages sent by the MME rejecting the DCNR support for the UE (Restrict DCNR bit set in TAU Accept) for Inter-MME TAU procedure.
TAU Reject Sent	Indicates the number of TAU Reject messages sent by the MME whose corresponding Inter-MME TAU Requests have DCNR support capability.
TAU Complete Rcvd	Indicates the number of TAU Complete messages received by MME whose corresponding Inter-MME TAU Request have DCNR support capability.
Dual Connectivity with NR Subscribers	
Attached Calls	Indicates the number of DCNR supported UEs attached with the MME.
Connected Calls	Indicates the number of DCNR supported UEs in connected mode at MME.
Idle Calls	Indicates the number of DCNR supported UEs in idle mode at MME.
Node Selection	
SGW DNS:	

Field	Description
Common	Indicates the number of times S-GW DNS selection procedures are performed with DNS RR excluding the NR network capability.
NR Capable	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including the NR network capability.
SGW Local Config:	
Common	Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the NR network capability.
PGW DNS:	
Common	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR excluding the NR network capability.
NR Capable	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR including the NR network capability.
PGW Local Config:	
Common	Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address, without considering the NR network capability.
EUTRAN<->NGRAN Using N26 Interface	
Outbound relocation using EPS-5GS Mobility procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS mobility procedure.
Outbound relocation using EPS-5GS HO procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS handover procedure.
Inbound relocation using EPS-5GS Mobility procedure	Indicates the number of attempts, successes, and failures of Inbound relocation using EPS-5GS mobility procedure.
Inbound relocation using EPS-5GS HO procedure	Indicates the number of attempts, successes, and failures of Inbound relocation using EPS-5GS handover procedure.
Monitoring Event Profile mon	
Loss of connectivity	Indicates the current session statistics of Loss of connectivity event configuration.
UE Reachability	Indicates the current session statistics of UE Reachability event configurations
Location Reporting	Indicates the current session statistics of reporting location event configurations.
Communication Failure	Indicates the current session statistics of Radio connection status failure events.
Availability after DDN Failure	Indicates the current session statistics of Availability after DDN Failure event configuration.
UE Reachability and Idle status indication	Indicates the current session statistics of UE Reachability and Idle status indication event configurations.

Field	Description
Availability after DDN Failure and Idle Status indication	Indicates the current session statistics of Availability after DDN Failure and Idle Status indication event configuration.
PDN connectivity status	Indicates that the current session statistics of PDN connectivity status event configuration.
Monitoring Report Config Rx Count:	
Loss of connectivity	Indicates that the number of Loss of connectivity event configuration received.
UE Reachability	Indicates that the number of UE reachability event configurations received .
Location Reporting	Indicates that the number of reporting location event configurations received.
Availability after DDN Failure	Indicates that the number of Availability after DDN Failure event configuration received.
Number of UE in a geographic area	Indicates the received Number of UEs present in a geographic area event configuration is either in Progress, Pending or in Dropped status.
Idle status indication	Indicates that the number of Idle status event configurations received.
PDN connectivity status	Indicates that the PDN connectivity status event configuration received.
Monitoring Report Config Tx Count	
Loss of connectivity	Indicates the number of loss of connectivity reports sent.
UE Reachability	Indicates the number of UE reachability reports sent.
Location Reporting	Indicates that the number of Location reports sent.
Communication Failure	Indicates that the number of communication failure reports sent.
Availability after DDN Failure	Indicates that the number of Availability after DDN Failure reports sent.
Number of UE in a geographic area	Indicates that the number of UE in a geographical area report is either in successful, failed ot in dropped status.
UE Reachability and idle status indication	Indicates that the number of UE Reachability and idle status indication report sent.
Availability after DDN Failure and idle status indication	Indicates that the Availability after DDN Failure and idle status indication report sent.
PDN connectivity status	Indicates that the number of PDN connectivity statuses report sent.
Monitoring Event Configuration Deleted Count	
Loss of connectivity	Indicates the number of deleted loss of connectivity monitoring events.
UE Reachability	Indicates the number of deleted UE Reachability monitoring events.
Location Reporting	Indicates the number of deleted location reporting monitoring events.

Field	Description
Communication Failure	Indicates the number of deleted communication failure monitoring events.
Availability after DDN Failure	Indicates number of deleted availability after DDN failure monitoring events.
UE Reachability and idle status indication	Indicates the number of deleted UE reachability and idle status indication monitoring events.
PDN connectivity status	Indicates the number of deleted pdn connectivity status monitoring events.
ULA received without monte cfg	Indicates the number of deleted monitoring events configurations when ULA received with updated set of configurations.
HSS update received with different scef ref id	Indicates the number of deleted monitoring events with HSS update received with different SCEF Reference Id.
HSS update received with same scef ref id	Indicates the number of deleted monitoring events with HSS update received with same SCEF Reference Id.
HSS abort except subs withdrawn	The total number of Attach Reject messages sent for an Attach Request with a cause code Network Failure, when the rejection is due to HSS abort except subscription withdrawn.
Monitoring Event Roaming Statistics	
CIR sent	Indicates the number of CIR messages sent for roaming subscribers.
CIA received	Indicates the number of CIA message received from roaming subscribers.
CIR timeout	Indicates the CIR timeout value if there is no response for the CIR messages sent.
RIR sent	Indicates the number of RIR messages that are sent for roaming subscribers.
CIR denied by IWK-SCEF	Indicates the number of CIR messages denied through IWK-SCEF.

show mme-service statistics 5gs-interworking

Table 431: show mme-service statistics 5gs-interworking Command Output Descriptions

Field	Description
Attach Request Rcvd	Displays the number of Attach Request messages received with UE advertising N1 Mode support.
TAU Request Rcvd	Displays the number of TAU Request messages received with UE advertising N1 Mode support.
SMF-Combined	Displays the number of times P-GW DNS selection procedures performed with DNS RR including the N1 Mode network capability.

Field	Description
NR Capable	Displays the number of times P-GW DNS selection procedures performed with DNS RR including the NR network capability.
Common	Displays the number of times P-GW DNS selection procedures performed with DNS RR excluding the N1 Mode network capability.
PGW Local Config	Displays the number of times P-GW selection procedures performed with locally configured P-GW address, without considering the N1 Mode network capability.

show mme-service statistics decor

Table 432: show mme-service statistics decor Command Output Descriptions

Field	Description
Decor Statistics:	
Attached Calls	Indicates the number of MME sessions attached that have an associated UE usage type.
Initial Requests:	
ATTACH	
Accepts	Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
Rerouted Requests:	
ATTACH	
Accepts	Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN.

Field	Description
Rejects	Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN.
UE-Usage-Type Source	
HSS	Indicates the number of MME subscriber sessions, where UE usage type was obtained from HSS/AUC.
UE Context	Indicates the number of MME subscriber sessions, where UE usage type was obtained from MME DB record.
Peer MME	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer MME as part of handover.
Peer SGSN	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer SGSN as part of handover.
Config	Indicates the number of MME subscriber sessions, where UE usage type was obtained from local configuration.
eNodeB	Indicates the number of MME subscriber sessions, where UE usage type was obtained from the eNodeB, in the S1 message as part of reroute.
GUTI Reallocation Cmd due to UE-Usage-Type Change	
Attempted	Tracks the number of GUTI Reallocation procedures attempted due to UE-Usage-Type Change from HSS through ISDR OR after connected mode handover and UE-Usage-Type not served by the MME (NAS GUTI Reallocation Command message was sent by MME).
Success	Tracks the number of successful GUTI Reallocation procedures.
Failures	Tracks the number of GUTI Reallocation procedure failures.
Handover from service area	
DCN	Indicates the total number of inbound handovers from the service area where DCN is supported.
Non DCN	Indicates the total number of inbound handovers from the service area where DCN is not supported.
Explicit AIR	
Attach	Indicates the number of explicit AIR messages during Attach.

Field	Description
Inbound relocation	Indicates the number of explicit AIR messages during inbound relocation.
Inbound relocation using TAU procedure	Indicates the number of explicit AIR messages during inbound relocation using TAU.
ISDR UE-Usage-Type Change	Tracks the number of ISDR Messages received with different UE-Usage-Type from the HSS.
MMEGI Selection	
DNS	Indicates the total number of times MMEGI is selected through DNS from a dedicated pool (DNS records having UE Usage Type which is matching).
Local	Indicates the total number of times MMEGI is selected from local configuration.
Failure	Indicates the total number of times MMEGI is selected from failure.
Node Selection	
SGW DNS	
Common	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
SGW Local Config	
Common	Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the UE usage type.
PGW DNS	
Common	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
PGW Local Config	
Common	Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address, without considering the UE usage type.
MME DNS	
Common	Indicates the number of times MME DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times MME DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
MME Local Config	

Field	Description
Common	Indicates the number of times MME selection procedures were performed with locally configured MME address, without considering the UE usage type.
SGSN DNS	
Common	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
SGSN Local Config	
Common	Indicates the number of times SGSN selection procedures were performed with locally configured SGSN address, without considering the UE usage type.

show mme-service statistics decor decor-profile <profile_name>

Table 433: show mme-service statistics decor decor-profile <profile_name> Command Output Descriptions

Field	Description
Decor Statistics:	
Attached Calls	Indicates the number of MME sessions attached that have an associated UE usage type.
Initial Requests:	
ATTACH	
Accepts	Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN.

Field	Description
Rejects	Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
Rerouted Requests:	
ATTACH	
Accepts	Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN.
UE-Usage-Type Source	
HSS	Indicates the number of MME subscriber sessions, where UE usage type was obtained from HSS/AUC.
UE Context	Indicates the number of MME subscriber sessions, where UE usage type was obtained from MME DB record.
Peer MME	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer MME as part of handover.
Peer SGSN	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer SGSN as part of handover.
Config	Indicates the number of MME subscriber sessions, where UE usage type was obtained from local configuration.
eNodeB	Indicates the number of MME subscriber sessions, where UE usage type was obtained from the eNodeB, in the S1 message as part of reroute.
GUTI Reallocation Cmd due to UE-Usage-Type Change	
Attempted	Tracks the number of GUTI Reallocation procedures attempted due to UE-Usage-Type Change from HSS through ISDR OR after connected mode handover and UE-Usage-Type not served by the MME (NAS GUTI Reallocation Command message was sent by MME).
Success	Tracks the number of successful GUTI Reallocation procedures.
Failures	Tracks the number of GUTI Reallocation procedure failures.
Handover from service area	

Field	Description
DCN	Indicates the total number of inbound handovers from the service area where DCN is supported.
Non DCN	Indicates the total number of inbound handovers from the service area where DCN is not supported.
Explicit AIR	
Attach	Indicates the number of explicit AIR messages during Attach.
Inbound relocation	Indicates the number of explicit AIR messages during inbound relocation.
Inbound relocation using TAU procedure	Indicates the number of explicit AIR messages during inbound relocation using TAU.
ISDR UE-Usage-Type Change	Tracks the number of ISDR Messages received with different UE-Usage-Type from the HSS.
MMEGI Selection	
DNS	Indicates the total number of times MMEGI is selected through DNS from a dedicated pool (DNS records having UE Usage Type which is matching).
Local	Indicates the total number of times MMEGI is selected from local configuration.
Failure	Indicates the total number of times MMEGI is selected from failure.
Node Selection	
SGW DNS	
Common	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
SGW Local Config	
Common	Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the UE usage type.
PGW DNS	
Common	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
PGW Local Config	
Common	Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address, without considering the UE usage type.

Field	Description
MME DNS	
Common	Indicates the number of times MME DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times MME DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
MME Local Config	
Common	Indicates the number of times MME selection procedures were performed with locally configured MME address, without considering the UE usage type.
SGSN DNS	
Common	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
SGSN Local Config	
Common	Indicates the number of times SGSN selection procedures were performed with locally configured SGSN address, without considering the UE usage type.

show mme-service statistics lte-emergency-profile

The following table lists various counters and metrics related to emergency call/session management in a telecommunications system.

Field or Counter	Description
Session Statistics – Attached Calls	Gauge counter providing the current total number of emergency calls or sessions in the connected or idle state.
Session Statistics – Connected Calls	Gauge counter providing the current total number of emergency calls or sessions in the connected state.
Session Statistics – Idle Calls	Gauge counter providing the current total number of emergency calls or sessions in the idle state.
Unauthenticated Session Statistics – Attached Calls	Gauge counter providing the current total number of unauthenticated emergency calls or sessions in the connected or idle state.
Unauthenticated Session Statistics – Connected Calls	Gauge counter providing the current total number of unauthenticated emergency calls or sessions in the connected state.
Unauthenticated Session Statistics – Idle Calls	Gauge counter providing the current total number of unauthenticated emergency calls or sessions in the idle state.

Field or Counter	Description
PDN Statistics – All PDNs	Gauge counter providing the current total number of emergency PDNs in the connected or idle state.
PDN Statistics – Connected PDNs	Gauge counter providing the current total number of emergency PDNs in the connected state.
PDN Statistics – Idle PDNs	Gauge counter providing the current total number of emergency PDNs in the idle state.
EPS Associations for Emergency Services – Attempted	Counter providing the total number of attempted EPS associations for emergency services.
EPS Associations for Emergency Services – Success	Counter providing the total number of successful EPS associations for emergency services.
EPS Associations for Emergency Services – Failure	Counter providing the total number of failed EPS associations for emergency services.
UE-Initiated Emergency PDN Connections – Attempted	Counter providing the total number of attempted UE-initiated emergency PDN connections.
UE-Initiated Emergency PDN Connections – Success	Counter providing the total number of successful UE-initiated emergency PDN connections.
UE-Initiated Emergency PDN Connections – Failure	Counter providing the total number of failed UE-initiated emergency PDN connections.
Inbound Relocation using S1 HO Procedure – Attempted	Counter providing the total number of attempted inbound S1 HO associations for emergency bearer services.
Inbound Relocation using S1 HO Procedure – Success	Counter providing the total number of successful inbound S1 HO associations for emergency bearer services.
Inbound Relocation using S1 HO Procedure – Failure	Counter providing the total number of failed inbound S1 HO associations for emergency bearer services.
Inbound Relocation using TAU Procedure – Attempted	Counter providing the total number of attempted inbound TAU ATTACH associations for emergency bearer services.
Inbound Relocation using TAU Procedure – Success	Counter providing the total number of successful inbound TAU ATTACH associations for emergency bearer services.
Inbound Relocation using TAU Procedure – Failure	Counter providing the total number of failed inbound TAU ATTACH associations for emergency bearer services.

show mme-service statistics paging-profile profile-name <paging_profile_name>

Table 434: show mme-service statistics paging-profile profile-name <paging_profile_name> Command Output Descriptions

Field	Description
Paging Profile Level Statistics:	

Field	Description
Profile name	Displays the name of the configured paging profile.
Stage-1 / Stage-2 / Stage-3 / Stage-4 / Stage-5:	
Attempted	Displays the number of times when the session manager sends paging request to at least 1 MME manager for the stage.
Skipped	Displays the number of times when the session manager skips sending paging request to at least 1 busy MME manager for the stage.
Success	Displays the number of times when the paging procedure has completed successfully while the corresponding paging stage is awaiting UE response.
Failure	Displays the number of times when the paging procedure moves to next paging stage and/or paging procedure completes with failure.

show mme-service statistics recovered-values

Table 435: show mme-service statistics recovered-values Command Output Descriptions

Field	Description
Decor Statistics:	
Initial Requests:	
ATTACH	
Accepts	Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
Rerouted Requests:	
ATTACH	

Field	Description
Accepts	Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN.
EUTRAN<->NGRAN Using N26 Interface	
Outbound relocation using EPS-5GS Mobility procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS mobility procedure.
Outbound relocation using EPS-5GS HO procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS handover procedure.
Inbound relocation using EPS-5GS Mobility procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS mobility procedure.
Inbound relocation using EPS-5GS HO procedure	Indicates the number of attempts, successes, and failures of Inbound relocation using EPS-5GS handover procedure.

show mme-service statistics tai

Important For the MME to report these TAI level statistics, you must first issue the MME Service Configuration Mode command: **statistics collection-mode tai**. Only those MME Services which are configured accordingly will provide TAI based statistics.

Caution Changing this collection mode will restart the MME service and will clear all statistics at the MME service and eNodeB level.

Table 436: show mme-service statistics tai Output Descriptions

Field	Description
EMM Statistics	

Field	Description
Attach Request: EPS Only	This sub-group displays all EMM Evolved Packet System (EPS) attach request statistics (attempts/successes/failures) for the specified TAIs. This is the sum of all IMSI, IMEI, local GUTI, Foreign GUTI, and P-TMSI attach request statistics.
Attach Request: Combined	This sub-group displays all EMM EPS combined attach statistics (attempts, successes, EPS Only successes, and failures) for the specified TAIs. This is the sum of all IMSI, local GUTI, Foreign GUTI, and P-TMSI attach request statistics. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Attach Request: Emergency	This sub-group displays all EMM Emergency Bearer Service attach request statistics (attempts/successes/failures) for the specified TAIs.
Intra MME TAU Request	This group displays all Intra-MME tracking area update statistics.
TA Updating	This sub-group displays all Intra-MME tracking area update statistics (attempts/successes/failures) for the specified TAIs. This is a sum of all "Normal TAU without SGW Relocation" + "TAU with SGW Relocation" statistics.
TA/LA Updating	This sub-group displays all Intra-MME tracking area update statistics (attempts, successes, EPS Only successes, and failures) with update type "combined TA/LA updating" for the specified TAIs. This is a sum of all "Combined TA/LA Updating without SGW Relocation" + "Combined TA/LA Updating with SGW Relocation" statistics.
TA Updating with IMSI Attach	This sub-group displays all Intra-MME tracking area update statistics (attempts, successes, EPS Only successes, and failures) with update type "combined TA/LA updating with IMSI attach" for the specified TAIs. This is a sum of all "TAU with IMSI attach without SGW Relocation" + "TAU with IMSI attach and SGW Relocation" statistics.
Periodic TAU	This sub-group displays all Intra-MME periodic tracking area update statistics (attempts/successes/failures) for the specified TAIs.
Inter MME TAU Request	This group displays all Inter-MME tracking area update statistics.
TA Updating	This sub-group displays all Inter-MME tracking area update statistics (attempts/successes/failures) for the specified TAIs. This is a sum of all "EPS Associations by TAU using Foreign GUTI" + "EPS Associations by TAU using P-TMSI" statistics.

Field	Description
TA/LA Updating	This sub-group displays all Inter-MME tracking area update statistics (attempts/successes/failures) with update type "combined TA/LA updating" for the specified TAIs. This is a sum of all "Associations by Combined TAU using Foreign GUTI" + "Associations by Combined TAU using P-TMSI" statistics.
Detaches UE Initiated	This group displays all UE-initiated detach statistics (attempts/successes/failures) for the specified TAIs.
NB-IOT	Displays the count for NB-IoT access type.
WB-EUTRAN	Displays the count for WB-EUTRAN access type.
ECM Statistics	
UE Initiated Service Request Event	This group displays all ECM service request event statistics (attempts/successes/failures) which have been initiated by the UE for the specified TAIs.
NW Initiated Service Request Event	This group displays all ECM service request event statistics (attempts/successes/failures) which have been initiated by the Network for the specified TAIs.
Handover Statistics	
X2-based handovers	This group displays the all X2-based (intra-MME) handover attempt/success/failure events for the specified TAIs.
S1-based handovers	This group displays the all S1-based (Inter-MME) handover attempt/success/failure events for the specified TAIs.
ESM Statistics	
NW Initiated Dedicated Bearer Activations	
Attempted	This sub-group displays the total number of attempted ESM network intiated dedicated bearer activations for each TAI.
Success	This sub-group displays the total number of successful ESM network intiated dedicated bearer activations for each TAI.
Failures	This sub-group displays the total number of failed ESM network intiated dedicated bearer activations for each TAI.
Session Statistics	
Total Subscribers	
Attached Calls	The total number of EPS Mobility Management call-line statistics on attached current calls for each TAI.
Connected Calls	The total number of EPS Mobility Management call-line statistics on connected current calls for each TAI.

Field	Description
Idle Calls	The total number of EPS Mobility Management call-line statistics for each TAI indicating idle current calls.
EMM Control Messages	
Sent	
Attach Accept	The total number of EMM Attach Accept messages sent for a specific ECM event for the specified TAIs.
Retransmissions	The total number of retransmitted EMM Attach Accept messages sent for a specific ECM event.
IMSI Unknown in HSS	The total number of EMM Control messages sent – Attach Accept with a cause code of IMSI unknown.
MSC Unreachable	The total number of EMM Control messages sent – Attach Accept with a cause code of MSC not available.
Network Failure	The total number of EMM Control messages sent – Attach Accept with a cause code of Network Failure.
CS Domain Not Available	The total number of EMM Control messages sent – Attach Accept with a cause code of CS domain not available.
Congestion	The total number of EMM Control messages sent – Attach Accept with a cause code of Congestion.
Attach Reject	The total number of EMM Attach Reject messages sent for the specified TAIs.
IMSI Unknown in HSS	The total number of EMM Attach Reject messages sent, with the cause code #2: "IMSI Unknown in HSS".
Illegal UE	The total number of EMM Attach Reject messages sent with the cause code #3: "Illegal UE".
Illegal ME	The total number of EMM Attach Reject messages sent with the cause code #6: "Illegal ME".
EPS Not Allowed	The total number of EMM Attach Reject messages sent with the cause code #7: "EPS Services Not Allowed".
Network Failure	The total number of EMM Attach Reject messages sent with the cause code #17: "Network Failure".
CSG Not Subscribed	The total number of EMM Attach Reject messages sent with the cause code of #25: "Not authorized for this CSG".
Decode Failure	The total number of EMM Attach Reject messages sent with the cause code #23: "Decode Failure".

Field	Description
IMEI Not Accepted	The total number of EMM Attach Reject messages sent with the cause code #5: "IMEI Not Accepted".
Roaming restricted TA	The total number of EMM Attach Reject messages sent with the cause code #13: "Roaming restricted in TA".
PLMN not allowed	The total number of EMM Attach Reject messages sent with the cause code #11: "PLMN not allowed".
TA not allowed	The total number of EMM Attach Reject messages sent with the cause code #12: "Tracking Area not allowed".
No suitable cells in TA	The total number of EMM Attach Reject messages sent with the cause code #15: "No suitable cells in TA".
EPS non-EPS Not Allwd	The total number of EMM Attach Reject messages sent with the cause code #8: "EPS services and non-EPS services not allowed".
No EPS Svc in this PLMN	The total number of EMM Attach Reject messages sent with the cause code #14: "EPS service not allowed in this plmn".
ESM Failure	The total number of EMM Attach Reject messages sent with the cause "ESM Failure" for a specific ECM event for the specified TAIs.
Rejected by PGW/SGW	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #30: "Rejected by PGW/SGW".
Authentication Failed	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #29: "Authentication Failed".
Svc Opt Not Supported	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #32: "Svc Opt Not Supported".
Svc Opt Not Subscribed	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #33: "Svc Opt Not Subscribed".
Unknown APN	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #27: "Unknown or Missing APN".
Insufficient Resource	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #26: "Insufficient Resources".
Activation Rejected	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #31: "Request rejected, unspecified".
Svc Opt Tmp OutofOrder	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #34: "Service Option Temporarily Out of Order".
Protocol Errors	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with any of the following Protocol Error cause codes: #95-101, or #111.

Field	Description
APN Restrict Incomt	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #112: "APN Restriction Value Incompatible with Active EPS Bearer Content".
Service Reject	The total number of EMM Service Reject messages sent.
UE Identity Unknown	The total number of EMM Service Reject messages sent, with a cause code of #9:"UE identity cannot be derived by the network".
Implicitly Detached	The total number of EMM Service Reject messages sent, with a cause code of #10: "Implicitly Detached".
No Bearer Active	The total number of EMM Service Reject messages sent, with a cause code of #40: "No EPS bearer context activated".
CSG Not Subscribed	The total number of EMM Service Reject messages sent, with a cause code of #25: "Not authorized for this CSG".
Roaming Restricted TA	The total number of EMM Service Reject messages sent, with a cause code of #13: "Roaming not allowed in this tracking area".
No suitable cells in TA	The total number of EMM Service Reject messages sent, with a cause code of #15: "No suitable cells in tracking area".
TA Not Allowed	The total number of EMM Service Reject messages sent, with a cause code of #12: "Tracking area not allowed".
TAU Accept Total	The total number of EMM TAU Accept messages sent (for either an Inter- or Intra-MME TAU request). **Note:** If the MME retransmits a TAU Accept message, only the "Retransmissions" counter will be incremented.
Retransmissions	The total number of EMM TAU Accept messages retransmitted (for either an Inter- or Intra-MME TAU request).
IMSI Unknown in HSS	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #22: "Congestion".

Field	Description
TAU Accept Intra MME	The total number of TAU Accept messages sent for an Intra-MME TAU request.
Retransmissions	The total number of TAU Accept messages retransmitted for an Intra-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #22: "Congestion".
TAU Accept Inter MME	The total number of TAU Accept messages sent for an Inter-MME TAU request.
Retransmissions	The total number of TAU Accept messages retransmitted for an Inter-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #22: "Congestion".
TAU Reject Total	The total number of EMM TAU Reject messages sent.
IMSI Unknown in HSS	The total number of EMM TAU Reject messages sent with the cause code #2: "IMSI unknown in HSS".
Illegal UE	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #6: "Illegal ME".

Field	Description
EPS Not Allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #25: Not authorized for this CSG.

Field	Description
EPS non-EPS not Allwd	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #8: EPS services and non-EPS services not allowed.
TAU Reject Intra MME	The total number of TAU Reject messages sent for an Intra-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #2: IMSI unknown in HSS.
Illegal UE	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #15: "No suitable cells in tracking area".

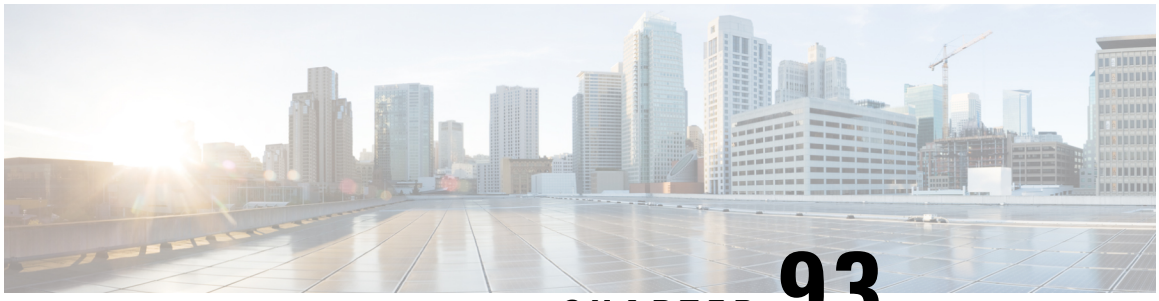
Field	Description
No EPS Svc in PLMN	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #25: "Not authorized for this CSG".
EPS non-EPS not Allwd	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed".
TAU Reject Inter MME	The total number of TAU Reject messages sent for an Inter-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
Illegal UE	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #11: "PLMN not allowed".

Field	Description
TA not allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #25: "Not authorized for this CSG".
EPS non-EPS not Allwd	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed".
Received	
Attach Complete	Displays total number of EMM Attach Complete message received from UE indicating increments for each Attach Complete message received from UE.
Attach Request	Displays total number of EMM Attach Requests received from UE indicating increments for each Attach Request message received from UE.
PDN Connectivity Reject:	
Other Reasons	Displays total number of ESM messages sent for each TAI by the MME. This indicates that the PDN connection has been rejected for a cause other than one of those listed in the output generated by the **show mme-service statistics esm-only** command.

show update-bearer-request-stats

The output of this command displays the update bearer Response Cause Code (CC16) statistics during HO/3G-4G TAU:

Field	Description
Total_UBRsp_CC16_during_HO_3G_4G_TAU_TX	The total number of counts of update bearer response during 3G-4G GnGp HO TAU and TX proces.
Current Nb of UBRs buffered at mme app	The current number of UBR buffered at MME application.



CHAPTER 93

show module

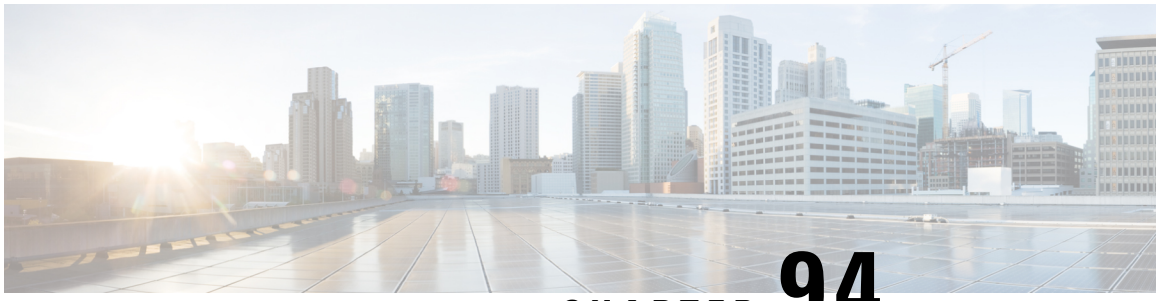
- show module, on page 1575

show module

Table 437: show module Command Output Descriptions

Field	Description
Priority	Displays the module priority number.
Version	Displays the version number of the plugin.
Loaded	Displays the status of the plugin, if loaded or not (yes/no).
Location	Displays the location where the patch is copied.
Update/Rollback Time	Displays the timestamp when the plugin was updated or rolled back.
Status	Displays the status of plugin installation (success/failed). An error message is displayed if installation fails.

show module



CHAPTER 94

show mpls

- show mpls cross-connect, on page 1577
- show mpls ftn, on page 1578
- show mpls ilm, on page 1578
- show mpls ldp bindings, on page 1579
- show mpls ldp discovery, on page 1580
- show mpls ldp neighbor, on page 1580
- show mpls ldp neighbor detail, on page 1580
- show mpls nexthop-label-forwarding-entry, on page 1581

show mpls cross-connect

Table 438: show mpls cross-connect Command Output Descriptions

Field	Description
Cross connect ix	Displays the table index for the cross-connect.
in labelspace	Indicates that all MPLS interfaces will use the platform-wide label space ("0").
in label	Displays the ingress (incoming interface) label for this segment.
out-segment ix	Displays the outbound segment index.
Owner	Displays the creator of this segment, typically a protocol such as BGP
Persistent	Displays whether the tunnel is persistent – Yes or No.
Admin Status	Indicates whether the user can administratively disable a peer while still preserving its configuration. Up = Yes, Down = No.
Oper Status	Displays the current status of the cross-connect segment – Up or Down.

show mpls ftn

Table 439: show mpls ftn Command Output Descriptions

Field	Description
Prefix/mask	Displays the IP address and mask stored in for this FEC-to-NHLFE table entry.
Nhlfe-ix	Displays the index number for the Next-Hop Label Forwarding Entry.
opcode	PUSH = Replace the top label with another and then push one or more additional labels onto the label stack SET = Set the next hop label.
label/ifindex	Displays the label associated with the interface.
nh-addr	Displays the IP address of the next hop.

show mpls ilm

Table 440: show mpls ilm Command Output Descriptions

Field	Description
Label	Displays the label ID for this entry in the Incoming Label Map table.
Opcode	POP = Remove label from packet. CONTEXT-CHANGE = ??? DELIVER = ???
nhlfe-ix/context-id	Displays the Next-Hop Label Forwarding Entry (NHLFE) index or context ID for this entry.

Table 441: show mpls ilm fec Command Output Descriptions

Field	Description
Label	Displays the label ID for this entry in the Incoming Label Map table.
VRF	Displays the Virtual Routing and Forwarding information for this entry.
FEC	Displays the Forward Equivalency Class (FEC) for this entry.

Table 442: show mpls ilm label Command Output Descriptions

Field	Description
Label	Displays the label ID for this entry in the Incoming Label Map table.
Opcode	Displays the Opcode that identifies the specific PDU for this entry.
nhlfe-ix/context-id	Displays the NHLFE/ Context ID for this entry.

Table 443: show mpls ilm verbose Command Output Descriptions

Field	Description
In-segment entry with in label:	Displays the label ID for this entry in the Incoming Label Map table.
id:	Displays the Opcode that identifies the specific PDU for this entry.
row status:	Displays the Next-Hop Label Forwarding Entry/ Context ID for this entry.
Owner:	Ownership of the management plane.
# of pops:	Number of pops (TTL)
Index:	Index number
FEC:	Forward Equivalency Class

show mpls ldp bindings

Table 444: show mpls ldp bindings Command Output Descriptions

Field	Description
Prefix	Displays the IP address and mask for a particular destination.
LPD ID	LDP identifier (IP address).
Label	Displays the label associated with this entry.
Nexthop	Displays the IP address of the next hop.
Egress_if_index	Displays the interface index for egress messages.

show mpls ldp discovery

Table 445: show mpls ldp discovery Command Output Descriptions

Field	Description
Peer LDP ID	LDP ID of the peer router.
Hold Time (seconds)	Period of time (in seconds) a discovered LDP neighbor is remembered without receipt of an LDP hello message from the neighbor.
Proposed Local/Peer (seconds)	Hold times (in seconds) proposed for LDP hello timer by the local router and the peer router. LDP uses the lower of these two values as the hold time.
Remaining (seconds)	Time remaining time before the hello timer expires.

show mpls ldp neighbor

Table 446: show mpls ldp neighbor Command Output Descriptions

Field	Description
Peer LDP ID	LDP ID of the peer router.
State	Specifies the state of the LDP session.
Hold Time (seconds)	Period of time (in seconds) a discovered LDP neighbor is remembered without receipt of an LDP hello message from the neighbor.
Proposed Local/Peer (seconds)	Hold times (in seconds) proposed for LDP hello timer by the local router and the peer router. LDP uses the lower of these two values as the hold time.
Remaining (seconds)	Time remaining time before the hello timer expires.

show mpls ldp neighbor detail

Table 447: show mpls ldp neighbor detail Command Output Descriptions

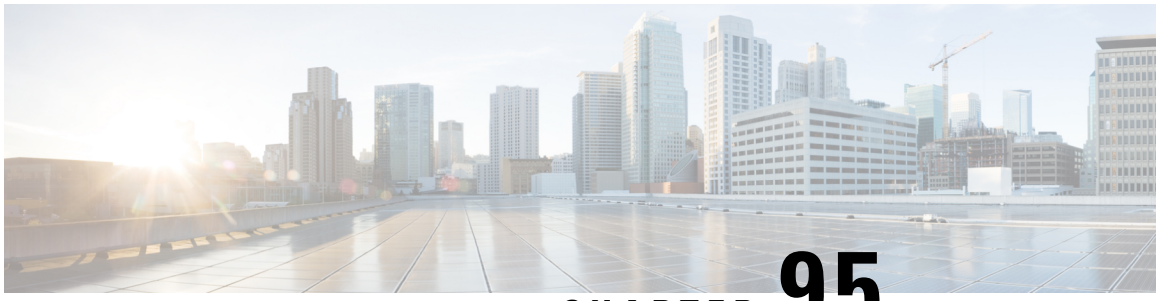
Field	Description
Local LDP Identifier	LDP identifier(IP address) for the local router.
Peer LDP ID	LDP ID of the peer router.
Transport Address	Specifies the named IP address as the transport address in the LDP discovery hello messages.

Field	Description
State	Specifies the state of the LDP session.
Role	Specifies ACTIVE or PASSIVE role for the LSR.
Uptime	Specifies the length of time the LDP session has existed.
Keepalive Negotiated Hold Time	Indicates the time that an LDP session is to be maintained with an LDP peer without receiving LDP traffic or an LDP keepalive message from the peer.
Proposed Local/Peer	Hold times (in seconds) proposed for LDP hello timer by the local router and the peer router. LDP uses the lower of these two values as the hold time.
Remaining Keepalive hold time	Time remaining time before the keepalive timer expires.
Address advertised	Identifies the neighbor with this IP address.

show mpls nexthop-label-forwarding-entry

Table 448: show mpls nexthop-label-forwarding-entry Command Output Descriptions

Field	Description
Nhlfe-ix	Displays the index number for the Next-Hop Label Forwarding Entry.
Opcode	PUSH = Replace the top label with another and then push one or more additional labels onto the label stack SET = Set the next hop label.
label/ifindex	Displays the label associated with the interface.
nh-addr	Displays the IP address of the next hop.



CHAPTER 95

show multicast-sessions

This chapter includes the **show multicast-sessions** command output tables.

- show multicast-sessions all, on page 1584
- show multicast-sessions full all, on page 1585

show multicast-sessions all

Table 449: show multicast-sessions all Command Output Descriptions

Field	Description
vvvvv	Displays service and session state information. This column provides a code consisting of three characters. From left-to-right, the first character represents the **Session Type** that the subscriber is using. The possible sessopm types are: • **B**: BCMCS • **M**: MBMS Multicast • **R**: MBMS Broadcast From left-to-right, the second character represents the **Framing Type**. The possible framing types are: • **H**: HDLC Like • **S**: Segment Based • **x**: Not Applicable From left-to-right, the third character represents the **Flow Type**. The possible flow types are: • **F**: Flow • **P**: Program • **u**: Unknown From left-to-right, the fourth character represents the **Call State** of the session. The possible call states are: • **C**: Connected • **c**: Connecting • **D**: Disconnecting • **u**: Unknown From left-to-right, the fifth character represents the **Link Status** of the session. The possible idle states are: • **A**: Online/Active • **D**: Dormant/Idle
CALLID	Displays the subscriber's call identification (callid) number.

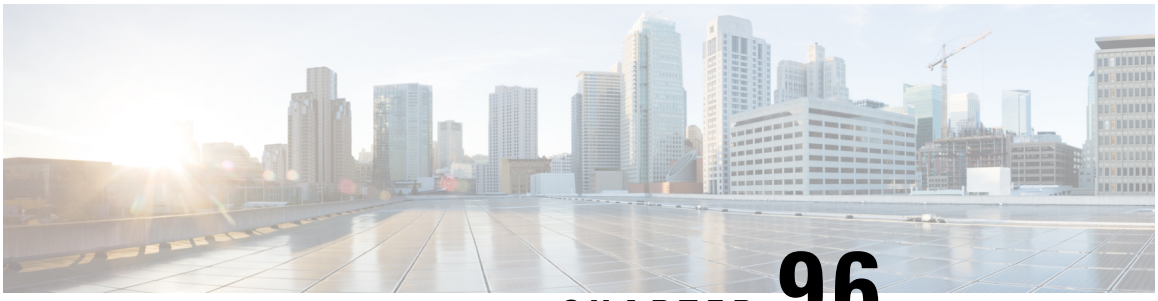
Field	Description
FLOW ID	Displays the flow identification for multicast service session.
MCAST ADDR	Displays the IP address of Broadcast Multicast service center.
APN/PORT	Displays the APN name or port number through which the multicast services is provided.
PEER ADDR	Displays the IP address of Access Gateway to which the subscriber is attached.
TIME-IDLE	Displays the amount of time that the subscriber session has been idle either in an active or dormant state.

show multicast-sessions full all

Table 450: show multicast-sessions full all Command Output Descriptions

Field	Description
Flow Id	Hex value indicating the Flow ID.
state	Indicates the status of session. The possible status are: • Connected • Connecting • Disconnecting • Unknown
Access Type	Indicates the access type of broadcast-multicast service. Possible values are: • mbms-bearer: access through MBMS bearer context • mbms-ue: access through MBMS UE context
Flow ID Type	Indicates the Flow ID type.
callid	Displays the call identification number (callid).
connect time	Displays the time of connection starts.
call duration	Specifies total duration of call session in hh:mm:ss format
idle time	Displays the amount of time that the multicast session has been idle either in an active or dormant state.
idle time left	Shows the amount of idle time left before timeout.
session time left	How much session time is left for the specified multicast session.
Multicast ip address	The IP address of the interface in the session.

Field	Description
peer address	The IP address of the peer in the session.
source context	Specifies the name of a configured source context from which the session was initiated.
destination context	Specifies the name of a configured destination context through which the subscribers are provided access to the packet data network.
output pkts	Indicates the number of packets transmitted.
output bytes	Indicates the number of bytes transmitted.
outputs pkts dropped	Indicates the number of packets that were dropped while receiving data for this multicast session.
pk rate to peer (bps)	The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period.
pk rate to peer (pps)	The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period.
ave rate to peer (bps)	The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period.
ave rate to peer (pps)	The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period.
sust rate to peer (bps)	The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods.
sust rate to peer (pps)	The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods.



CHAPTER 96

show network-overload-protection

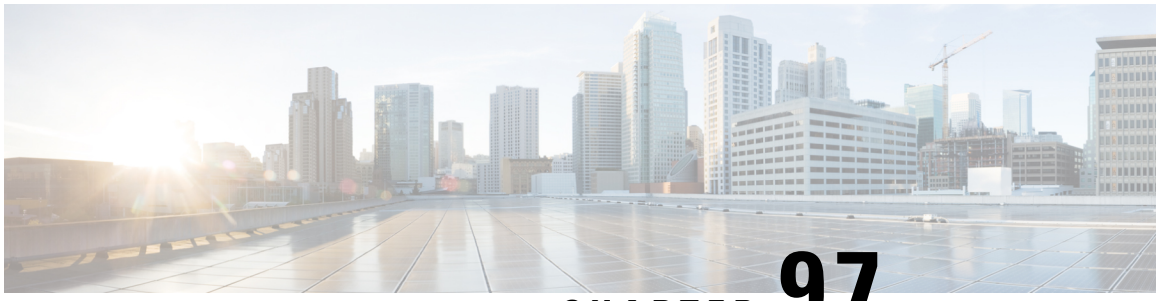
This chapter describes the output of the **show network-overload-protection** command variants.

- show network-overload-protection mme configuration, on page 1587

show network-overload-protection mme configuration

Table 451: show network-overload-protection mme configuration Command Output Descriptions

Field	Description
MME message rate control	
S1 paging per eNodeB	Displays the configured S1 paging rate limit applicable to all eNodeBs connected all MME services. S1 Paging requests to an eNodeB will be rate limited at this threshold value.
EGTP path failure ECM-Idle	Displays the configured UE deactivation pacing rate for MME S11/S10/S3 interfaces (any EGTPC service with interface type "interface-mme") for UEs in ECM Idle state.
EGTP path failure ECM-Connected	Displays the configured UE deactivation pacing rate for MME S11/S10/S3 interfaces (any EGTPC service with interface type "interface-mme") for UEs in ECM Connected state.



CHAPTER 97

show npu

This chapter describes the output of the **show npu** command.

- show npu tm queue, on page 1589
- show npu tm statistics, on page 1589
- show npu utilization table, on page 1590
- show npumgr vpp vrcc, on page 1590

show npu tm queue

Table 452: show npu tm queue Command Output Descriptions (ASR 5500 only)

Field	Description
PORT	Interface port identified by Slot/Port
COS	Class of Service (COS0 to COS7) as mapped to 6-bit DSCP value via Global Configuration mode **qos ip-dscp-iphb-mapping dscp** command.
Current Queue Depth (256B Buffers)	Displays queue depth globally and for each COS in units of 256-byte buffers.

show npu tm statistics

Table 453: show npu tm statistics Command Output Descriptions (ASR 5500 only)

Field	Description
PORT	The interface port identified by Slot/Port.
Pri	Displays the priority as COS0 to COS7.
TX Frames	The number of transmitted frames.
WRED Frames	The number of Weighted Random Early Detection (WRED) discarded frames.

Field	Description
WRED Bytes	The number of WRED discarded bytes.

show npu utilization table

Table 454: show npu utilization table Command Output Descriptions for ASR 5500 and ASR 5000

Field	Description
npu	Identifies NPU location as slot/CPU/NPU.
now	Displays percentage of NPU utilization occurring now.
5min	Displays percentage of NPU utilization over the past 5 minutes.
15min	Displays percentage of NPU utilization over the past 15 minutes.

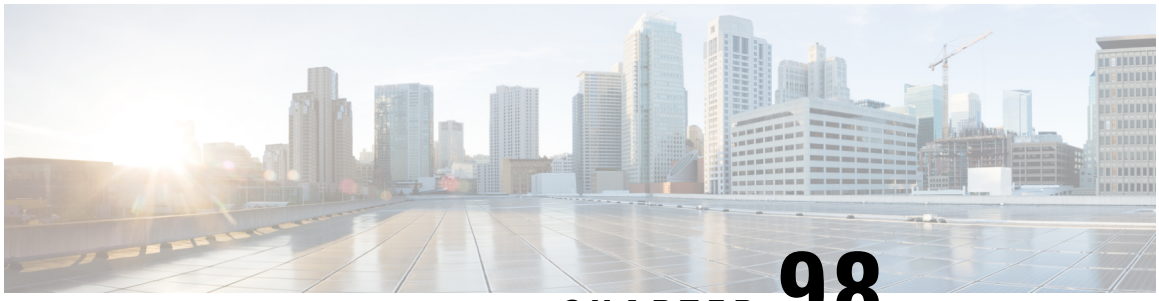
Table 455: show npu utilization table Command Output Descriptions for VPC

Field	Description
lcore	Identifies IFTASK core location as slot/CPU/core.
now	Displays percentage of IFTASK utilization occurring now.
5min	Displays percentage of IFTASK utilization over the past 5 minutes.
15min	Displays percentage of IFTASK utilization over the past 15 minutes.

show npumgr vpp vrcc

Table 456: show npumgr vpp vrcc Command Output Descriptions

Field	Description
VPP VRCC	Indicates whether the VRCC feature is enabled or disabled.



CHAPTER 98

show ntp

This chapter describes the output of the **show ntp** command.

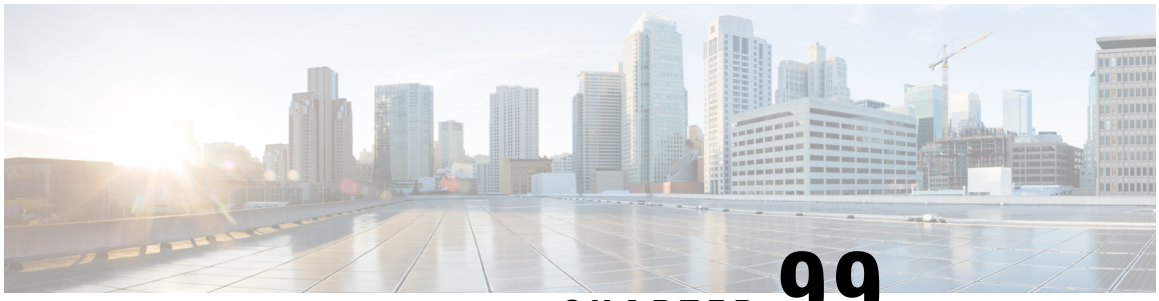
- show ntp status, on page 1591

show ntp status

Table 457: show ntp status Command Output Descriptions

Field	Description
system peer	The current synchronization source.
system peer mode	The mode of the association between the system and the synchronization source. The association can operate in one of the following modes as defined in RFC 1305: • symmetric active • symmetric passive • client server • broadcast
leap indicator	The two-bit code that will be used to indicate the insertion of a leap second in the NTP timescale.
stratum	The quality level of the system clock.
precision	A signed integer that indicates the precision of the system clock.
root distance	The round-trip packet delay to the primary reference source. The delay is measured in seconds.
root dispersion	The maximum error relative to the primary reference source. The error is measured in seconds.
reference ID	The code that identifies the current synchronization source.
reference time	The local time that the system was last updated using NTP.

Field	Description
system flags	Indicates various communication parameters between the system and the server. The possible flags are as follows: **auth:** Enables the server to synchronize with unconfigured peers only if the peer has been correctly authenticated using either public key or private key cryptography.**bclient:** Enables the server to listen for a message from a broadcast or multicast server, as in the multicast client command with default address.**calibrate:** Enables the calibrate feature for reference clocks.**kernel:** Enables the kernel time discipline, if available.**monitor:** Enables the monitoring facility.**ntp:** Enables time and frequency discipline. In effect, this switch opens and closes the feedback loop, which is useful for testing.**pps:** Enables the pulse-per-second (PPS) signal when frequency and time is disciplined by the precision time kernel modifications.**stats:** Enables the statistics facility.
jitter	The maximum amount of fluctuation within the synchronization source due to random noise.
stability	The stability of the clocking source in parts per million (ppm).
broadcastdelay	The round-trip delay for broadcast messages in seconds.
authdelay	The round-trip delay for authentication messages in seconds.



CHAPTER 99

show nw-reachability

- show nw-reachability server all, on page 1593

show nw-reachability server all

Table 458: show nw-reachability server Command Output Descriptions

Field	Description
Server	The name that was configured for this server in the current context.
remote-addr	The IP address to which ping packets are sent in order to determine network reachability.
local-addr	The IP address that is used as the source address of ping packets sent to the reachability server.
state	The state of the network reachability server. Either Up or Down. Up: The server is responding to ping packets. Down: The server is not responding to ping packets.
Total Network Reachability Servers:	The total number of network reachability servers that are configured in the current context.
Up:	The number of network reachability servers that are responding.



CHAPTER 100

show operator-policy

This chapter describes the output of the **show operator-policy** command.

- show operator-policy full name, on page 1595

show operator-policy full name

Displays detailed configuration information for a specific operator policy configured on the system. While operator policies can be configured on SGSN, MME, and S-GW products, the information provided below only applies to SGSN.

Table 459: show operator-policy full name Command Output Descriptions

Field	Description
Operator Policy Name	The name of the operator policy you chose to view.
Call Control Profile Name	The name of the call control profile associated with this operator policy (only one call control profile per operator policy) or **none-associated** if no profile has been associated with this operator policy.
Validity	Indicates whether the profile name listed above already exists (**Valid**) or has not been created yet (**Invalid**).
APN Remap Table Name	The name of the access point name (APN) remap table associated with this operator policy (only one APN remap table per operator policy) or **none-associated** if no APN remap table has been associated with this operator policy.
Validity	Indicates whether the APN remap table name listed above already exists (**Valid**) or has not been created yet (**Invalid**).
IMEI Range	A range of international mobile equipment identity numbers associated with this operator policy or **none-associated** if no ranges have been associated with this operator policy. Up to 10 IMEI ranges can be associated with an operator policy.
IMEI Profile Name	The name of the IMEI profile associated with the IMEI number range above or **none** if no profile is associated with this range.

Field	Description
Include/Exclude	Indicates whether the IMEI range is associated with an IMEI profile (**Include**) or not associated with any IMEI profile (**Exclude**).
APN Associations	If no APN parameters are associated with this operator policy, this entry appears with the value **none-associated**.
APN NI	
APN Profile Name	The name of the APN profile associated with the APN network identifier show above.
Validity	Indicates whether the APN profile name listed above already exists (**Valid**) or has not been created yet (**Invalid**).
APN OI	
APN Profile Name	The name of the APN profile associated with the APN operator identifier show above.
Validity	Indicates whether the APN profile name listed above already exists (**Valid**) or has not been created yet (**Invalid**).
Default APN	
APN Profile Name	The name of the APN profile associated with the default access point name.
Validity	Indicates whether the APN profile name listed above already exists (**Valid**) or has not been created yet (**Invalid**).



CHAPTER 101

show orbem

This chapter describes the output of the **show orbem** command.

- show orbem client id, on page 1597
- show orbem status, on page 1597
- show orbem session table, on page 1599

show orbem client id

Table 460: show orbem client id Command Output Descriptions

Field	Description
Application Server ID	The name of the ORBEM client as configured by the **client** command in the ORBEM configuration mode.
State	The status of the ORBEM client as "Enabled" or "Disabled". This indicates whether or not the system is manageable by the external Web Element Manager server: enabled indicates that it can be managed, disabled indicates that it is unmanageable. If the status is "Disabled", it can be enabled by executing the **activate client id** command in the ORBEM Configuration Mode.
Privileges	The management capabilities of the client as "FCAPS" (Fault, Configuration, Accounting, Performance, and Security).

show orbem status

Table 461: show orbem status Command Output Descriptions

Field	Description
Service State	Indicates whether the service state of the ORBEM client on the system is enabled (on) or disabled (off).

Field	Description
Management Functions	Indicates which management functions ORBEM is currently allowing. Possible values for this field are: • Fault • Configuration • Accounting • Performance • Security
IOP URL	The universal resource locator (URL) of the system interface over which the Inter-ORB Protocol (IOP) will communicate.
SSL Port	The Secure Socket Layer Inter-ORB Protocol (SIOP) TCP port that will be used by the ORB server (that runs on the system) to communicate with the client.
TCP port	The Internet Inter-ORB Protocol (IIOP) Transport Control Protocol (TCP) port that will be used by the ORB server (that runs on the system) to communicate with the client. This is only used if IIOP transport is needed in addition to SIOP.
Session Timeout	The amount of time an ORBEM client-session can be open and remain idle before ORBEM terminates the session. This value is a global value that is applied to all configured ORBEM clients.
Max Login Attempts	The maximum number of times a client can attempt to login before ORBEM de-activates the client id.
IIOP Transport	Indicates whether the Internet Inter-ORB Protocol (IIOP) transport is enabled (on) or disabled (off).
Notification	Indicates whether the CORBA event notification service on the system is enabled (on) or disabled (off).
Number of Current Sessions	The number of ORBEM sessions that currently exist.
Number of Event Channels Open	The number of ORBEM event channels that are currently open.
Number of Operations Completed	The number of ORBEM operations that have been completed.
Number of Events Processed	The number of ORBEM events that have been processed.
Avg Operation Processing time	The average processing time in seconds of recent ORBEM events.
(last 1000)	The average processing time in seconds of the last 1000 ORBEM events.

show orbem session table

Table 462: show orbem session table Command Output Descriptions

Field	Description
Session ID	The identification number for the ORBEM session. This is a number used within the system to reference the session.
Application Server	The server that the ORBEM session is established with by the client id that was configured for the server.
IP-Address	The IP address associated with the ORBEM session.
Notify Status	The status of the notification associated with the ORBEM session.
Context Name	The name of the context on the system that is facilitating the ORBEM configuration.
Last transaction	The date and time of the last transaction between the system and the application server.



CHAPTER 102

show pcc-af

This chapter describes the output of the **show pcc-af** command.

- show pcc-af service all, on page 1601
- show pcc-af service statistics, on page 1602

show pcc-af service all

Table 463: show pcc-af service all Command Output Description

Variables	Description
Service Name	The name of the PCC-AF service for which statistics are collected or displayed.
Context	The name of the context in which PCC-AF service is configured.
Service State	Indicates the state of PCC-AF service.
Diameter	This group indicates the Diameter endpoint configuration information for Rx interface.
Origin	Indicates the name of the Diameter origin endpoint configured for PCC-AF service.
Dictionary	Indicates the name of the Diameter dictionary configured for Rx interface in PCC-AF service. By default it is "Standard" dictionary.
Associated PCC-Service	Indicates the name of the PCC-Service associated with PCC-AF service.
Max Charging Sessions	Indicates the maximum number of charging sessions allowed in this PCC-AF service instance. By default it is 10000.
Newcall Policy	Indicates the new call policy configured to manage the congestion control on a PCC-AF service.

show pcc-af service statistics

Table 464: show pcc-af service statistics Command Output Description

Variables	Description
Service Name	The name of the PCC-AF service for which statistics are collected or displayed.
Inbound Messages	Indicates the total number of Rx messages received.
AAR Messages	Indicates the total number of Rx AAR messages received.
STR Messages	Indicates the total number of Rx STR messages received.
RAR Messages	Indicates the total number of Rx RAR request received.
ASR Messages	Indicates the total number of Rx ASR request received.
Outbound Messages	Indicates the total number of Rx messages sent.
Accepted AAR Messages	Indicates the total number of Rx AAR-Accepted messages sent.
Accepted STR Messages	Indicates the total number of Rx STR-Accepted messages sent.
RAA Messages	Indicates the total number of Rx RAA messages sent.
ASA Messages	Indicates the total number of Rx ASA sent.
Unknown Messages	Indicates the total number of unknown type of Rx messages received.



CHAPTER 103

show pcc-policy

This chapter describes the output of the **show pcc-policy** command.

- show pcc-policy service all, on page 1603
- show pcc-policy service statistics, on page 1605
- show pcc-policy session full all, on page 1613

show pcc-policy service all

Table 465: show pcc-policy service all Command Output Description

Field	Description
Service name	Indicates the name of the PCC-Policy service instancefor which counters are displayed.
Context name	Indicates the name of the context in which the PCC-Policy service instance is configured and running.
Service State	Displays the state of PCC-Policy service instance on an IPCF node. Possible states are: • Initial • Connected • Disconnected
Diameter	This group displays information of Diameter configuration parameters configured in this PCC-Policy service instance.
Origin	Indicates the name of the Diameter origin host configured in this PCC-Policy service instance.
Dictionary	Indicates the Diameter dictionary configured and used for Diameter session (Gx) in this PCC-Policy service instance.
Associate PCC-Service	Indicates the name of the PCC service which is associated with this PCC-Policy service instance.

Field	Description
Max Policy Sessions	Indicates the maximum limit of policy (Gx) sessions allowed in this PCC-Policy service instance.
Newcall Policy	Indicates the action configured when new calls arrived after reaching a threshold limit in this PCC-Policy service instance to manage the congestion control. If configured possible actions are: • drop • reject
GPRS-Access-BCM	Indicates the Bearer Control Mode configured in PCC-Policy service instance to access the PCEF in GPRS network. If configured possible modes are: • **as-requested**: the PCC-Policy service is configured to accept the BCM request from Application Server (AS) for PCEF access over **Gx** interface on IPCF node. This is the default mode. • **ue-nw**: the PCC-Policy service is configured to accept the BCM request from UE and/or network element for PCEF access over **Gx** interface on IPCF node. • **ue-only**: the PCC-Policy service is configured to accept the BCM request from UE only for PCEF access over **Gx** interface on IPCF node.
eHRPD-Access-BCM	Indicates the Bearer Control Mode configured in PCC-Policy service instance to access the PCEF in eHRPD network. If configured possible modes are: • **as-requested**: the PCC-Policy service is configured to accept the BCM request from Application Server (AS) for PCEF access over **Gxa** interface on IPCF node. This is the default mode. • **ue-nw**: the PCC-Policy service is configured to accept the BCM request from UE and/or network element for PCEF access over **Gxa** interface on IPCF node. • **ue-only**: the PCC-Policy service is configured to accept the BCM request from UE only for PCEF access over **Gxa** interface on IPCF node.
Subscriber Binding ID	Indicatges the subscriber binding identifier used by **bindmux** for binding subscriber session to PCC-Policy service instance.If configured possible binding identifiers are: • IMSI • MSISDN • NAI • SIP-URI

Field	Description
Subscription-ID Absence Action	Indicatges the action configured for PCC Policy when CCR-I message is received by IPCF/PCRF without a valid Subscription id (IMSI, NAT, E164 etc.). Possible actions are: • Continue • Reject

show pcc-policy service statistics

Table 466: show pcc-policy service statistics Command Output Description

Field	Description
Total Services	Indicates the total number of PCC-Policy services for which counters are displayed.
Messages Statistics	This group displays the summary statistics of messages in a PCC Policy service instance.
Total Messages Recv	Indicates total number of inbound messages received (CCR + RAA).
Total Messages sent	Indicates total number of outbound messages sent (CCA + RAR).
Total CCR	Indicates total number of known (I/U/T) and unknown CCR received.
CCR-Initial	Indicates total number of CCR-I messages received.
CCR-Updates	Indicates total number of CCR-U messages received.
CCR-Terminate	Indicates total number of CCR-T messages received..
Unknown CCR	Indicates total number of CCR messages received with type not determined.
Total CCA	Indicates total number of known (I/U/T) and unknown CCA sent..
CCA-Initial	Indicates total number of CCA-I messages sent.
CCA-Updates	Indicates total number of CCA-U messages sent.
CCA-Terminate	Indicates total number of CCA-T messages sent.
Unknown CCA	Indicates total number of CCA messages sent as response to CCR with type not determined..
CCA with Success	Indicates total number of CCA messages sent with Result-Code as DIAMETER_SUCCESS(2001).

Field	Description
CCA-I with Success	Indicates total number of CCA-I messages sent with Result-Code as DIAMETER_SUCCESS(2001).
CCA-U with Success	Indicates total number of CCA-U messages sent with Result-Code as DIAMETER_SUCCESS(2001).
CCA-T with Success	Indicates total number of CCA-T messages sent with Result-Code as DIAMETER_SUCCESS(2001).
CCA with Failures	Indicates total number of CCA messages rejected.
CCA-I with Failures	Indicates total number of CCA-I messages rejected.
CCA-U with Failures	Indicates total number of CCA-U messages rejected.
CCA-T with Failures	Indicates total number of CCA-T messages rejected.
Total RAA	Indicates total RAA messages received.
Total RAR	Indicates total RAR messages sent.
RAA with Sucesss	Indicates total RAA messages with Result-Code or Experimental-Result-Code as SUCCESS..
RAA with Failure	Indicates total RAA messages with Result-Code or Experimental-Result-Code depicting FAILURE..
RAA without Result	Indicates total RAA messages with both Result-Code or Experimental-Result-Code absent..
Unexpected RAA	Indicates total RAA messages for the non-existing sessions.
RAA parse Sucesss	Indicates total RAA messages with parsing SUCCESS..
RAA parse Failure	Indicates total RAA messages with parsing FAILURE.
Reauth probes	Indicates total RAA messages with reauthorization triggers for subscriber session due to expiry idle timeout timer.
RAR for Sess Release	Indicates total RAR message with Session Release-Cause.
Unspecified	Indicates total RAR message with Session Release-Cause AVP as UNSPECIFIED (0).
UE-subscription-Reason	Indicates total RAR message with Session Release-Cause AVP as UE_SUBSCRIPTION_CHANGED (1).
Insuff Server Resources	Indicates total RAR message with Session Release-Cause AVP as INSUFFICIENT_SERVER_RESOURCES (2).
Total RAR Timeouts	Indicates total RAR messages for which no RAA response was received from PCEF.

Field	Description
Update RAR Timeouts	Indicates total Timed-out RAR messages which were sent by PCRF for session updates (e.g. RAR with new / modified PCC rules / QoS).
Release RAR Timeouts	Indicates total Timed-out RAR messages which were sent by PCRF for session termination (RAR with Session-Release-Cause AVP).
Session-Level Statistics	This group displays the session level statistics of messages in a PCC Policy service instance.
Current Sessions	Indicates the session counter which keeps track of existing sessions under this PCC-Policy service.
Total Session Created	Indicates cumulative number of sessions created at the PCC-Policy service.
Total Session Updates	Indicates cumulative number of sessions updates at the PCC-Policy service. This will include both PCRF-initiated and PCEF initiated updates.
PCEF-Initiated	Indicates cumulative number of PCEF-initiated sessions updates at the PCC-Policy service. This will include session updates through CCR-U message.
PCRF-Initiated	Indicates cumulative number of PCRF-initiated sessions updates at the PCC-Policy service. This will include session updates through RAR.
Total Session Deleted	Indicates cumulative number of session deletion at the PCC-Policy service.
PCEF-Initiated	Indicates cumulative number of PCEF-initiated session terminations at the PCC-Policy service initiated through CCR-T message.
PCRF-Initiated	Indicates cumulative number of PCRF-initiated session termination at the PCC-Policy service initiated through RAR messages with Session-Release-Cause AVP.
Peer Down Initiated	Indicates cumulative number of sessions terminations due to peer disconnect at the PCC-Policy service..
Initial Reject	Indicates cumulative number of sessions terminations at the PCC-Policy service initiated through CCR-I rejection.
Idle Timeout	Indicates the idle session timeout duration set for a subscriber session timer. Possible range of duration is 1 to 4294967295 in seconds. Special value of 0 indicates that timer is disabled and it is the default behavior.
Setup Timeout	Indicates IPCF setup timeout duration set on a system for setup timer. Possible range of duration is 1 to 120 in seconds. By default Setup timeout value is 60 seconds. Special value of 0 indicates that timer is disabled.

Field	Description
Long-duration Timeout	Indicates the long duration idle session timeout set for a subscriber session timer. Possible range of duration is 1 to 4294967295 in seconds. Special value of 0 indicates that timer is disabled and it is the default behavior.
Failure Statistics	This group displays the statistics of various failure reasons in a PCC Policy service instance.
Missng CCR-Type	Indicates total number of CCR messages with mandatory CC-Request-Type AVP missing.
Unexpected CCR-I	Indicates total number of CCR-I message for existing session.
Unexpected CCR-U	Indicates total number of CCR-U message for non-existing session.
Unexpected CCR-T	Indicates total number of CCR-T message for non-existing session.
Missng CCR-Num	Indicates total number of CCR messages with mandatory CC-Request-Number missing.
Out-of-Order CCR	Indicates total number of CCR messages with out-of-order CC-Request-Number.
PCC-Sess Create Fail	Indicates total number of PCC Session Creation Failure after receiving CCR-I due to miscellaneous reasons.
Policy-Sess Create Fail	Indicates total number of PCC Policy Session Creation Failure after receiving CCR-I due to miscellaneous reasons.
PCC-Sess Lookup Fail	Indicates total number of PCC Session Creation Failure after receiving CCR-U/T due to miscellaneous reasons.
Policy-Sess Lookup Fail	Indicates total number of PCC Policy Session Creation Failure after receiving CCR-U/T due to miscellaneous reasons.
Missing Origin-Host	Indicates total number of CCR messages with mandatory Origin-Host AVP missing.
Invalid Origin-Host	Indicates total number of CCR messages with mandatory Origin-Host AVP invalid.
Missing Origin-Realm	Indicates total number of CCR messages with mandatory Origin-Realm AVP missing.
Invalid Origin-Realm	Indicates total number of CCR messages with mandatory Origin-Realm AVP invalid.
Missing Dest-Realm	Indicates total number of CCR messages with mandatory Destination-Realm AVP missing.
Invalid Dest-Realm	Indicates total number of CCR messages with mandatory Destination-Realm AVP invalid.

Field	Description
Unsubscribed Triggers	Indicates total number of Event-Trigger received from PCEF for which PCRF has not subscribed (E.g. RAT_CHANGE received from PCEF even though it is not supplied previously by PCRF).
Unknwown Triggers	Indicates total number of Event-Trigger received from PCEF which is undefined for the policy version. (E.g. Defaul-EPS-Bearer-QoS-Change received for R7-Gx).
Non-Applicable Triggers	Indicates total number of Event-Trigger received from PCEF which is not applicable for the access-type. (E.g. Defaul-EPS-Bearer-QoS-Change received for R8 GGSN with 3GPP-GPRS access).
Missing Trigger-Param	Indicates total number of Event-Trigger received from PCEF without the related parameter (E.g. PCEF sending RAT_CHANGE without the RAT-Type value).
Invalid Trigger-Param	Indicates total number of Event-Trigger received from PCEF with invalid related parameter (E.g. PCEF sending RAT_CHANGE by RAT-Type reported is same as previous one).
Event-Trigger in CCR-I	Indicates total number of Event-Trigger received from PCEF in CCR-I message.
Event-Trigger in CCR-T	Indicates total number of Event-Trigger received from PCEF in CCR-T message.
Invalid BCM Request	Indicates total number of failure cases where PCEF requests bearer control mode (BCM) as UE-ONLY by sending Network-Request-Not-Supported in CCR-I. However, operator configured BCM is UE-NW. Thus, BCM is not provisioned and PCRF rejects this CCR.
QoS-Auth Fail	Indicates total number of failure when PCRF rejects the CCR in case of QoS-authorization failure in CCR-I message.
Invalid Initial Param	Indicates total number of failure when PCRF rejects the CCR with Experimental Result-Code DIAMETER_ERROR_INITIAL_PARAMETERS due to incorrect information in the request.
Invalid AVP Value	Indicates total number of failure when PCRF rejects the CCR with Result-Code DIAMETER_INVALID_AVP_VALUE due to incorrect AVP value in the request.
Unsupported AVP	Indicates total number of failure when PCRF rejects the CCR with Result-Code DIAMETER_AVP_UNSUPPORTED due to incorrect AVP value in the request.
Missing AVP	Indicates total number of failure when PCRF rejects the CCR with Result-Code DIAMETER_MISSING_AVP due to incorrect AVP value in the request.

Field	Description
Session-Linking Failurre	Indicates total number of failure when PCRF rejects the CCR-I with Result-Code DIAMETER_AUTHORIZATION_REJECTED due to Session Linking failure.
Unavail Srv Credits	Indicates total number of session failure due to unavailability of enough service credits for PCC-Policy Session creation.
Multiple Policy Sess Reject	Indicates total number of session rejection due to no-support for multiple PCC session per subscriber available but attempted by PCEF.
Diameter Statistics	This group displays the statistics of various Diameter interface messages in a PCC Policy service instance.
App Register Success	Indicates total number of successful diabase registrations at this PCC-Policy service due to service addition.
App Register Fail	Indicates total number of failed diabase registrations performed at this PCC-Policy service due to service addition.
App Unregister Success	Indicates total number of successful diabase deregistration at this PCC-Policy service due to service removal.
App Unregister Fail	Indicates total number of failed diabase deregistration performed at this PCC-Policy service due to service removal.
App Reregister Success	Indicates total number of successful diabase re-registrations at this PCC-Policy service due to service modification.
App Reregister Fail	Indicates total number of failed diabase registrations performed at this PCC-Policy service due to service modification.
Total Msg Create Fail	Indicates total number of failure to create diabase messages for CCA and RAR.
CCA Create Fail	Indicates total number of failure to create diabase messages for CCA.
RAR Create Fail	Indicates total number of failure to create diabase messages for RAR.
Total Msg Encode Fail	Indicates total number of failure to encode diabase message AVP for CCA and RAR.
CCA Encode Fail	Indicates total number of failure to encode diabase message AVP for CCA.
RAR Encode Fail	Indicates total number of failure to encode diabase message AVP for RAR.
Total Msg Send Fail	Indicates total number of failure to send diabase messages for CCA and RAR.
CCA Send Fail	Indicates total number of failure to send diabase messages for CCA.
RAR Send Fail	Indicates total number of failure to send diabase messages for RAR.

Field	Description
Termination Cause Statistics	This group displays the statistics of various causes for session termination in a PCC Policy service instance.
Diameter Logout	Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_LOGOUT (1).
Serv	Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_SERVICE_NOT_PROVIDED (2).
Bad Answer	Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_BAD_ANSWER (3).
Administrative	Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_ADMINISTRATIVE (4).
Link Broken	Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_LINK_BROKEN (5).
Auth Expired	Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_AUTH_EXPIRED (6).
User Moved	Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_USER_MOVED (7).
Session Timeout	Indicates total number of session termination happened due to CCR-T with Termination-Cause AVP set to value DIAMETER_SESSION_TIMEOUT (8).
Rule Report Statistics	This group displays the statistics of various Rule Reports in a PCC Policy service instance.
Total Rules Reports	Indicates total number of rule-reports received for various PCC/QoS rules.
Total Install Failures	Indicates total number of rule-reports received for various PCC/QoS rule installation failures.
Total Install Success	Indicates total number of rule-reports received for various successful PCC rule installation.
Total Credit Exhaustion	Indicates total number of rule-reports received for various PCC rule out-of-credit.
Total Credit Reallocs	Indicates total number of rule-reports received for various PCC rule credit reallocation.

Field	Description
Unknown Rule-Names	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as UNKNOWN_RULE_NAME (1).
Rating Group Errors	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as RATING_GROUP_ERROR (2).
Service-ID Errors	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as SERVICE_IDENTIFIER_ERROR (3).
GW-PCEF Malfunctions	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as GW/PCEF_MALFUNCTION (4).
Resource Limitations	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as RESOURCES_LIMITATIONS (5).
Max-NR-Bearers Reached	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as MAX_NR_BEARERS_REACHED (6).
Unknown Bearer ID	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as UNKNOWN_BEARER_ID (7).
Missing BearerID	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as MISSING_BEARER_ID (8).
Missing Flow-Desc	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as MISSING_FLOW_DESCRIPTION (9).
Resource Alloc Fail	Indicates total number of rule-reports received for valrious PCC rule installation failures with Rule-Failure-Code as RESOURCE_ALLOCATION_FAILURE (10).
QoS Validation Fail	Indicates total number of rule-reports received for various PCC rule installation failures with Rule-Failure-Code as UNSUCCESSFUL_QOS_VALIDATION (11).
Usage Statistics	This group displays the usage statistics in a PCC Policy service instance.
Total Usage Thresholds	Indicates total number of usage thresholds supplied to PCEF for various monitoring instances.
Rule-Level Thresholds	Indicates total number of PCC-Rule-Level usage thresholds supplied to PCEF for various monitoring instances.

Field	Description
Sess-Level Thresholds	Indicates total number of Session-Level usage thresholds supplied to PCEF for various monitoring instances.
Rule-Level Report Req	Indicates total number of PCRF initiated PCC-Rule-Level usage report requests supplied to PCEF for various monitoring instances.
Sess-Level Report Req	Indicates total number of PCRF initiated session-level usage report requests supplied to PCEF for various monitoring instances.
Rule-Level Disable Requests	Indicates total number of PCRF initiated PCC-Rule-level usage report disable requests supplied to PCEF for various monitoring instances.
Sess-Level Disable Req	Indicates total number of PCRF initiated session-level usage report disable requests supplied to PCEF for various monitoring instances.
SPR Statistics	This group displays the statistics related to SSC/SPR instances and procedures associated with a PCC Policy service instance.
Profile Register	Indicates total messages sent to SPR for Subscriber Profile Registration.
Profile Deregister	Indicates total messages sent to SPR for Subscriber Profile Deregistration.
Usage Register	Indicates total messages sent to SPR for Subscriber Usage Registration.
Usage Deregister	Indicates total messages sent to SPR for Subscriber Usage Deregistration.
Usage Updates	Indicates total messages sent to SPR for Subscriber Usage Update.
RAR-CCR	Indicates total RAR and CCR message collisions.
Update RAR-CCR-U	Indicates total message collision between CCR-U message from PCEF and RAR message sent by PCRF for policy update.
Update RAR-CCR-T	Indicate total message collision between CCR-T message from PCEF and RAR message sent by PCRF for policy update.
Update RAR-CCR-U	Indicates total message collision between CCR-U message from PCEF and RAR message sent by PCRF for session release.
Update RAR-CCR-T	Indicates total message collision between CCR-T message from PCEF and RAR message sent by PCRF for session release.

show pcc-policy session full all

Table 467: show pcc-policy session full all Command Output Description

Field	Description
Callid	Indicates the identity number of the IP-CAN call registered on the PCC-Policy service instancefor which counters are displayed.

Field	Description
Session ID	Indicates the identity number of the IP-CAN session active on the PCC-Policy service instancefor which counters are displayed.
Peer ID	Indicates the identity number (IP address) of the PCEF node used in IP-CAN session within the PCC-Policy service instancefor which counters are displayed.
Service Name	Indicates the name of the PCC-Policy service instancefor which counters are displayed.
Service Type	Indicates the type of IP-CAN session on the PCC-Policy service instancefor which counters are displayed.
IMSI	Indicatges the IMSI number of subscriber used by **bindmux** for binding subscriber session to PCC-Policy service instance.
MSISDN	Indicatges the MSISDN number of subscriber used by **bindmux** for binding subscriber session to PCC-Policy service instance.
APN Name	Indicates the name of the APN used by IP-CAN session to serve subscriber in the PCC-Policy service instance.
IMEI	Indicates the IMEI number of UE used by **bindmux** for binding subscriber session to PCC-Policy service instance.
Session State	Indicates the state of the IP-CAN session on PCC-Policy service instance. Possible states are: • Initial • Connected • Disconnected
Framed-IPv4	Indicates the IPv4 address, if used, for frame route relay prefix in IP-CAN session on PCC-Policy service instance.
Framed-IPv6	Indicates the IPv6 address, if used, for frame route relay prefix in IP-CAN session on PCC-Policy service instance.
RAT-Type	Indicates the Radio Access Type used for this IP-CAN session. Possible RAT types are: • UTRAN • E-UTRAN • GPRS
SGSN_MCC	Indicates the Mobile Country Code used in IP-CAN session on PCC-Policy service instance.
SGSN_MNC	Indicates the Mobile Network Code used in IP-CAN session on PCC-Policy service instance.
IP-CAN-Type	Indicates the type of IP-CAN session active on PCC-Policy service instance.

Field	Description
BCM	Indicates the Bearer Control Mode configured in PCC-Policy service instance to access the PCEF in GPRS/eHRPD network. If configured possible modes are: • **as-requested**: the PCC-Policy service is configured to accept the BCM request from Application Server (AS) for PCEF access over **Gx** interface on IPCF node. This is the default mode. • **ue-nw**: the PCC-Policy service is configured to accept the BCM request from UE and/or network element for PCEF access over **Gx** interface on IPCF node. • **ue-only**: the PCC-Policy service is configured to accept the BCM request from UE only for PCEF access over **Gx** interface on IPCF node.
ANC-Address	Indicates the IP address of the Access Network Controller node of the IP-CAN session on the PCC-Policy service instancefor which counters are displayed.
ANC-Identifier	Indicates the identity number of the Access Network Controller node used in IP-CAN session within the PCC-Policy service instancefor which counters are displayed.
Event-Trigger	Indicates the event triggers configured/activated for IP-CAN session within the PCC-Policy service instancefor which counters are displayed.



CHAPTER 104

show pcc-service

This chapter describes the output of the **show pcc-service** command.

- show pcc-service all, on page 1617
- show pcc-service session all, on page 1619
- show pcc-service session full, on page 1620
- show pcc-service statistics, on page 1622

show pcc-service all

Table 468: show pcc-service all Command Output Description

Field	Description
Service name	Indicates the name of the PCC service for which counters are displayed.
Context name	Indicates the name of the context in which the PCC service is configured and running.
Charging-Method	Indicates the charging methods communicated to PCEF at command level for this PCC service. Possible methods are: • None • Offline • Online • Offline and Online By default "None" is the enabled option.
Online Charging-Server(s)	This group displays information of online charging servers (primary and secondary) configured and used in this PCC service.
Primary	Indicates the name of the primary online charging server configured and used in this PCC service.
Secondary	Indicates the name of the secondary online charging server configured and used in this PCC service.

Field	Description
Offline Charging-Server(s)	This group displays information of offline charging servers (primary and secondary) configured and used in this PCC service.
Primary	Indicates the name of the primary offline charging server configured and used in this PCC service.
Secondary	Indicates the name of the secondary offline charging server configured and used in this PCC service.
Subscriber-Profile Refresh Interval (sec)	Indicates the interval duration in seconds after which Subscriber profile is refreshed from SSC/SPR in a PCC service.
Multiple PCEF Per Subscriber	Indicates status of support for more than one Gx-session for single subscriber session coming from multiple PCEF in this PCC service instance. By default this feature is enabled.
Setup Timeout	Indicates IPCF setup timeout duration set on a system for setup timer. Possible range of duration is 1 to 120 in seconds. By default Setup timeout value is 60 seconds. Special value of 0 indicates that timer is disabled.
Idle Timeout	Indicates the idle session timeout duration set for a subscriber session timer. Possible range of duration is 1 to 4294967295 in seconds. Special value of 0 indicates that timer is disabled and it is the default behavior. It also displays the action configured for initiation when idle timer expires. Possible actions are: • None • Reauthorization of session. • Disconnection of session if reauthorization of session fails.
Long-duration Timeout	Indicates the long duration idle session timeout set for a subscriber session timer. Possible range of duration is 1 to 4294967295 in seconds. Special value of 0 indicates that timer is disabled and it is the default behavior. It also displays the action configured for initiation when long duration timeout timer expires. Possible actions are: • None • Detection of idle session and sending of SNMP traps or CORBA notification. • Detection of idle session and then disconnect the session after sending of SNMP traps or CORBA notification

show pcc-service session all

Table 469: show pcc-service session all Command Output Descriptions

Field	Description
vvvv	Displays service and session state information. This column provides a code consisting of four characters. From left-to-right, the first character represents the **Session State** that the subscriber is using. The possible call types are: • **c**: Closed • **C**: Connected • **D**: Disconnected • **o**: Open • **S**: Waiting on SPR • **r**: Waiting on DREG • **s**: Waiting on STR • **e**: Waiting on deallocate • **t**: Waiting on CCR-T • **A**: Waiting on ASR • **R**: Waiting on RAR From left-to-right, the second character represents the **Gx Session Count**. It indicates the total number of Gx sessions between PCEF and IPCF active in this session. From left-to-right, the third character represents the **Gy Session Count**. It indicates the total number of Gy sessions active in this session. From left-to-right, the second character represents the **Gxa Session Count**. It indicates the total number of Gx sessions between PCEF (eHRPD) and IPCF active in this session.
CALLID	Indicates the IP-CAN session subscriber's call identification number.
IMSI/MSID	Indicates the IP-CAN session subscriber's IMSI/MSID number used in this session in **bindmux**.
User Name	Indicates the user name used in IP-CAN session to identify the subscriber in this session in **bindmux**. This is typically used in IP-CAN session between PDSN and IPCF/PCRF over Gx interface.
Total number of PCC sessions	The total number of PCC sessions on chassis including all modes.

show pcc-service session full

Table 470: show pcc-service session full Command Output Descriptions

Field	Description
CALLID	Indicates the IP-CAN session subscriber's call identification number.
IMSI/MSID	Indicates the IP-CAN session subscriber's IMSI/MSID number used in this session in **bindmux**.
User Name	Indicates the user name used in IP-CAN session to identify the subscriber in this session in **bindmux**. This is typically used in IP-CAN session between PDSN and IPCF/PCRF over Gx interface.
Profile Name	Indicates the name of the subscriber used in IP-CAN session to provide QoS parameters.
Default-EPS-Bearer	Indicates whether default EPS bearer is provisioned for subscriber in IP-CAN session for which information is displayed
APN-AMBR	Indicates whether an Aggregate Maximum Bit Rate (AMBR) associated with APN is provisioned for subscriber in IP-CAN session for which information is displayed.
Authorized QCIs	This group displays the parameters for authorized Quality Class Identifiers (QCIs) used in IP-CAN session for which information is displayed.
QCI	Indicates the Quality Class Identifier (QCI) authorized and used in IP-CAN session for which information is displayed.
Uplink	Indicates the uplink bit rate provisioned in authorized QCI for IP-CAN session for which information is displayed.
Downlink	Indicates the downlink bit rate provisioned in authorized QCI for IP-CAN session for which information is displayed.
Total Predefined Rules	Indicates the total predefined Rules applicable for IP-CAN session for which information is displayed.
Predefined Rules	Indicates the name of the predefined Rules, if applicable, for IP-CAN session for which information is displayed.
Rule Status	Indicates the status of the predefined Rules, if applicable, for IP-CAN session for which information is displayed. Possible status are: • Active • Inactive • Temporarily Active

Field	Description
Rule Failure Code	Indicates the predefined Rule failure codes, if applicable, for IP-CAN session for which information is displayed. Possible failure codes are: • Out-of-credit • Reallocation-of-credit • Unknown rule name • Invalid Rating Group • Invalid Service Identifier • GW/PCEF Malfunction • Limited Resources • Max No. of Bearers Reached • Unknown Bearer Id • Missing Bearer Id • Missing Flow Description • Resource Allocation Failure • QoS Validation Failure
Rule Activation Time	Indicates the time configured to activate predefined Rule for IP-CAN session for which information is displayed.
Rule deactivation Time	Indicates the time configured to deactivate predefined Rule for IP-CAN session for which information is displayed.
Total Dynamic Rules	Indicates the total dynamic Rules applicable for IP-CAN session for which information is displayed.
Dynamic Rules	Indicates the name of the dynamic Rules, if applicable, for IP-CAN session for which information is displayed.
Rating-Group	Indicates the rating group configured to the dynamic Rules, if applicable, for IP-CAN session for which information is displayed.
Precedence	Indicates the precedence configured to the dynamic Rules, if applicable, for IP-CAN session for which information is displayed.
Gate Status	Indicates the status of the Gate configured to the dynamic Rules, if applicable, for IP-CAN session for which information is displayed.
QoS Profile	Indicates the QoS profile configured to the dynamic Rules, if applicable, for IP-CAN session for which information is displayed.
Flow	Indicates the total number of flows applicable for IP-CAN session for which information is displayed.
AF Information	Indicates the Application Function information for dynamic Rules, if applicable, for IP-CAN session for which information is displayed.

Field	Description
Rule Status	Indicates the status of the predefined Rules, if applicable, for IP-CAN session for which information is displayed. Possible status are: • Active • Inactive • Temporarily Active
Rule Failure Code	Indicates the predefined Rule failure codes, if applicable, for IP-CAN session for which information is displayed. Possible failure codes are: • Out-of-credit • Reallocation-of-credit • Unknown rule name • Invalid Rating Group • Invalid Service Identifier • GW/PCEF Malfunction • Limited Resources • Max No. of Bearers Reached • Unknown Bearer Id • Missing Bearer Id • Missing Flow Description • Resource Allocation Failure • QoS Validation Failure
Rule Activation Time	Indicates the time configured to activate dynamic Rule for IP-CAN session for which information is displayed.
Rule deactivation Time	Indicates the time configured to deactivate dynamic Rule for IP-CAN session for which information is displayed.
Quota Information	This group displays the Quota related information applicable for IP-CAN session for which information is displayed.
Usage Monitor Information	Indicates the Usage Monitor status applicable for IP-CAN session for which information is displayed.
Total number of PCC sessions	The total number of PCC sessions on chassis including all modes.

show pcc-service statistics

Table 471: show pcc-service statistics Command Output Description

Field	Description
Service name	Indicates the name of the PCC service for which counters are displayed.

Field	Description
Total Gx req processed	Indicates the total number of Gx request messages from PCEF processed by PCC-service node.
Total Gy req processed	Indicates the total number of Gy request messages from OCS processed by PCC-service node.
Total SSC req processed	Indicates the total number of request messages from SSC/SPR processed by PCC-service node.
Total Unknown requests	Indicates the total number of unknown type of request messages from network nodes received by PCC-service node.
PUR Updates	Indicates the total number of Profile-Update-Request update messages from network nodes received at PCC-service node.
SNR Updates	Indicates the total number of Subscribe-Notifications-Request update messages from network nodes received at PCC-service node.
PNR Updates	Indicates the total number of Push-Notifications-Request update messages from network nodes received at PCC-service node.
Total Profile Hits	Indicates the total number of Subscribe profiles accessed by PCC-service node.
Total Profile Miss	Indicates the total number of Subscribe profiles missed by PCC-service node.
Total Quota Reports	Indicates the total number of quota reports processed by PCC-service node.
Total Unknown rating-groups	Indicates the total number of unknown type of rating groups received by PCC-service node.
Total Rules Activated	Indicates the total number of Rules at PCEF activated by PCC-service node.
Total Rules Deactivated	Indicates the total number of Rules at PCEF deactivated by PCC-service node.
Total Rulebases Activated	Indicates the total number of Rulebases at PCEF activated by PCC-service node.
Total Rulebases Deactivated	Indicates the total number of Rulebases at PCEF deactivated by PCC-service node.
Total Rules Installed	Indicates the total number of Rules installed at PCEF by PCC-service node.
Total Rules Uninstalled	Indicates the total number of Rules installed at PCEF by PCC-service node.
Profile Name	Indicates the name of the subscriber profiles accessed by PCC-service node.

Field	Description
Profile Hits	Indicates the total number of hits received by specific subscriber profile at PCC-service node.
Eval-Priority Hits	This group displays the statistics of Evaluation Priority hits at PCC-service node.
Action Statistics	This group displays the statistics of actions triggered at PCC-service node.
Default EPS Bearer Auth	Indicates the total number of authorization action processed for the default EPS bearer authorization on PCC-service node.
APN AMBR Auth	Indicates the total number of authorization action processed for the APN associated Aggregate Maximum Bit Rate (AMBR) on PCC-service node.
QCI Auth	Indicates the total number of authorization action processed for the Quality Class Indicator (QCI) on PCC-service node.
Event-trigger Statistics	This group displays the statistics of event triggers at PCC-service node.
SGSN Change	Indicates the total number of "SGSN change" events triggered on PCC-service node.
QoS Change	Indicates the total number of "QoS change" events triggered on PCC-service node.
RAT Change	Indicates the total number of "RAT (Radio Access Technology) change" events triggered on PCC-service node.
TFT Change	Indicates the total number of "TFT (traffic flow template) change" events triggered on PCC-service node.
PLMN Change	Indicates the total number of "PLMN change" events triggered on PCC-service node.
Loss of flow	Indicates the total number of "Loss of Flow" events triggered on PCC-service node.
Recovery of flow	Indicates the total number of "Recovery of Flow" events triggered on PCC-service node.
IP-CAN Change	Indicates the total number of "IP-CAN Change" events triggered on PCC-service node.
Qos Change Exceeding Auth	Indicates the total number of QoS change event triggers exceeded from authorized limit on PCC-service node.
RAI Change	Indicates the total number of "RAI (Routing Area Indicator) Change" events triggered on PCC-service node.
User Location Change	Indicates the total number of "User Location Change" events triggered on PCC-service node.

Field	Description
Out Of Credit	Indicates the total number of "Out of Credit" events triggered on PCC-service node.
Reallocation of Credit	Indicates the total number of "Reallocation of Credit" events triggered on PCC-service node.
Revalidation timeout	Indicates the total number of timeout events triggered for "Revalidation" on PCC-service node.
IP Address Allocation	Indicates the total number of "IP Address Allocation" events triggered on PCC-service node.
IP Address Release	Indicates the total number of "IP Address Release" events triggered on PCC-service node.
Def EPS Bearer QoS Change	Indicates the total number of QoS change events triggered for Default EPS bearer on PCC-service node.
AN-GW Change	Indicates the total number of "AN-GW (Access Network Gateway)" events triggered on PCC-service node.
Successful Resource Alloc	Indicates the total number of "Successful Resource Allocation" events triggered on PCC-service node.
Resource Modification Req	Indicates the total number of resource modification request messages received by PCC-service node.
PGW Trace Control	Indicates the status of subscriber session trace control reported on PCC-service node for P-GW.
UE Timezone Change	Indicates the total number of "UE Timezone Change" events triggered on PCC-service node.
Usage Report	Indicates the total number of Usage Reports processed on PCC-service node.



CHAPTER 105

show pcc-sp-endpoint

This chapter describes the output of the **show pcc-sp-endpoint** command.

- show pcc-sp-endpoint all, on page 1627

show pcc-sp-endpoint all

Table 472: show pcc-sp-endpoint all Command Output Description

Variables	Description
SP Endpoint Name	The name of the PCC-Sp-Endpoint instance for which statistics are displayed.
Context	The name of the context in which PCC-Sp-Endpoint instnace is configured.
Address	Indicates the local IP address of PCC-Sp-Endpoint instance.
Access Type	Indicates the type of access, Diameter or Lightweight Directory Access Protocol (LDAP) used by a PCC-Sp-Endpoint instance for Sp interface procedures. By default it is Diameter.
SPR Subscriber Identifier	Indicates the subscriber identifier (imsi / msisdn / nai) used by PCC-Sp-Endpoint instance in SSC database while requesting subscriber data from SSC.
User-Name	Indicates the subscriber user name used by PCC-Sp-Endpoint instance in SSC database while requesting subscriber data from SSC.
Password	Indicates the password used by PCC-Sp-Endpoint instance in SSC database while requesting subscriber data from SSC.
LDAP Dn	Indicates the name of the LDAP Dn used by PCC-Sp-Endpoint instance.
Diameter Endpoint	Indicates the name of the Diameter origin endpoint configured for PCC-Sp-Endpoint instance.
Profile update notification	Indicates whether profile update notifications is allowed or not for a PCC-Sp-Endpoint instance.

Variables	Description
Profile-data key data-reference	Indicates the data-reference values used in UDR/SNR message for profile data sent over Sp endpoint when access type is set to Diameter.
Profile-data key service-indication	Indicates the service indication values used in UDR/SNR message for profile data sent over Sp endpoint when access type is set to Diameter.



CHAPTER 106

show pdg-service

This chapter describes the output of the **show pdg-service** command.

- show pdg-service all, on page 1629
- show pdg-service statistics, on page 1632

show pdg-service all

Table 473: show pdg-service all Command Output Description

Field	Description
Service name	The name of the PDG service.
Context name	The name of the context in which the PDG service resides.
Bind	Displays the bind status for the PDG service for binding the service to a crypto template.
Max sessions	The maximum number of sessions supported by the PDG service.
IP address	The IPv4 address of the PDG service.
UDP Port	The UDP port number associated with the IP address.
Service State	The current state of the PDG service.
Crypto-template	The name of the crypto template bound to the FNG service.
SSL-template	The name of the SSL template bound to the FNG service. This is a customer-specific field.
SGTP Service	The name of the SGTP service bound to the PDG service.
SGTP Service context	The name of the context in which the SGTP service was created.
Session Setup Timeout (sec)	The maximum time allowed to set up a session in seconds.
Certificate Selection	The selection method for selecting the certificate to be included in the first IKE-AUTH message. Can be APN-based or crypto template-based.

Field	Description
PLMN Id	The PLMN identifiers for the PDG/TTG.
Duplicate Session Detection Type	The duplicate session detection type.
IP Source Violation - Drop Limit	The drop-limit value, which is the maximum number of allowed IP source violations within the detection period before dropping a call.
IP Source Violation - Period	The detection period in seconds for IP source violations.
IP Source Violation - Clear On Valid Packet	Displays whether the option to reset the drop-limit counters upon receipt of a properly addressed packet is enabled or disabled.
3gpp qos to dscp Downlink mapping	This group indicates the 3GPP QoS to DSCP downlink mapping information.
conversational	Indicates the DSCP configured for conversational type of traffic.
streaming	Indicates the DSCP configured for streaming type of traffic.
interactive (TP 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1.
interactive (TP 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2.
interactive (TP 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3.
background	Indicates the DSCP configured for background type of traffic.
3GPP qos to dscp Downlink mapping based on Alloc. Prio	This group indicates the 3GPP QoS to DSCP downlink mapping information based on allocation priority.
interactive (TP 1, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 1.
interactive (TP 1, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 2.
interactive (TP 1, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 3.
interactive (TP 2, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 1.
interactive (TP 2, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2.
interactive (TP 2, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 3.
interactive (TP 3, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic withtraffic priority 3 and allocation priority 1.
interactive (TP 3, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2.

Field	Description
interactive (TP 2, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 2.
3gpp qos to dscp Uplink mapping (TTG only)	This group indicates the 3GPP QoS to DSCP uplink mapping information.
conversational	Indicates the DSCP configured for conversational type of traffic.
streaming	Indicates the DSCP configured for streaming type of traffic.
interactive (TP 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1.
interactive (TP 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2.
interactive (TP 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3.
background	Indicates the DSCP configured for background type of traffic.
3GPP qos to dscp Uplink mapping based on Alloc. Prio	This group indicates the 3GPP QoS to DSCP downlink mapping information based on allocation priority.
interactive (TP 1, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 1.
interactive (TP 1, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 2.
interactive (TP 1, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 1 and allocation priority 3.
interactive (TP 2, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 1.
interactive (TP 2, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 2.
interactive (TP 2, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 2 and allocation priority 3.
interactive (TP 3, Alloc.P 1)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 1.
interactive (TP 3, Alloc.P 2)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 2.
interactive (TP 3, Alloc.P 3)	Indicates the DSCP configured for interactive type of traffic with traffic priority 3 and allocation priority 3.

show pdg-service statistics

Table 474: show pdg-service statistics Command Output Description

Field	Description
Session Stats	
Current sessions total	Total number of sessions in progress including transient sessions.
Direct-IP-IPv4 current	Total number of currently active Direct IP IPv4 sessions.
TTG-IPv4 current	Total number of currently active TTG IPv4 sessions.
Active current	Total number of currently active sessions.
Dormant current	Total number of currently dormant sessions.
Active IPv4 current	Total number of currently active IPv4 sessions.
Active IPv6 current	Total number of currently active IPv6 sessions.
Dormant IPv4 current	Total number of currently dormant IPv4 sessions.
Dormant IPv6 current	Total number of currently dormant IPv6 sessions.
Total Direct-IP IPv4	Total number of Direct IP IPv4 sessions.
Total TTG IPv4	Total number of TTG IPv4 sessions.
Direct-IP IPv4 attempts	Total number of Direct IP IPv4 attempts.
Direct-IP IPv4 successes	Total number of Direct IP IPv4 successes.
Direct-IP IPv4 failures	Total number of Direct IP IPv4 failures.
TTG IPv4 attempts	Total number of TTG IPv4 attempts.
TTG IPv4 successes	Total number of TTG IPv4 successes.
TTG IPv4 failures	Total number of TTG IPv4 failures.
Total setup attempts	Total number of session setup attempts.
Total setup success	Total number of successful session attempts.
Total Attempts Failed	Total number of failed session attempts.
Total disconnected	Total number of sessions released locally and remotely.
Disconnect locally	Total number of sessions released locally.
Disconnect remotely	Total number of sessions released remotely.
Disconnect remotely before connect	Total number of sessions released remotely before connecting.

Field	Description
Reauthentication Stats	
Total reauth attempts	Total number of reauthentication attempts.
Total reauth success	Total number of reauthentication successes.
Total reauth failure	Total number of reauthentication failures.
Session Attempts Failed Disconnect reason	
Remote disconnect	Number of session attempts failed before the call is in the CONNECTED state due to a remote disconnect.
Admin disconnect	Number of session attempts failed before the call is in the CONNECTED state due to a disconnect by the administrator.
Session setup timeout	Number of session attempts failed before the call is in the CONNECTED state because the Session Manager's session setup timer has timed out.
No resource	Number of session attempts failed before the call is in the CONNECTED state because the system has run out of resources (flows, memory resources, etc.).
Auth failure	Number of session attempts failed before the call is in the CONNECTED state because of an AAA authentication failure.
Flow add failure	Number of session attempts failed before the call is in the CONNECTED state because a flow could not be added on the NPU.
Invalid dest-context	Number of session attempts failed before the call is in the CONNECTED state because the destination context received from the AAA server is invalid.
GTP	Number of session attempts failed before the call is in the CONNECTED state because of a GTP failure.
Duplicate request	Number of session attempts failed before the call is in the CONNECTED state because of duplicate requests.
Addr assign failure	Number of session attempts failed before the call is in the CONNECTED state because no remote IP address has been assigned.
Miscellaneous reasons	Number of session attempts failed because of miscellaneous reasons, including all session setup failures due to SSL failures (for example, handshake failures, ssl-alert, ssl-bad-message), or an unknown APN case in which the TTG is unable to resolve the APN, and all remaining disconnect reasons before the call is in the CONNECTED state.
Session Disconnect reason	
Remote disconnect	Number of sessions disconnected after the call is in the CONNECTED state because of a remote disconnect.

Field	Description
Admin disconnect	Number of sessions disconnected after the call is in the CONNECTED state by the administrator.
Idle timeout	Number of sessions disconnected after the call is in the CONNECTED state because the Idle timer has timed out.
Absolute timeout	Number of sessions disconnected after the call is in the CONNECTED state because the Absolute timer has timed out.
Long duration timeout	Number of sessions disconnected after the call is in the CONNECTED state because the Long Duration timer has timed out.
Re-Auth failure	Number of sessions disconnected after the call is in the CONNECTED state because of a re-authentication failure.
Source address violation	Number of sessions disconnected after the call is in the CONNECTED state because the source IP address is invalid.
GTP	Number of GTP sessions disconnected after the call is in the CONNECTED state.
Duplicate request	Number of sessions disconnected after the call is in the CONNECTED state because of duplicate requests.
Miscellaneous reasons	Number sessions disconnected after the call is in the CONNECTED state because of miscellaneous reasons.
Data Stats	
Total Bytes Sent	Total number of bytes sent.
Total Packets Sent	Total number of packets sent.
Total Bytes Rcvd	Total number of bytes received.
Total Packets Rcvd	Total number of packets received.
Total Packets Violations	Total number of packet violations.
EAP Server Statistics	
Total Received	Total number of EAP messages received from the EAP server in pass-through mode.
Success Received	Total Number of EAP success messages received from the EAP server in pass-through mode.
Challenge Received	Total number of EAP challenge messages received from the EAP server in pass-through mode.
Failures Received	Total number of EAP failure messages received from the EAP server in pass-through mode.

Field	Description
Total Sent	Total number of EAP messages transmitted to the EAP server in pass-through mode.
Initial Requests	Total number of initial EAP messages transmitted to the EAP server in pass-through mode.
Requests Forwarded	Total number of EAP requests forwarded to the EAP server in pass-through mode.
EAP Mobile Stats	
Total Received	Total number of EAP messages received from the UEs in pass-through mode.
Discarded	Total number of EAP messages received from the UEs in pass-though mode.



CHAPTER 107

show pdif-service

This chapter describes the output of the **show pdif-service** command.

- show pdif-service statistics, on page 1637

show pdif-service statistics

Table 475: show pdif-service statistics Command Output Descriptions

Field	Description
Session Statistics	
Current sessions total	Total number of current sessions.
Simple-IPv4 current	Number of current Simple-IPv4 sessions.
Mobile-IPv4 current	Number of current Mobile-IPv4 sessions.
Proxy-Mobile-IPv4 current	Number of current Proxy-Mobile-IPv4 sessions.
Data-Clients	Total number of subscriber sessions originating from data clients.
Active current	Total number of currently active sessions.
Dormant current	Total number of currently dormant sessions.
Active IPv4 current	Total number of currently active IPv4 sessions.
Active IPv6 current	Total number of currently active IPv6 sessions.
Dormant IPv4 current	Total number of currently dormant IPv4 sessions.
Dormant IPv6 current	Total number of currently dormant IPv6 sessions.
Total Simple-IP IPv4	Total number of Simple-IP IPv4 sessions.
Total Mobile-IP IPv4	Total number of Mobile-IP IPv4 sessions.
Total Proxy-Mobile-IP IPv4	Total number of Proxy-Mobile-IP IPv4 sessions.

Field	Description
Mobile-IP IPv4 attempts	Total number of Mobile-IP IPv4 session attempts.
Mobile-IP IPv4 successes	Number of successful Mobile-IP IPv4 session attempts.
Mobile-IP IPv4 failures	Number of failed Mobile-IP IPv4 session attempts.
Proxy-Mobile-IP IPv4 attempts	Total number of Proxy-Mobile-IP IPv4 session attempts.
Proxy-Mobile-IP IPv4 succ	Number of successful Proxy-Mobile-IP IPv4 session attempts.
Proxy-Mobile-IP IPv4 fails	Number of failed Proxy-Mobile-IP IPv4 session attempts.
Simple-IP-Fallback attempts	Total number of Simple-IP fallback attempts.
successes	Number of successful Simple-IP fallback sessions.
failures	Number of failed Simple-IP fallback sessions.
Simple-IP-Fallback Failure Reasons	
No Mobile-IP RRQ Rx	Mobile-IP RRQ request not received.
Not allowed	Simple-IP fallback not allowed by configuration.
Tagged Pool Address	Address is in a pool and tagged not to allow Simple-IP fallback.
Misc	
Simple-IP IPv4 attempts	Total number of Simple-IP IPv4 session attempts.
Simple-IP IPv4 successes	Number of successful Simple-IP IPv4 attempts.
Simple-IP IPv4 failures	Number of failed Simple-IP IPv4 attempts.
Total setup attempts	Total number of session setup attempts.
Total setup success	Number of successful session setup attempts.
Total Attempts Failed	Number of failed session setup attempts.
Total disconnected	Total number of disconnected sessions.
Disconnected locally	Number of sessions disconnected locally.
Disconnected remotely	Number of sessions disconnected remotely.
Disconnect remotely before connect	Number of sessions disconnected remotely before the session was fully connected.
Session Disconnect Reasons	
Remote disconnect ipsec	Number of sessions disconnected because of remote party (mobile) hang-up.
Admin disconnect	Number of sessions disconnected by the Admin.

Field	Description
Idle timeout	Number of sessions disconnected because the Idle timer has timed out.
Absolute timeout	Number of sessions disconnected because the Absolute timer has timed out.
Long duration timeout	Number of sessions disconnected because the Long Duration timer has timed out.
Session setup timeout	Number of sessions disconnected because the Session Setup timer has timed out.
No resource	Number of sessions disconnected because the system has run out of resources (flows, memory, etc.).
Auth failure	Number of sessions disconnected because of an authentication failure.
Flow add failure	Number of sessions disconnected because flow could not be added on NPU.
Invalid dest-context	Number of sessions disconnected because the destination context coming from AAA server is invalid.
Source address violation	Number of sessions disconnected because the source IP address is invalid.
MIP Remote	Number of Mobile-IP sessions disconnected because of remote mobile user hang-up.
MIP Local	Number of Mobile-IP sessions disconnected locally.
Duplicate Request	Number of sessions disconnected because of a duplicate request when there is already a session with the same NAI.
MAC validation failure	Number of sessions disconnected because the HSS cannot validate MAC address from remote user.
Addr assign failure	Number of sessions disconnected because no address has been assigned.
Miscellaneous reasons	Number of Mobile-IP sessions disconnected for other reasons.
MAC Address Validation Statistics	
Validation attempted	Total number of MAC address validation attempts.
Validation succeeded	Number of successful MAC address validation attempts.
Validation failed	Number of failed MAC address validation attempts.
MAC Address Validation Successes	
MAC Address matches	Number of successful HSS server MAC address matches.
HSS failure continued	HSS is configured to continue the session after a failure is registered.
MAC Address Validation Failure Reasons	
Diameter Error	Validation failed because of a problem with the Diameter server.

Field	Description
User Unknown	Validation failed because of an unknown user.
Malformed MAC Address	Validation failed because of a malformed MAC address from the mobile subscriber.
No MAC Address provided	Validation failed because the mobile subscriber does not supply a MAC address.
Unauthorized MAC Address	Validation failed because the MAC address is not authorized by the HSS.
Sh Interface unavailable	Validation failed because of a problem with the interface to the HSS.
Timeout	Validation failed because of a problem with a session setup timeout.
Others	Validation failed because of other reasons.
Data Stats	
Total Bytes Sent	Total number of bytes sent.
Total Packets Sent	Total number of packets sent.
Total Bytes Rcvd	Total number of bytes received.
Total Packets Rcvd	Total number of packets received.
Total Pkts Violations	Total number of packets received from UEs and destined for the Internet that do not match any of the configured traffic selectors.
EAP Server Statistics	
Total Received	Total number of EAP Success+ EAP Challenge + EAP Failures, coming from EAP server.
Success Received	Number of EAP successes received.
Challenge Received	Number of EAP challenges received.
Failures Received	Number of EAP failures received.
Discarded	Number of EAP server messages discarded.
Total Sent	Total number of EAP server messages sent.
Initial Requests	Number of initial requests.
Requests Forwarded	Number of requests forwarded.
EAP Mobile Statistics	
Total Received	Total number of EAP Requests coming from mobile subscriber.
Discarded	Number of EAP mobile messages discarded.



CHAPTER 108

show pgw

This chapter describes the output of the **show pgw** command.

- show pgw-service all, on page 1641
- show pgw-service name, on page 1643
- show pgw-service statistics all, on page 1647
- show pgw-service statistics all-name, on page 1675

show pgw-service all

Displays configuration information for all P-GW services configured on the system.

Table 476: show pgw-service all Command Output Descriptions

Field	Description
Service name	The name of the P-GW service configured and running on the system.
Service-ID	The system-generated identification number associated with the P-GW service name.
Context	The context name where the P-GW service is configured.
Status	Indicates whether the P-GW service is started or not.
EGTP Service	The eGTP service name configured for use by this service.
LMA Service	The LMA service name configured for use by this service.
GGSN Service	The GGSN service name associated with this service.
IPNE Service	Not supported in this release.
S-GW Interface Excluded	Excludes the specified interface.
Priority message Excluded:	Indicates if the priority message is specified. The valid values are Yes and No. The default value is No.
Session-Delete-Delay Timer	Indicates whether there is a delay in terminating a session.

Field	Description
Session-Delete-Delay Timeout	Specifies the time (msecs) to retain a session before terminating it.
PLMN ID List	The Public Land Mobile Network identifier list associated with this P-GW service. A PLMN contains a Mobile Country Code (MCC) and Mobile Network Code (MNC). Up to five PLMN IDs can be configured for each P-GW service.
Newcall Policy	The newcall policy configured for this P-GW service. Specifies whether the P-GW will accept or reject requests for a static IP address if the address is already in use by another session
dns-client Context Name	The context where the DNS client is configured and used by this service.
gx-li context	Refer to the *Lawful Intercept Configuration Guide*.
gx-li transport	Refer to the *Lawful Intercept Configuration Guide*.
QCI-QOS Mapping Table Name	The QoS Class Index to QoS mapping table configured for use with this service.
Authorize	Enables/disables subscriber session authorization with HSS over S6b Diameter interface.
S6b IPv6 Reporting	Specifies whether IPv6 address reporting through AAR towards the S6b interface is enabled or disabled.
Duplicate Subscriber Addr Request	Specifies whether the P-GW will accept or reject requests for a static IP address if the address is already in use by another session.
Fqdn-name	The name of Fully Qualified Domain Name (FQDN) which is used for authorization over S6b interface between P-GW and 3GPP AAA/HSS.
SAEGW service	Specifies whether P-GW service is part of SAEGW service.
EGTP Cause Code Handling	Specifies whether eGTP cause handling has been enabled for this P-GW service.
Temp Failure	Specifies whether eGTP cause handling for temporary failure (cause code 110) has been enabled for this P-GW service.
Retry Timeout	Specifies the time to wait (in seconds) before reattempting Create Bearer Request (CBR)/Modify Bearer Request (MBR)/Update Bearer Request (UBR) when the P-GW receives a temporary failure response from a peer.
Maximum Retry	Specifies the maximum number of retries to attempt. The P-GW discards CBR/MBR/UBR after the maximum number of retries are exceeded.
EGTP Modify bearer res with CHARGING-ID	Indicates whether Modify Bearer Response message with Charging-ID is enabled or disabled.
EGTP Modify bearer res with CHARGING-FQDN or CHARGING-GW-ADDRESS	Indicates whether Modify Bearer Response message with Charging FQDN or Charging Gateway address is enabled or disabled.
EGTP Modify bearer res with MSISDN	Indicates whether Modify Bearer Response message with MSISDN is enabled or disabled.

Field	Description
EGTP SGW Restoration Handling	
Session Hold Timer	Displays if the session Hold Timer is valid or not.
Timeout	Displays the Configured Session Hold Timer timeout value in seconds.
EGTP Modify bearer cmd negotiate qos	Displays the configuration of the egtp modify-bearer-cmd-negotiate-qos command, either Enabled (P-GW ignores the new QoS value in the modify bearer command and uses old QoS value which is already applied) or Disabled (Default, P-GW accepts new QoS value from modify bearer command while PCRF is unreachable or disabled).
EGTP Bit Rate in Rounded Kpbs	Enable/Disable rounded down Kbps value of Bit Rate on GTP interface.
EGTP Suppress Update Bearer Request (no bitrate change)	Indicates if the UBR Suppression feature is enabled or disabled.
P-CSCF Restoration solution	Indicates the type of mechanism being used for P-CSCF failure detection. Can be either HSS-based (Private Extn) or HSS-Based MME-Triggered (Rel12).
P-CSCF Restoration supported for Emergency PDNs	Indicates whether P-CSCF Restoration is enabled for Emergency PDNs. **Important** This functionality is license dependent. For more information, contact your Cisco account representative.
Re-Auth After s6b Triggered P-CSCF Restoration	Indicates whether Re-Auth after S6b triggered P-CSCF Restoration of WLAN is enabled. **Important** This functionality is license dependent. For more information, contact your Cisco account representative.

show pgw-service name

Displays configuration information for all P-GW services configured on the system.

Table 477: show pgw-service name Command Output Descriptions

Field	Description
Service name	The name of the P-GW service configured and running on the system.
Service-ID	The system-generated identification number associated with the P-GW service name.
Context	The context name where the P-GW service is configured.
Status	Indicates whether the P-GW service is started or not.

Field	Description
EGTP Service	The eGTP service name configured for use by this service.
LMA Service	The LMA service name configured for use by this service.
GGSN Service	The GGSN service name associated with this service.
IPNE Service	Not supported in this release.
Peer Map	
Session-Delete-Delay Timer	Indicates whether there is a delay in terminating a session.
Session-Delete-Delay Timeout	Specifies the time (msecs) to retain a session before terminating it.
PLMN ID List	The Public Land Mobile Network identifier list associated with this P-GW service. A PLMN contains a Mobile Country Code (MCC) and Mobile Network Code (MNC). Up to five PLMN IDs can be configured for each P-GW service.
Newcall Policy	The newcall policy configured for this P-GW service. Specifies whether the P-GW will accept or reject requests for a static IP address if the address is already in use by another session
dns-client Context Name	The context where the DNS client is configured and used by this service.
gx-li context	Refer to the *Lawful Intercept Configuration Guide*.
gx-li transport	Refer to the *Lawful Intercept Configuration Guide*.
Internal QOS Application	The QoS application configured for use with this service.
QCI-QOS Mapping Table Name	The QoS Class Index to QoS mapping table configured for use with this service.
Authorize	Enables/disables subscriber session authorization with HSS over S6b Diameter interface.
Setup Timeout	Specifies the maximum amount of time the P-GW service allows for the setting up of PDP contexts.
Message Timestamp Drift	Specifies the drift time configuration to take care of NTP drift issues.
S6b IPv6 Reporting	Specifies if the IPv6 address reporting through AAR towards the S6b interface is enabled or disabled.
Retain MDN	Enables MDN/MSISDN value to be retained as negotiated during the call setup (retrieved from S6b interface or Create Session Request).
Duplicate Subscriber Addr Request	Specifies whether the P-GW will accept or reject requests for a static IP address if the address is already in use by another session.
Duplicate Subscriber Addr Request IPv6	Specifies whether the P-GW will accept or reject requests for an IPv6 IP address if the address is already in use by another session.
Qos Negotiation Profile Rel8 for Gy interface	

Field	Description
DCNR	Enables 5G New radio Functionality for subscriber session in the PGW service.
Fqdn-name	The name ofFully Qualified Domain Name (FQDN) which is used for authorization over S6b interface between P-GW and 3GPP AAA/HSS.
SAEGW service	Specifies whether P-GW service is part of SAEGW service.
EGTP Overcharging Protection	
EGTP Cause Code Handling	Specifies whether eGTP cause handling has been enabled for this P-GW service
Temp Failure	Specifies whether eGTP cause handling for temporary failure (cause code 110) has been enabled for this P-GW service.
Retry Timeout	Specifies the time to wait (in seconds) before reattempting Create Bearer Request (CBR)/Modify Bearer Request (MBR)/Update Bearer Request (UBR) when the P-GW receives a temporary failure response from a peer.
Maximum Retry	Specifies the maximum number of retries to attempt. The P-GW discards CBR/MBR/UBR after the maximum number of retries are exceeded.
EGTP SGW Restoration Handling	Specifies if the eGTP S-GW restoration handling is enabled or not.
Session Hold Timer	Displays if the session Hold Timer is valid or not.
Timeout	Displays the Configured Session Hold Timer timeout value in seconds.
EGTP Modify bearer cmd negotiate qos	Displays the configuration of the egtp modify-bearer-cmd-negotiate-qos command, either Enabled (P-GW accepts new QoSvalue from modify bearer command while PCRF is unreachable; or Disabled (Default, P-GW ignores the new QoS value in the modify bearer command and uses stored QoS value from PCRF).
EGTP GnGp Modify bearer res with APN-AMBR	
EGTP Modify bearer res with CHARGING-ID	Indicates whether Modify Bearer Response message with Charging-ID is enabled or disabled.
EGTP Modify bearer res with CHARGING-FQDN or CHARGING-GW-ADDRESS	Indicates whether Modify Bearer Response message with Charging FQDN or Charging Gateway address is enabled or disabled.
EGTP Modify bearer res with MSISDN	Indicates whether Modify Bearer Response message with MSISDN is enabled or disabled.
EGTP Modify Bearer Response with Context Not Found cause if IMEI/IMEISV mismatch	
EGTP Bit Rate in Rounded Down Kbps	Enable/Disable rounded down Kbps value of Bit Rate on GTP interface.
EGTP Suppress Update Bearer Request (no bitrate change)	Indicates if the UBR Suppression feature is enabled or disabled.

Field	Description
EGTP Create Session Response with APN-AMBR IE	
EGTP Ignore ULI IE with SAI/RAI/CGI in Change Notification Req for EUTRAN	Indicates that **egtp change-notification-req rat-type eutran ignore-uli-with-rai-sai-cgi** CLI is enabled or disabled under P-GW services.
GTP-C Load Control Profile	Indicates the GTP-C load control profile.
GTP-C Overload Control Profile	Indicates the GTP-C overload control profile.
P-CSCF Restoration solution	Indicates the type of mechanism being used for P-CSCF failure detection. Can be either HSS-based (Private Extn) or HSS-Based MME-Triggered (Rel12).
P-CSCF Restoration supported for Emergency PDNs	Indicates whether P-CSCF Restoration is enabled for Emergency PDNs. **Note** This functionality is license dependent. For more information, contact your Cisco account representative.
Re-Auth After s6b Triggered P-CSCF Restoration	Indicates whether Re-Auth after S6b triggered P-CSCF Restoration of WLAN is enabled. **Note** This functionality is license dependent. For more information, contact your Cisco account representative.
GTP-C Cause Code Mapping (Gx Failure)	
eMPS Profile Name	Indicates the eMPS Profile name used to define attributes of an eMPS session.
GTPC Outgoing Throttling	Specifies if outgoing throttling has been enabled, which indicates the number of messages that were removed from the queue (due to any collision, or max retransmission expired).
RLF Template Name	Specifies the template name for RLF for throttling support.
Throttling override	
Throttling override Policy	Configures the Throttling Override Policy that can be used at the GGSN/P-GW nodes to selectively bypass throttling for a configured message type or for all messages in emergency call or priority call or call for the configured APN.
GTPC Incoming Throttling Params	Specifies if the incoming throttling of GTPC has been configured. It includes following parameters.
Message Rate (per sec)	Indicates the number of messages per second. Default: 20000
Delay Tolerance (secs)	Indicates the delay tolerance in seconds. Default: 5
Queue Size	Indicates the queue size. Default: 10000
S-GW Interface Excluded	Excludes the specified interface.

Field	Description
Priority message Excluded:	Indicates if the priority message is specified. The valid values are Yes and No. The default value is No.

show pgw-service statistics all

The following command output applies to release 14.0 and higher.

Table 478: show pgw-service statistics all Command Output Descriptions

Field	Description
VPN Name	The name of the context in which the P-GW service is configured.
Subscribers Total:	
Active	The total number of active subscribers.
Total S6b Assume Positive	The total number of subscribers in the assume positive state.
PDNs Total:	
Active	The total number of active PDN sessions.
Setup	The total number of setup PDN sessions.
Released	The total number of released PDN sessions.
Rejected	The total number of rejected PDN sessions.
PDNs By PDN-Type:	
IPv4 PDNs:	
Active	The total number of active PDN sessions using IPv4.
Setup	The total number of setup PDN sessions using IPv4.
Released	The total number of released PDN sessions using IPv4.
IPv6 PDNs:	
Active	The total number of active PDN sessions using IPv6.
Setup	The total number of setup PDN sessions using IPv6.
Released	The total number of released PDN sessions using IPv6.
IPv4v6 PDNs:	
Active	The total number of active PDN sessions using IPv4v6.
Setup	The total number of setup PDN sessions using IPv4v6.

Field	Description
Released	The total number of released PDN sessions using IPv4v6.
DCNR Secondary RAT Data PDN Statistics	
Active	The total number of currently active P-GW DCNR Secondary RAT-Data PDN Sessions. Count is incremented when DCNR bit is set for a PDN session, and a Secondary RAT Data received first time for that session **Note** Irrespective of how many Secondary RAT Data Usage Reports are received for a DCNR PDN, it shall be counted as one. As intention is to count number of real usages of 5G Data DCNR PDNs session, not the Secondary RAT Data Usage Reports. Counter is decremented when the identified DCNR Secondary RAT Data session gets released. **Note** DCNR Secondary RAT Data statistics will be decremented only when the session gets released. There might be also a scenario where DCNR session receives Secondary RAT Data once or twice only and if it is not reported in the subsequent messages from MME / P-GW, as per current proposed solution, DCNR Secondary RAT Data statistics will not be decremented till the session is released.
Setup	The total number of cumulative P-GW DCNR Secondary RAT-Data PDN Sessions setup. Count is incremented when DCNR bit is set for a PDN session, and a Secondary RAT Data received first time for that session **Note** Irrespective of how many Secondary RAT Data Usage Reports are received for a DCNR PDN, it shall be counted as one. As intention is to count number of real usages of 5G Data DCNR PDNs session, not the Secondary RAT Data Usage Reports.
Released	The total number of cumulative P-GW DCNR Secondary RAT Data PDNs sessions released. Counter is incremented when the DCNR Secondary RAT Data PDN Session release. It is a cumulative counter, so it will not be decremented
PDNs By PLMN-Type:	
Home Subscriber PDNs:	
Active	Subscriber PLMN Statistics - Home subscribers sessions active
Setup	Subscriber PLMN Statistics - Home subscribers sessions setup

Field	Description
Released	Subscriber PLMN Statistics - Home subscribers sessions released
Visiting Subscriber PDNs:	
Active	Subscriber PLMN Statistics - Visiting subscribers sessions active
Setup	Subscriber PLMN Statistics - Visiting subscribers sessions setup
Released	Subscriber PLMN Statistics - Visiting subscribers sessions released
Roaming Subscriber PDNs:	
Active	Subscriber PLMN Statistics - Roaming subscribers sessions active
Setup	Subscriber PLMN Statistics - Roaming subscribers sessions setup
Released	Subscriber PLMN Statistics - Roaming subscribers sessions released
PDNs By Emergency-Type:	
Emergency PDNs:	
Active	Total Active Emergency PDNs
Authentic IMSI	Total Active Emergency PDNs (Auth-IMSI)
Un-Authentic IMSI	Total Active Emergency PDNs (Unauth-IMSI)
Only IMEI	Total Active Emergency PDNs (Only IMEI)
Setup	Total Emergency PDNs setup
Authentic IMSI	Total Emergency PDNs (Auth-IMSI) setup
Un-Authentic IMSI	Total Emergency PDNs (Unauth-IMSI) setup
Only IMEI	Total Emergency PDNs (Only IMEI) setup
Rejected	Total Emergency PDNs rejected
Non-Emergency PDNs:	
Active	The total number of active non-emergency PDNs.
Setup	The total number of setup non-emergency PDNs.
PDNs Rejected By Reason:	
No Resource	The total number of PDNs rejected - No Resource.
Missing or unknown APN	The total number of PDNs rejected - Missing or unknown APN.
APN sel-Mode mismatch	The total number of PDNs rejected - APN selection-mode mismatch.
PDN-Type not supported	The total number of PDNs rejected - Preferred PDN-Type not supported.

Field	Description
APN restr violation	The total number of PDNs rejected - APN restriction violation .
Subs auth failed	The total number of PDNs rejected - Subscriber authentication failed.
static addr not allow	The total number of PDNs rejected - Subscriber static address not allowed.
static addr not alloc	The total number of PDNs rejected - Subscriber static address not allocated.
Dynamic addr not alloc	The total number of PDNs rejected - Dynamic address not allocated.
static addr not present	The total number of PDNs rejected - Subscriber static address not present.
Invalid QCI Value	The total number of PDNs rejected - Due to the receipt of invalid QoS Class Identifiers (QCIs).
Apn-Denied No Subscription	The total number of subscriber sessions disconnected due to denial of APN as requested APN was not subscribed to subscriber.
System Failure	The total number of PDNs to ease debugging.
PDNs Released By Reason:	
Network initiated release	The total number of PDNs released due to a network-initiated release.
Admin disconnect	The total number of PDNs released due to an administrative disconnect.
GTP-U error ind	The total number of PDNs released due to a GTP-U error indication.
SGW path failure	The total number of PDNs released due to an S-GW path failure.
Local fallback timeout	The total number of PDNs released due to the local policy timeout when Gx is not reachable.
UE P-CSCF Reselect not supported	The total number of UEs released due to P-CSCF Re-selection not being supported.
MME initiated release	The total number of PDNs released due to an MME initiated release.
S4 SGSN initiated release	The total number of PDNs released due to an S4 SGSN initiated release
Bearers Total:	
Active	The total number of active bearers.
Setup	The total number of bearers setup.
Released	The total number of number of bearers released.
Rejected	The total number of rejected bearers.
Bearers By Emergency-Type:	
Emergency Bearers:	
Active	The total number of Active Emergency bearers.

Field	Description
Authentic IMSI	The total number of Active Emergency bearers (Authentic-IMSI).
Un-Authentic IMSI	The total number of Active Emergency bearers (Unauthentic-IMSI).
Only IMEI	The total number of Active Emergency bearers (Only IMEI).
Setup	The total number of Emergency bearers setup.
Authentic IMSI	The total number of Emergency bearers (Authentic-IMSI) setup.
Un-Authentic IMSI	The total number of Emergency bearers (Unauthentic-IMSI) setup.
Only IMEI	The total number of Emergency bearers (Only IMEI) setup.
Rejected	The total number of Emergency bearers rejected.
Non-Emergency Bearers:	
Active	The total number of Active Non-Emergency bearers
Setup	The total number of Setup Non-Emergency bearers
eMPS PDN	
Current Active	
Cumulative Activated	
Cumulative De-activated	
DCNR PDN Statistics	
Active	The total number of current active SGW DCNR PDNs.
Setup	The total number of SGW PDNs that are setup as DCNR PDN.
Released	The total number of SGW DCNR PDNs released.
Bearers by QoS characteristics	
Active: QCI n	The total number of active bearers for QCI n. Where n is a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Non-Std QCI (Non-GBR)	The total number of active non-standard non-GBR bearers.
Non-Std QCI (GBR)	The total number of active non-standard GBR bearers
Setup: QCI n	The total number of bearers setup for QCI n. Where n is a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Non-Std QCI (Non-GBR)	The total number of non-standard non-GBR bearers setup.
Non-Std QCI (GBR)	The total number of non-standard GBR bearers setup.

Field	Description
Released: QCI n	The total number of released bearers for QCI n. Where n is a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Dedicated Bearers By Type:	
UE-initiated:	
Active	Total bearers active - UE-initiated
Setup	Total bearers setup - UE-initiated
Network-initiated:	
Active	Total bearers active - Network-initiated
Setup	Total bearers setup - Network-initiated
Bearer Modifications:	
UE-initiated:	
QoS Modifications	Total bearers modified - UE-initiated Quality of Service (QoS)modification
TFT Modifications	Total bearers modified - UE-initiated Traffic Flow Template modification
Network-initiated:	
QoS Modifications	Total bearers modified - Network-initiated Quality of Service modification
TFT Modifications	Total bearers modified - Network-initiated Traffic Flow Template modification
Failures:	
UE-initiated-mod-fail:	Total bearers modification failure - UE-initiated modification failed
QOS changed	Total bearer modification failures - UE-initiated Quality of Service
No res available	Total bearer modification failures - UE-initiated Quality of Service - No resource available
Semantic err in TFT	Total bearers modification failures - UE-initiated Quality of Service - Semantic error in Traffic Flow Template operation
Syntact err in TFT	Total bearer modification failures - UE-initiated Quality of Service - Syntax error in Traffic Flow Template operation
Semantic err in fltr	Total bearer modification failures - UE-initiated Quality of Service - Semantic error in packet filter
Syntact err in fltr	Total bearer modification failures - UE-initiated Quality of Service - syntax error in packet filter

Field	Description
No memory available	Total bearer modification failures - UE-initiated Quality of Service - No resource available
System failure	Total bearers modification failure - UE-initiated Quality of Service - System failure
No QOS changed	Total bearer modification failures - UE-initiated
No res available	Total bearer modification failures - UE-initiated - No resource available
Semantic err in TFT	Total bearers modification failures - UE-initiated - Semantic error in Traffic Flow Template operation
Syntact err in TFT	Total bearer modification failures - UE-initiated - Syntax error in Traffic Flow Template operation
Semantic err in fltr	Total bearer modification failures - UE-initiated - Semantic error in packet filter
Syntact err in fltr	Total bearer modification failures - UE-initiated - syntax error in packet filter
No memory available	Total bearer modification failures - UE-initiated - No resource available
System failure	Total bearers modification failure - UE-initiated - System failure
NW-initiated-mod-fail:	Total bearers modification failure - Network-initiated modification failed
QOS changed	Total bearer modification failures - Network-initiated Quality of Service
No res available	Total bearers modification failure - Network-initiated Quality of Service - No resource available
Semantic err in TFT	Total bearers modification failure - Network-initiated Quality of Service - Semantic error in Traffic Flow Template operation
Syntact err in TFT	Total bearers modification failure - Network-initiated Quality of Service - syntax error in Traffic Flow Template operation
Semantic err in fltr	Total bearers modification failure - Network-initiated Quality of Service - Semantic error in packet filter
Syntact err in fltr	Total bearers modification failure - Network-initiated Quality of Service - syntax error in packet filter
No memory available	Total bearers modification failure - Network-initiated Quality of Service - No memory available
System failure	Total bearers modification failure - Network-initiated Quality of Service - System failure
No QOS changed	Total bearer modification failures - Network-initiated
No res available	Total bearers modification failure - Network-initiated - No resource available
Semantic err in TFT	Total bearers modification failure - Network-initiated - Semantic error in Traffic Flow Template operation

Field	Description
Syntact err in TFT	Total bearers modification failure - Network-initiated - syntax error in Traffic Flow Template operation
Semantic err in fltr	Total bearers modification failure - Network-initiated - Semantic error in packet filter
Syntact err in fltr	Total bearers modification failure - Network-initiated - syntax error in packet filter
No memory available	Total bearers modification failure - Network-initiated - No memory available
System failure	Total bearers modification failure - Network-initiated - System failure
Dedicated Bearers Rejected By Reason:	
UE-initiated Bearer Rejects	Total dedicated bearers rejected - UE-initiated
No resource	Total dedicated bearers rejected - UE-initiated - No resource
NW-initiated Bearer Rejects	Total dedicated bearers rejected - Network-initiated
No resource	Total dedicated bearers rejected - Network-initiated - No resource
No mem available	Total dedicated bearers rejected - Network-initiated - No memory available
System failure	Total dedicated bearers rejected - Network-initiated - System failure
Dedicated Bearers Released By Reason:	
Network initiated release	Total dedicated bearers released - Network-initiated
Admin disconnect	Total dedicated bearers released - Network-initiated - Admindisconnect
GTP-U error ind	Total dedicated bearers released - Network-initiated - GTP-Uerror
MME initiated release	Total dedicated bearers released - Network-initiated - MME initiated release
Default Bearer release	Total dedicated bearers released - Network-initiated - Default bearer release
IP Address Allocation Statistics:	
Total IPv4 addrs allocated	Total IPv4 addresses allocated
Local pool assignment	Total IPv4 addresses allocated - Local pool address assignment
Static addr assignment	Total IPv4 addresses allocated - Static address assignment
Radius provided assignment	Total IPv4 addresses allocated - RADIUS provided address assignment
Total IPv6 addrs allocated	Total IPv6 addresses allocated
Stateless auto config	Total IPv6 address allocated - Stateless auto config
Local pool assignment	Total IPv6 addresses allocated - Local pool address assignment
Static addr assignment	Total IPv6 addresses allocated - Static address assignment

Field	Description
Radius provided assignment	Total IPv6 addresses allocated - RADIUS provided address assignment
SGi tunneling statistics:	
Total IPv4 tunnel sessions:	
IP-in-IP Tunnels:	
Active	SGi tunneling Statistics - IPv4 IP-in-IP tunnel sessions active
Setup	SGi tunneling Statistics - IPv4 IP-in-IP tunnel sessions setup
Released	SGi tunneling Statistics - IPv4 IP-in-IP tunnel sessions released
GRE Tunnels:	
Active	SGi tunneling Statistics - IPv4 GRE tunnel sessions active
Setup	SGi tunneling Statistics - IPv4 GRE tunnel sessions setup
Released	SGi tunneling Statistics - IPv4 GRE tunnel sessions released
Total IPv6 tunneled sessions:	
6to4 Tunnels:	
Active	SGi tunneling Statistics - IPv6 6to4 tunnel sessions active
Setup	SGi tunneling Statistics - IPv6 6to4 tunnel sessions setup
Released	SGi tunneling Statistics - IPv6 6to4 tunnel sessions released
Handover Statistics:	
Intra Technology handover:	
Inter SGSN handover:	
Attempted	Total number of inter-SGSN handover attempts
Succeeded	Total number of successful inter-SGSN handovers
Failed	Total number of failed inter-SGSN handovers
Inter SGW handover:	
Attempted	Total number of inter-SGW handover attempts
Succeeded	Total number of successful inter-SGW handovers
Failed	Total number of failed inter-SGW handovers
Inter HSGW handover:	
Attempted	Total number of inter-HSGW handover attempts

Field	Description
Succeeded	Total number of successful inter-HSGW handovers
Failed	Total number of failed inter-HSGW handovers
Inter Technology handover:	
GNGP-to-LTE handover:	
Attempted	Total number of Gn/Gp to LTE attempted handovers
Succeeded	Total number of Gn/Gp to LTE successful handovers
Failed	Total number of Gn/Gp to LTE failed handovers
LTE-to-GNGP handover:	
Attempted	Total number of LTE to Gn/Gp attempted handovers
Succeeded	Total number of LTE to Gn/Gp successful handovers
Failed	Total number of LTE to Gn/Gp failed handovers
LTE-to-eHRPD handover:	
Attempted	Total number of LTE to eHPRD attempted handovers
Succeeded	Total number of LTE to eHPRD successful handovers
Failed	Total number of LTE to eHRPD failed handovers
eHRPD-to-LTE handover:	
Attempted	Total number of eHPRD to LTE attempted handovers
Succeeded	Total number of eHPRD to LTE successful handovers
Failed	Total number of eHPRD to LTE failed handovers
LTE-to-S2bPMIP handover:	
Attempted	Total number of LTE to S2bPMIP attempted handovers
Succeeded	Total number of LTE to S2bPMIP successful handovers
Failed	Total number of LTE to S2bPMIP failed handovers
S2bPMIP-to-LTE handover:	
Attempted	Total number of S2bPMIP to LTE attempted handovers
Succeeded	Total number of S2bPMIP to LTE successful handovers
Failed	Total number of S2bPMIP to LTE failed handovers
eHRPD-to-S2bPMIP handover:	

Field	Description
Attempted	Total number of eHPRD to S2bPMIP attempted handovers
Succeeded	Total number of eHPRD to S2bPMIP successful handovers
Failed	Total number of eHPRD to S2bPMIP failed handovers
S2bPMIP-to-eHRPD handover:	
Attempted	Total number of S2bPMIP to eHPRD attempted handovers
Succeeded	Total number of S2bPMIP to eHPRD successful handovers
Failed	Total number of S2bPMIP to eHPRD failed handovers
S2bGTP-to-LTE handover:	
Attempted	Total number of S2bGTP to LTE attempted handovers
Succeeded	Total number of S2bGTP to LTE successful handovers
Failed	Total number of S2bGTP to LTE failed handovers
LTE-to-S2bGTP handover:	
Attempted	Total number of LTE to S2bGTP attempted handovers
Succeeded	Total number of LTE to S2bGTP successful handovers
Failed	Total number of LTE to S2bGTP failed handovers
S2bGTP-to-EHRPD handover:	
Attempted	Total number of S2bGTP to eHPRD attempted handovers
Succeeded	Total number of S2bGTP to eHPRD successful handovers
Failed	Total number of S2bGTP to eHPRD failed handovers
EHRPD-to-S2bGTP handover:	
Attempted	Total number of eHPRD to S2bGTP attempted handovers
Succeeded	Total number of eHPRD to S2bGTP successful handovers
Failed	Total number of eHPRD to S2bGTP failed handovers
GNGP-to-S4SGSN handover:	
Attempted	Total number of GNGP-to-S4SGSN attempted handovers
Succeeded	Total number of GNGP-to-S4SGSN successful handovers
Failed	Total number of GNGP-to-S4SGSN failed handovers
S4SGSN-to-GNGP handover:	

Field	Description
Attempted	Total number of S4SGSN-to-GNGP attempted handovers
Succeeded	Total number of S4SGSN-to-GNGP successful handovers
Failed	Total number of S4SGSN-to-GNGP failed handovers
S4SGSN-to-LTE handover:	
Attempted	Total number of S4SGSN-to-LTE attempted handovers
Succeeded	Total number of S4SGSN-to-LTE successful handovers
Failed	Total number of S4SGSN-to-LTE failed handovers
LTE-to-S4SGSN handover:	
Attempted	Total number of LTE-to-S4SGSN attempted handovers
Succeeded	Total number of LTE-to-S4SGSN successful handovers
Failed	Total number of LTE-to-S4SGSN failed handovers
P-CSCF Restoration Indications received:	The total number of P-CSCF Restoration indications received (HSS Triggered and PCRF Triggered) at service level. The total number of triggers received on any interface (MME/PCRF/S6b) = Basic + Extended + Ignored (ignored for reasons such as restoration already in progress, license not present, validation check fails, or call not connected).
HSS Triggered Restoration:	
MME Triggered Restoration	Tracks the number of occurrences of P-CSCF Restoration Required Indications received from the MME/S-GW through a modify bearer request.
Basic Restoration Performed	The total number of basic P-CSCF Restorations performed for restoration indications received from the MME/S-GW.
Extension Restoration Performed	The total number of extended P-CSCF Restorations performed for restoration indications received from the MME/S-GW.
S6b Triggered Restoration	The total number of P-CSCF Restoration Required Indications received from the s6b AAA server through a RAR for a WLAN.
Basic Restoration Performed	The total number of basic P-CSCF Restorations performed for restoration indications received from an s6b AAA server through a RAR for a WLAN.
Extension Restoration Performed	The total number of extended P-CSCF Restorations performed for restoration indications received from an s6b AAA server through a RAR for a WLAN.
PCRF Triggered Restoration:	The total number of P-CSCF Restoration Required Indications received from the PCRF through RAR.
Basic Restoration Performed	The total number of basic P-CSCF Restorations performed for restoration indications received from PCRF through a RAR.

Field	Description
Extension Restoration Performed	The total number of extended P-CSCF Restorations performed for restoration indications received from a PCRF through a RAR.
Data Statistics Per Interface:	
S5U/S8U/S2bU/Gn/Gp Total Data Statistics:	
Uplink:	
Total Pkts	The total number of uplink packets forwarded.
Std QCI (Non-GBR)	The total number of uplink packets forwarded with a standard QoS Class Index (non-GBR).
Std QCI (GBR)	The total number of uplink packets forwarded with a standard QoS Class Index.
Non-Std QCI (Non-GBR)	The total number of uplink packets forwarded with a non-standard QoS Class Index (non-GBR).
Non-Std QCI (GBR)	The total number of uplink packets forwarded with a non-standard QoS Class Index (GBR).
Total Bytes	The total number of uplink bytes forwarded.
Std QCI (Non-GBR)	The total number of uplink bytes forwarded with a standard QoS Class Index (non-GBR).
Std QCI (GBR)	The total number of uplink bytes forwarded with a standard QoS Class Index.
Non-Std QCI (Non-GBR)	The total number of uplink bytes forwarded with a non-standard QoS Class Index (non-GBR).
Non-Std QCI (GBR)	The total number of uplink bytes forwarded with a non-standard QoS Class Index (GBR).
Total Dropped Pkts	The total number of uplink packets dropped.
Std QCI (Non-GBR)	The total number of uplink packets dropped with a standard QoS Class Index (non-GBR).
Std QCI (GBR)	The total number of uplink packets dropped with a standard QoS Class Index.
Non-Std QCI (Non-GBR)	The total number of uplink packets dropped with a non-standard QoS Class Index (non-GBR).
Non-Std QCI (GBR)	The total number of uplink packets dropped with a non-standard QoS Class Index (GBR).
Total Dropped Bytes	The total number of uplink bytes dropped.
Std QCI (Non-GBR)	The total number of uplink bytes dropped with a standard QoS Class Index (non-GBR).

Field	Description
Std QCI (GBR)	The total number of uplink bytes dropped with a standard QoS Class Index.
Non-Std QCI (Non-GBR)	The total number of uplink bytes dropped with a non-standard QoS Class Index (non-GBR).
Non-Std QCI (GBR)	The total number of uplink bytes dropped with a non-standard QoS Class Index (GBR).
Dropped Pkts MBR Excd	The total number of uplink packets dropped due to MBR exceeded.
Std QCI (Non-GBR)	The total number of uplink packets dropped with a standard QoS Class Index (non-GBR) due to MBR exceeded.
Std QCI (GBR)	The total number of uplink packets dropped with a standard QoS Class Index due to MBR exceeded.
Non-Std QCI (Non-GBR)	The total number of uplink packets dropped with a non-standard QoS Class Index (non-GBR) due to MBR exceeded.
Non-Std QCI (GBR)	The total number of uplink packets dropped with a non-standard QoS Class Index (GBR) due to MBR exceeded.
Dropped Bytes MBR Excd	The total number of uplink bytes dropped due to MBR exceeded.
Std QCI (Non-GBR)	The total number of uplink bytes dropped with a standard QoS Class Index (non-GBR) due to MBR exceeded.
Std QCI (GBR)	The total number of uplink bytes dropped with a standard QoS Class Index due to MBR exceeded.
Non-Std QCI (Non-GBR)	The total number of uplink bytes dropped with a non-standard QoS Class Index (non-GBR) due to MBR exceeded.
Non-Std QCI (GBR)	The total number of uplink bytes dropped with a non-standard QoS Class Index (GBR) due to MBR exceeded.
Drops Due To APN AMBR Rate Limit	
Packets	The total number of uplink packets dropped due to APN AMBR rate limit.
Bytes	The total number of uplink bytes dropped due to APN AMBR rate limit.
Downlink:	
Total Pkts	The total number of downlink packets forwarded.
Std QCI (Non-GBR)	The total number of downlink packets forwarded with a standard QoS Class Index (non-GBR).
Std QCI (GBR)	The total number of downlink packets forwarded with a standard QoS Class Index.
Non-Std QCI (Non-GBR)	The total number of downlink packets forwarded with a non-standard QoS Class Index (non-GBR).

Field	Description
Non-Std QCI (GBR)	The total number of downlink packets forwarded with a non-standard QoS Class Index (GBR).
Total Bytes	The total number of downlink bytes forwarded.
Std QCI (Non-GBR)	The total number of downlink bytes forwarded with a standard QoS Class Index (non-GBR).
Std QCI (GBR)	The total number of downlink bytes forwarded with a standard QoS Class Index.
Non-Std QCI (Non-GBR)	The total number of downlink bytes forwarded with a non-standard QoS Class Index (non-GBR).
Non-Std QCI (GBR)	The total number of downlink bytes forwarded with a non-standard QoS Class Index (GBR).
Total Dropped Pkts	The total number of downlink packets dropped.
Std QCI (Non-GBR)	The total number of downlink packets dropped with a standard QoS Class Index (non-GBR).
Std QCI (GBR)	The total number of downlink packets dropped with a standard QoS Class Index.
Non-Std QCI (Non-GBR)	The total number of downlink packets dropped with a non-standard QoS Class Index (non-GBR).
Non-Std QCI (GBR)	The total number of downlink packets dropped with a non-standard QoS Class Index (GBR).
Total Dropped Bytes	The total number of downlink bytes dropped.
Std QCI (Non-GBR)	The total number of downlink bytes dropped with a standard QoS Class Index (non-GBR).
Std QCI (GBR)	The total number of downlink bytes dropped with a standard QoS Class Index.
Non-Std QCI (Non-GBR)	The total number of downlink bytes dropped with a non-standard QoS Class Index (non-GBR).
Non-Std QCI (GBR)	The total number of downlink bytes dropped with a non-standard QoS Class Index (GBR).
Dropped Pkts MBR Excd	The total number of downlink packets dropped due to MBR exceeded.
Std QCI (Non-GBR)	The total number of downlink packets dropped with a standard QoS Class Index (non-GBR) due to MBR exceeded.
Std QCI (GBR)	The total number of downlink packets dropped with a standard QoS Class Index due to MBR exceeded.

Field	Description
Non-Std QCI (Non-GBR)	The total number of downlink packets dropped with a non-standard QoS Class Index (non-GBR) due to MBR exceeded.
Non-Std QCI (GBR)	The total number of downlink packets dropped with a non-standard QoS Class Index (GBR) due to MBR exceeded.
Dropped Bytes MBR Excd	The total number of downlink bytes dropped due to MBR exceeded.
Std QCI (Non-GBR)	The total number of downlink bytes dropped with a standard QoS Class Index (non-GBR) due to MBR exceeded.
Std QCI (GBR)	The total number of downlink bytes dropped with a standard QoS Class Index due to MBR exceeded.
Non-Std QCI (Non-GBR)	The total number of downlink bytes dropped with a non-standard QoS Class Index (non-GBR) due to MBR exceeded.
Non-Std QCI (GBR)	The total number of downlink bytes dropped with a non-standard QoS Class Index (GBR) due to MBR exceeded.
Drops Due To APN AMBR Rate Limit	
Packets	The total number of downlink packets dropped due to APN AMBR rate limit.
Bytes	The total number of downlink bytes dropped due to APN AMBR rate limit.
Data Statistics Per PDN-Type:	
IPv4 PDNs:	
Uplink:	
Total Pkts	The total number of IPv4 PDN uplink packets (from user).
Total Bytes	The total number of IPv4 PDN uplink bytes (from user).
Downlink:	
Total Pkts	The total number of IPv4 PDN downlink packets (to user).
Total Bytes	The total number of IPv4 PDN downlink bytes (to user).
IPv6 PDN Data Statistics:	
Uplink:	
Total Pkts	The total number of IPv6 PDN uplink packets (from user).
Total Bytes	The total number of IPv6 PDN uplink bytes (from user).
Downlink:	
Total Pkts	The total number of IPv6 PDN downlink packets (to user).

Field	Description
Total Bytes	The total number of IPv6 PDN downlink bytes (to user).
IPv4v6 PDN Data Statistics:	
Uplink:	
Total Pkts v4	The total number of IPv4 PDN uplink packets (from user).
Total Bytes v4	The total number of IPv4 PDN uplink bytes (from user).
Total Pkts v6	The total number of IPv6 PDN uplink packets (from user).
Total Bytes v6	The total number of IPv6 PDN uplink bytes (from user).
Downlink:	
Total Pkts v4	The total number of IPv4 PDN downlink packets (to user).
Total Bytes v4	The total number of IPv4 PDN downlink bytes (to user).
Total Pkts v6	The total number of IPv6 PDN downlink packets (to user).
Total Bytes v6	The total number of IPv6 PDN downlink bytes (to user).
Packets: QCI n	The total number of uplink packets transmitted for QCI n. Where n is a QCI value of 1 through 9, or a QCI value of 65, 66, 69, or 70.
Non-Std QCI	The total number of non-standard QCI uplink packets transmitted.
Packets: QCI n	The total number of downlink packets transmitted for QCI n. Where n is a QCI value of 1 through 9, or a QCI value of 65, 66, 69, or 70.
Non-Std QCI	The total number of non-standard QCI downlink packets transmitted.
802.1p priority marking statistics	
Uplink: Priority 0-7	The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later.
Downlink: Priority 0-7	The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later.
Priority marking statistics	
Uplink: Priority 0-7	The total number of packets sent in the uplink direction marked with an internal QoS priority.
Downlink: Priority 0-7	The total number of packets sent in the downlink direction marked with an internal QoS priority.
Dedicated Bearer Released due to Idle-Inactivity timeout:	
Std QCI (Non-GBR)	The number of dedicated non-Guaranteed bit rate (non-GBR) bearers with a standard QCI value that were released due to an idle-inactivity timeout.

Field	Description
Non-Std QCI (Non-GBR)	The number of dedicated non-Guaranteed bit rate (non-GBR) bearers with a non-standard QCI value that were released due to an idle-inactivity timeout.
Std QCI (GBR)	The number of dedicated Guaranteed Bit Rate (GBR) bearers with a standard QCI value that were released due to an idle-inactivity timeout.
Non-std QCI (GBR)	The number of dedicated Guaranteed Bit Rate (GBR) bearers with a non-standard QCI value that were released due to an idle-inactivity timeout.
PDNs by RAT-Type:	
EUTRAN	The total number of EUTRAN PDNs by RAT-Type.
UTRAN	The total number of UTRANs PDNs by RAT-Type.
GERAN	The total number of GERANs PDNs by RAT-Type.
WLAN	The total number of WLANs PDNs by RAT-Type.
Other	The total number of Others PDNs by RAT-Type.
SGW Restoration Statistics:	
PDNs Total:	
In Restoration State:	
Recovered	The total number of PDN session recovered during SGW Restoration.
Released	The total number of PDN sessions released during SGW Restoration.
Drops during SGW Restoration:	
Packets	The total number of packets dropped during SGW Restoration.
Bytes	The total number of bytes dropped uring SGW Restoration.
P-CSCF Restoration Indications received: (Count at Service Level)	
Data Statistics Per Interface	Total number of occurrences of P-CSCF Restoration Required Indications received from the MME/S-GW through a modify bearer request
S2bGTP-to-eHRPD handover:	
Attempted	Total number of S2bGTP-to-eHRPD handover attempts
Succeeded	Total number of successful S2bGTP-to-eHRPD handovers
Failed	Total number of failed S2bGTP-to-eHRPD handovers
eHRPD-to-S2bGTP handover:	
Attempted	Total number of eHRPD-to-S2bGTP handover attempts
Succeeded	Total number of successful eHRPD-to-S2bGTP handovers

Field	Description
Failed	Total number of failed eHRPD-to-S2bGTP handovers

The following command output applies to releases prior to 14.0.

Table 479: show pgw-service statistics all Command Output Descriptions 0

Field	Description
PGW Node Level Statistics	
VPN Name	The name of the context in which the P-GW service is configured.
Total Active UE	The total number of active subscribers.
Total bearers active	
Default bearers	The total number of active default bearers using the P-GW node.
Non-Emergency	The total number of active default non-emergency bearers using the P-GW node.
Emergency	The total number of active default emergency bearers using the P-GW node.
Dedicated bearers	The total number of active dedicated bearers using the P-GW node.
UE-initiated	The total number of active UE-initiated dedicated bearers using the P-GW node.
Network-initiated	The total number of active network-initiated dedicated bearers using the P-GW node.
Non-Emergency	The total number of active non-emergency dedicated bearers using the P-GW node.
Emergency	The total number of active emergency dedicated bearers using the P-GW node.
Emergency bearers (Auth-IMSI)	The total number of authorized Imternational Mobile Subscriber Identity (IMSI) emergency bearers active using the P-GW node.
Emergency bearers (Unauth-IMSI)	The total number of unauthorized Imternational Mobile Subscriber Identity (IMSI) emergency bearers active using the P-GW node.
Emergency bearers (Only IMEI)	The total number of Imternational Mobile Equipment Identity (IMEI) emergency bearers active using the P-GW node.
Total bearers setup	
Default bearers	The total number of default bearers set up using the P-GW node.
Non-Emergency	The total number of default non-emergency bearers set up using the P-GW node.
Emergency	The total number of default emergency bearers set up using the P-GW node.
Dedicated bearers	The total number of dedicated bearers set up using the P-GW node.
UE-initiated	The total number of UE-initiated dedicated bearers set up using the P-GW node.
Network-initiated	The total number of network-initiated dedicated bearers set up using the P-GW node.

Field	Description
Non-Emergency	The total number of non-emergency dedicated bearers set up using the P-GW node.
Emergency	The total number of emergency dedicated bearers set up using the P-GW node.
Total bearers released	
Default bearers	The total number of default bearers released using the P-GW node.
Network init release	The total number of default bearers released due to an network-initiated release using the P-GW node.
MME init release	The total number of default bearers released due to an MME-initiated release using the P-GW node.
Dedicated bearers	The total number of dedicated bearers released using the P-GW node.
Network initiated release	The total number of dedicated bearers released due to an network-initiated release using the P-GW node.
S4 SGSN initiated release	The total number of dedicated bearers released due to an S4-SGSN-initiated release using the P-GW node.
MME initiated release	The total number of dedicated bearers released due to an MME-initiated release using the P-GW node.
Default bearer release	The total number of dedicated bearers released due to a default bearer release using the P-GW node.
Total bearers release failure	
Default bearers	The total number of default bearer release failures using the P-GW node.
Dedicated bearers	The total number of dedicated bearer release failures using the P-GW node.
Total bearers rejected	
Default bearers	The total number of default bearers rejected using the P-GW node.
Dedicated bearers	The total number of dedicated bearers rejected using the P-GW node.
UE-req reject	The total number of UE-requested bearers rejected using the P-GW node.
Network-req reject	The total number of network-requested bearers rejected using the P-GW node.
Total Emergency default bearer rejected	The total number of emergency default bearer rejected using the P-GW node.
Total Emergency dedicated bearers rejected	The total number of emergency dedicated bearer rejected using the P-GW node.
Total bearers modified	
UE-initiated mod	The total number of UE-initiated bearers modified using the P-GW node.
Network-initiated mod	The total number of network-initiated bearers modified using the P-GW node.

Field	Description
Total bearers modification failure	
UE-initiated mod fail	The total number of UE-initiated bearer modification failures using the P-GW node.
Network-initiated mod fail	The total number of network-initiated bearer modification failures using the P-GW node.
Subscriber session statistics	
Total bearers active	
Default bearers	The total number of active default bearers using the P-GW service(s) on this system.
Dedicated bearers	The total number of active dedicated bearers using the P-GW service(s) on this system. This counter increments for both network and UE-initiated dedicated bearers.
Total bearers setup	
Default bearers	The total number of default bearers setup using the P-GW service(s) on this system.
Dedicated bearers	The total number of dedicated bearers setup using the P-GW service(s) on this system. This counter increments for both network and UE-initiated dedicated bearer setup.
Total bearers released	
Default bearers	The total number of default bearers released using the P-GW service(s) on this system.
Network initiated release	
Admin disconnect	The total number of default bearers released due to an administrative disconnect using the P-GW service(s) on this system.
GTP-U error ind	The total number of default bearers released due to a GTP-U error indication using the P-GW service(s) on this system.
SGW Path failure	The total number of default bearers released due to an S-GW path failure using the P-GW service(s) on this system.
MME Initiated release	The total number of default bearers released due to an MME initiated release using the P-GW service(s) on this system.
Dedicated bearers	The total number of dedicated bearers released using the P-GW service(s) on this system.
Network initiated release	
Admin disconnect	The total number of dedicated bearers released due to an administrative disconnect using the P-GW service(s) on this system.
GTP-U error ind	The total number of dedicated bearers released due to a GTP-U error indication using the P-GW service(s) on this system.
MME initiated release	The total number of dedicated bearers released due to an MME initiated release using the P-GW service(s) on this system.

Field	Description
Default bearer release	The total number of dedicated bearers released due to a default bearer release using the P-GW service(s) on this system.
Total bearers release failure	
Default bearers	The total number of default bearer release failures using the P-GW service(s) on this system.
Dedicated bearers	The total number of dedicated bearer release failures using the P-GW service(s) on this system.
Total bearers rejected:	
Default bearers	The total number of default bearers rejected using the P-GW service(s) on this system.
No Resource	The total number of default bearers rejected due to a no resource condition using the P-GW service(s) on this system.
Missing or unknown APN	The total number of default bearers rejected due to a missing or unknown APN using the P-GW service(s) on this system.
APN selection-Mode mismatch	The total number of default bearers rejected due to an APN selection mode mismatch using the P-GW service(s) on this system.
Pref PDN-Type not supported	The total number of default bearers rejected due to a preferred PDN type not supported condition using the P-GW service(s) on this system.
APN restr violation	The total number of default bearers rejected due to an APN restriction violation using the P-GW service(s) on this system.
Subs auth failed	The total number of default bearers rejected due to a subscriber authentication failure using the P-GW service(s) on this system.
Subs static addr not allowed	The total number of default bearers rejected due to a disallowed subscriber static IP address using the P-GW service(s) on this system.
Subs static addr not alloc	The total number of default bearers rejected due to an unallocated subscriber static IP address using the P-GW service(s) on this system.
Dynamic addr not alloc	The total number of default bearers rejected due to an unallocated dynamic IP address using the P-GW service(s) on this system.
Subs static addr not present	The total number of default bearers rejected due to a missing subscriber static IP address using the P-GW service(s) on this system.
Dedicated bearers	The total number of dedicated bearers rejected using the P-GW service(s) on this system.
UE-req reject	The total number of UE-requested dedicated bearers rejected using the P-GW service(s) on this system.
Network-req reject	The total number of network-requested dedicated bearers rejected using the P-GW service(s) on this system.

Field	Description
Total bearers modified	
UE-initiated modification	The total number of UE-initiated bearers modified using the P-GW service(s) on this system.
QOS modification	The total number of UE-initiated bearers with a QoS modification using the P-GW service(s) on this system.
TFT modification	The total number of UE-initiated bearers with a TFT modification using the P-GW service(s) on this system.
Network-initiated modification	The total number of network-initiated bearers modified using the P-GW service(s) on this system.
QOS modification	The total number of network-initiated bearers with a QoS modification using the P-GW service(s) on this system.
TFT modification	The total number of network-initiated bearers with a TFT modification using the P-GW service(s) on this system.
Total bearers modification failure	
UE-initiated mod failed	The total number of UE-initiated bearer modification failures using the P-GW service(s) on this system.
QOS mod fail	The total number of UE-initiated bearer modification failures due to QoS modification failures using the P-GW service(s) on this system.
Semantic err in TFT oper	The total number of UE-initiated bearer modification failures due to semantic errors in a TFT operation using the P-GW service(s) on this system.
Syntact err in TFT oper	The total number of UE-initiated bearer modification failures due to syntactic errors in a TFT operation using the P-GW service(s) on this system.
Semantic err in pkt filter	The total number of UE-initiated bearer modification failures due to semantic errors in a packet filter using the P-GW service(s) on this system.
Syntact err in pkt filter	The total number of UE-initiated bearer modification failures due to syntactic errors in a packet filter using the P-GW service(s) on this system.
Network-initiated mod failed	The total number of network-initiated bearer modification failures using the P-GW service(s) on this system.
QOS mod fail	The total number of network-initiated bearer modification failures due to QoS modification failures using the P-GW service(s) on this system.
Semantic err in TFT oper	The total number of network-initiated bearer modification failures due to semantic errors in a TFT operation using the P-GW service(s) on this system.
Syntact err in TFT oper	The total number of network-initiated bearer modification failures due to syntactic errors in a TFT operation using the P-GW service(s) on this system.

Field	Description
Semantic err in pkt filter	The total number of network-initiated bearer modification failures due to semantic errors in a packet filter using the P-GW service(s) on this system.
Syntact err in pkt filter	The total number of network-initiated bearer modification failures due to syntactic errors in a packet filter using the P-GW service(s) on this system.
Total PDN-Type stats	
PDN-Type IPv4 sessions	The total number of PDN-type IPv4 sessions using the P-GW service(s) on this system.
Active	The total number of active PDN-type IPv4 sessions using the P-GW service(s) on this system.
Setup	The total number of setup PDN-type IPv4 sessions using the P-GW service(s) on this system.
Released	The total number of released PDN-type IPv4 sessions using the P-GW service(s) on this system.
PDN-Type IPv6 sessions	The total number of PDN-type IPv6 sessions using the P-GW service(s) on this system.
Active	The total number of active PDN-type IPv6 sessions using the P-GW service(s) on this system.
Setup	The total number of setup PDN-type IPv6 sessions using the P-GW service(s) on this system.
Released	The total number of released PDN-type IPv6 sessions using the P-GW service(s) on this system.
PDN-Type IPv4v6 sessions	The total number of PDN-type IPv4v6 sessions using the P-GW service(s) on this system.
Active	The total number of active PDN-type IPv4v6 sessions using the P-GW service(s) on this system.
Setup	The total number of setup PDN-type IPv4v6 sessions using the P-GW service(s) on this system.
Released	The total number of released PDN-type IPv4v6 sessions using the P-GW service(s) on this system.
IP address allocation statistics	
Total IPv4 addrs allocated	The total number of IPv4 addresses allocated using the P-GW service(s) on this system.
Local pool add assign	The total number of local IP pool IPv4 addresses allocated using the P-GW service(s) on this system.

Field	Description
Static addr assign	The total number of static IPv4 addresses allocated using the P-GW service(s) on this system.
Radius provided addr assign	The total number of RADIUS-provided IPv4 addresses allocated using the P-GW service(s) on this system.
Total IPv6 addrs allocated	The total number of IPv6 addresses allocated using the P-GW service(s) on this system.
Stateless auto config	The total number of stateless address auto configuration IPv6 addresses allocated using the P-GW service(s) on this system.
Local pool add assign	The total number of local IP pool IPv6 addresses allocated using the P-GW service(s) on this system.
Static addr assign	The total number of static IPv6 addresses allocated using the P-GW service(s) on this system.
Radius provided addr assign	The total number of RADIUS-provided IPv6 addresses allocated using the P-GW service(s) on this system.
SGi tunneling statistics	
Total IPv4 tunnel sessions	The total number of IPv4 tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
IP-in-IP tun sessn active	The total number of active IP-in-IP tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
IP-in-IP tun sessions setup	The total number of setup IP-in-IP tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
IP-in-IP tun sessions released	The total number of released IP-in-IP tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
GRE-tun sessions active	The total number of active GRE tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
GRE-tun sessions setup	The total number of setup GRE tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
GRE-tun session release	The total number of released GRE tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
Total IPv6 tunneled sessions	The total number of IPv6 tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
6to4 tun sessions active	The total number of active IPv4-in-IPv6 tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
6to4 tun session setup	The total number of setup IPv4-in-IPv6 tunnel sessions using the P-GW service(s) SGi interface(s) on this system.

Field	Description
6to4 tun sessions released	The total number of released IPv4-in-IPv6 tunnel sessions using the P-GW service(s) SGi interface(s) on this system.
Subscriber PLMN Statistics	
Home subscribers sessions	The total number of home subscriber sessions using the P-GW service(s) on this system.
Sessions active	The total number of active home subscriber sessions using the P-GW service(s) on this system.
Sessions setup	The total number of setup home subscriber sessions using the P-GW service(s) on this system.
Sessions released	The total number of released home subscriber sessions using the P-GW service(s) on this system.
Roaming subscribers sessions	The total number of roaming subscriber sessions using the P-GW service(s) on this system.
Sessions active	The total number of active roaming subscriber sessions using the P-GW service(s) on this system.
Sessions setup	The total number of setup roaming subscriber sessions using the P-GW service(s) on this system.
Sessions released	The total number of released roaming subscriber sessions using the P-GW service(s) on this system.
Visiting subscribers sessions	The total number of visiting subscriber sessions using the P-GW service(s) on this system.
Sessions active	The total number of active visiting subscriber sessions using the P-GW service(s) on this system.
Sessions setup	The total number of setup visiting subscriber sessions using the P-GW service(s) on this system.
Sessions released	The total number of released visiting subscriber sessions using the P-GW service(s) on this system.
Subscriber QoS Statistics	
Total bearers active	
QCI 1 - 9	The total number of active bearers with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of active bearers with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.
Non-Std QCI (GBR)	The total number of active bearers with a non-standard QCI (GBR) using the P-GW service(s) on this system.

Field	Description
Total bearers setup	
QCI 1 - 9	The total number of setup bearers with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of setup bearers with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.
Non-Std QCI (GBR)	The total number of setup bearers with a non-standard QCI (GBR) using the P-GW service(s) on this system.
Total bearers released	
QCI 1 - 9	The total number of released bearers with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of released bearers with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.
Non-Std QCI (GBR)	The total number of released bearers with a non-standard QCI (GBR) using the P-GW service(s) on this system.
Subscriber Data Statistics	
Total Uplink packets forwarded	
QCI 1 - 9	The total number of uplink packets forwarded with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of uplink packets forwarded with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.
Non-Std QCI (GBR)	The total number of uplink packets forwarded with a non-standard QCI (GBR) using the P-GW service(s) on this system.
Total Uplink bytes forwarded	
QCI 1 - 9	The total number of uplink bytes forwarded with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of uplink bytes forwarded with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.
Non-Std QCI (GBR)	The total number of uplink bytes forwarded with a non-standard QCI (GBR) using the P-GW service(s) on this system.
Total Downlink packets forwarded	
QCI 1 - 9	The total number of downlink packets forwarded with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of downlink packets forwarded with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.

Field	Description
Non-Std QCI (GBR)	The total number of downlink packets forwarded with a non-standard QCI (GBR) using the P-GW service(s) on this system.
Total Downlink bytes forwarded	
QCI 1 - 9	The total number of downlink bytes forwarded with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of downlink bytes forwarded with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.
Non-Std QCI (GBR)	The total number of downlink bytes forwarded with a non-standard QCI (GBR) using the P-GW service(s) on this system.
Total Uplink packets dropped	
QCI 1 - 9	The total number of uplink packets dropped with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of uplink packets dropped with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.
Non-Std QCI (GBR)	The total number of uplink packets dropped with a non-standard QCI (GBR) using the P-GW service(s) on this system.
Total Uplink bytes dropped	
QCI 1 - 9	The total number of uplink bytes dropped with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of uplink bytes dropped with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.
Non-Std QCI (GBR)	The total number of uplink bytes dropped with a non-standard QCI (GBR) using the P-GW service(s) on this system.
Total Downlink packets dropped	
QCI 1 - 9	The total number of downlink packets dropped with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of downlink packets dropped with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.
Non-Std QCI (GBR)	The total number of downlink packets dropped with a non-standard QCI (GBR) using the P-GW service(s) on this system.
Total Downlink bytes dropped	
QCI 1 - 9	The total number of downlink bytes dropped with a QoS Class Index using the P-GW service(s) on this system.
Non-Std QCI (Non-GBR)	The total number of downlink bytes dropped with a non-standard QCI (non-GBR) using the P-GW service(s) on this system.

Field	Description
Non-Std QCI (GBR)	The total number of downlink bytes dropped with a non-standard QCI (GBR) using the P-GW service(s) on this system.
802.1p priority marking statistics	
Uplink: Priority 0-7	The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority. Deprecated in release 16.0 and later.
Downlink: Priority 0-7	The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority. Deprecated in release 16.0 and later.
Priority marking statistics	
Uplink: Priority 0-7	The total number of packets sent in the uplink direction marked with an internal QoS priority.
Downlink: Priority 0-7	The total number of packets sent in the downlink direction marked with an internal QoS priority.
Session Discovery Req statistics	
Total IMSI+IP lookup	This sub-group displays the total number of event information attempted, successful, and failed for the defined session discovery request rule.
External-Id Present Session Statistics	
Active Sessions	The total number of active External-Id sessions using the P-GW service(s) on this system.
Total Created Sessions	The total number of created External-Id sessions using the P-GW service(s) on this system.
Released Sessions	The total number of released External-Id sessions using the P-GW service(s) on this system

show pgw-service statistics all-name

Displays statistics information for all P-GW services configured on the system.

Field	Description
Initiated PDNs By RAT-Type:	
EUTRAN	The total number of EUTRAN PDNs by RAT-Type.
UTRAN	The total number of UTRANs PDNs by RAT-Type.
GERAN	The total number of GERANs PDNs by RAT-Type.
S2A GTP	The total number of S2A GTP PDNs by RAT-Type.

Field	Description
S2B GTP	The total number of S2B GTP PDNs by RAT-Type
S2B PMIP	The total number of S2B PMIP PDNs by RAT-Type
NB-IoT	The total number of NB-IoT PDNs.
LTE-M	The total number of LTE-M initiated PDNs.
WLAN	The total number of WLANs PDNs by RAT-Type.
Other	The total number of Others PDNs by RAT-Type.
Current PDNs by RAT-Type:	
EUTRAN	The total number of active EUTRAN PDNs by RAT-Type.
UTRAN	The total number of active UTRANs PDNs by RAT-Type.
GERAN	The total number of active GERANs PDNs by RAT-Type.
WLAN	The total number of active WLAN PDNs by RAT-Type.
NB-IoT	The total number of active NB-ToT PDNs.
LTE-M	The total number of active LTE-M PDNs.
Other	The total number of Others PDNs by RAT-Type



CHAPTER 109

show pilot-packet statistics

This chapter describes the output of the **show pilot-packet statistics** command.

- show pilot-packet statistics, on page 1677
- show pilot-packet statistics all, on page 1677

show pilot-packet statistics

This chapter describes the output of the **show pilot-packet statistics** command.

show pilot-packet statistics all

Displays statistical information for all Pilot Packet operations on the system.

Table 480: show pilot-packet statistics all Command Output Descriptions

Field	Description
Session manager instance	The sessmgr instance number.
Server name	The name of the server.
NAT Alloc	The total number of Pilot Packets sent for every IP/Port allocation for all NAT enabled calls.
NAT De Alloc	The total number of Pilot Packets sent for every IP/Port deallocation for all NAT enabled calls.
Non NAT Alloc	The total number of Pilot Packets sent for every IP/Port allocation for all non-NAT calls.
Non NAT De Alloc	The total number of Pilot Packets sent for every IP/Port deallocation for all non-NAT calls.
Total Alloc	The total number of Pilot Packets sent for every IP/Port allocation for all call types.

Field	Description
Total De Alloc	The total number of Pilot Packets sent for every IP/Port deallocation for all call types.
RAT-Change-User-Info	The total number of Pilot Packets sent for every subscriber IP allocation on RAT type change.
RAT-Change-NAT-Info	The total number of Pilot Packets sent for every NAT port chunk allocation on RAT type change.



CHAPTER 110

show plugin

- show plugin, on page 1679

show plugin

Table 481: show plugin Command Output Descriptions

Field	Description
Patch-directory	Displays the patch directory location.
Base-directory	Displays the base directory location.
Base-version	Displays the base version (default).
Module Priority	Displays the module priority number.
Version	Displays the version number of the plugin.

show plugin



CHAPTER 111

show port

This chapter describes the output of the **show port** command.

Important The outputs of **show port** commands vary based on platform ASR 5000 or ASR 5500, VPC (virtualized), card type and the StarOS release.

- show port datalink counters (ASR 5000), on page 1681
- show port datalink counters (ASR 5500), on page 1684
- show port datalink counters (VPC-SI, VPC-DI), on page 1686
- show port dinet, on page 1688
- show port info, on page 1688
- show port npu counters, on page 1697
- show port table, on page 1700
- show port transceiver (ASR 5500), on page 1701
- show port utilization table, on page 1703

show port datalink counters (ASR 5000)

Table 482: show port datalink counters Command Output Descriptions (ASR 5000)

Field	Description
Counters for port	The port for which the counters are displayed. The very next line displays the type of line card to which that port belongs.
Line Card	Line card type displayed as a text string
RX Counters	
RX Bytes	The number of received bytes.
RX BAD frames	The number of received frames with errors.
RX Runt frames	The number of received frames of less that expected size.
RX Oversize frames	The number of received oversize frames.

Field	Description
RX Good frames	The number of received frames with no errors.
RX Unicast frames	The number of Unicast frames received.
RX Multicast frames	The number of Multicast frames received.
RX Broadcast frames	The number of Broadcast frames received.
RX Size	The number of times that data was received according to number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1518 - Greater than 1518
RX OverSize frames	The number of oversized frames received.
RX Bytes OK	The number of bytes that were received without error.
RX Bytes BAD **ASR 5000 only**	The number of bytes that were received with errors.
RX OVF	The number of overflows received.
RX SHORT OK	The number of frames, less than 64 bytes in length, received without any error.
RX SHORT CRC	The number of frames, less than 64 bytes in length, received with cyclical redundancy check (CRC) error.
RX NO SFD	The number of frames received without start frame delimiter (SFD) detection but with carrier assertion.
RX NORM CRC	The number of frames, with lengths between 64 bytes and the maximum frame size, received with an integral number of bytes and a cyclical redundancy check (CRC) error.
RX NORM ALI	The number of frames, with lengths between 64 bytes and the maximum frame size, received with a non-integral number of bytes and a cyclical redundancy check (CRC) error.
RX LONG OK	The number of frames, larger than the maximum frame size, received without any error.

Field	Description
RX LONG CRC	The number of frames, larger than the maximum frame size, received with CRC error.
RX PAUSE	The number of correct received flow-control frames.
RX FALS CRS	The number of false carrier events detected.
RX SYM ERR	The number of received frames during which physical (PHY) symbol errors were detected.
RX GPCS ERR	The number of received frames during which physical (PHY) symbol errors were detected.
Tx Counters	
TX Unicast frames	The number of Unicast frames transmitted.
TX Multicast frames	The number of Multicast frames transmitted.
TX Broadcast frames	The number of Broadcast frames transmitted.
TX Size	The number of times that data was transmitted according to the number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1518 - Greater than 1518
TX Bytes OK	The number of bytes that were transmitted without error.
TX Bytes BAD	The number of bytes that were transmitted with errors.
TX DEFER	The number of frames deferred upon the first transmit attempt due to a busy line.
TX COL	The number of regular collision events occurring during transmission.
TX SCOL	The number of frames transmitted without any error following a single collision.
TX MCOL	The number of frames transmitted without any error following multiple collision.
TX XCOL	The number of frames that have experienced 16 consecutive collisions or more.

Field	Description
TX LCOL	The number of transmission abortion due to a collision occurring after transmission of packets that are 64 byes in length.
TX PAUSE	The number of correct transmitted flow-control frames.
TX ERR	The number of frames transmitted with an error due to transmit FIFO underflow or TXERR signal assertion

show port datalink counters (ASR 5500)

Table 483: show port datalink counters Command Output Descriptions (ASR 5500)

Field	Description
Counters for port	The port for which the counters are displayed. The very next line displays the type of line card to which that port belongs.
Line Card	Line card type displayed as a text string
RX Counters	
RX Bytes	The number of received bytes.
RX Unicast frames	The number of Unicast frames received.
RX Multicast frames	The number of Multicast frames received.
RX Broadcast frames	The number of Broadcast frames received.
RX Size	The number of times that data was received according to number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1518 - Greater than 1518
RX OverSize frames	The number of oversized frames received.
RX Undersize frames	The number of undersized frames received.
RX ExceededMaxSize frames	The number of frames received that exceeded maximum size.

Field	Description
RX Fragment frames	The number of fragmented frames received.
RX Jabber frames	The number of frames that exceeded 1518 bytes with a bad CRC (long packet error).
RX Control frames	The number of control frames received
RX Pause frames	The number of pause frames received.
RX FCS Error frames	The number of Frame Check Sequence error frames received.
RX Length Error frames	The of frames received with length errors.
RX Code Error frames	The number of frames received with code errors.
RX ExMaxSize Err frames	The number of frames received that included exceeded maximum size errors.
Tx Counters	
TX Bytes	
TX Unicast frames	The number of Unicast frames transmitted.
TX Multicast frames	The number of Multicast frames transmitted.
TX Broadcast frames	The number of Broadcast frames transmitted.
TX Size	The number of times that data was transmitted according to the number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1518 - Greater than 1518
TX OverSize frames	The number of oversized frames transmitted.
TX Undersize frames	The number of undersized frames transmitted.
TX Fragment frames	The number of fragmented frames transmitted.
TX Jabber frames	The number of frames transmitted that exceeded 1518 bytes with a bad CRC (long packet error).
TX Control frames	The number of control frames transmitted

Field	Description
TX Pause frames	The number of pause frames transmitted.
TX FCS Error frames	The number of Frame Check Sequence error frames transmitted.
TX Length Error frames	The of frames transmitted with length errors.

show port datalink counters (VPC-SI, VPC-DI)

Table 484: show port datalink counters Command Output Descriptions (VPC-SI, VPC-DI)

Field	Description
Counters for port	The port for which the counters are displayed. The very next line displays the type of line card to which that port belongs.
Line Card	Line card type displayed as a text string
RX Counters	
RX Unicast frames	The number of Unicast frames received.
RX Multicast frames	The number of Multicast frames received.
RX Broadcast frames	The number of Broadcast frames received.
RX Size	The number of times that data was received according to number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1522
RX Bytes OK	The number of bytes that were received without error.
RX Bytes BAD	The number of bytes that were received with errors.
RX SHORT OK	The number of frames, less than 64 bytes in length, received without any error.
RX SHORT CRC	The number of frames, less than 64 bytes in length, received with cyclical redundancy check (CRC) error.
RX OVF	The number of overflows received.

Field	Description
RX NORM CRC	The number of frames, with lengths between 64 bytes and the maximum frame size, received with an integral number of bytes and a cyclical redundancy check (CRC) error.
RX LONG OK	The number of frames, larger than the maximum frame size, received without any error.
RX LONG CRC	The number of frames, larger than the maximum frame size, received with CRC error.
RX PAUSE	The number of correct received flow-control frames.
RX FALS CRS	The number of false carrier events detected.
RX SYM ERR	The number of received frames during which physical (PHY) symbol errors were detected.
Tx Counters	
TX Unicast frames	The number of Unicast frames transmitted.
TX Multicast frames	The number of Multicast frames transmitted.
TX Broadcast frames	The number of Broadcast frames transmitted.
TX Size	The number of times that data was transmitted according to the number of frames that comprised it. The number of frames are categorized into the following ranges: - 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 1522 - Greater than 1522
TX Bytes OK	The number of bytes that were transmitted without error.
TX Bytes BAD	The number of bytes that were transmitted with errors.
TX PAUSE	The number of correct transmitted flow-control frames.
TX ERR	The number of frames transmitted with an error due to transmit FIFO underflow or TXERR signal assertion

show port dinet

Displays the DI-network port statistics.

Table 485: show port dinet Command Output Descriptions

Field	Description
counters	
SLOT/CPU/NPU	Displays the slot, CPU, NPU details of the DI-network port.
utilization	
SLOT/CPU/NPU	Displays the slot, CPU, NPU details of the DI-network port.
bps	Displays bits per second.
pps	Displays packets per second.
verbose	Displays the option to view complete port details.

show port info

Displays detailed configuration and functional information for a specified interface port.

The command output varies depending on the type of port interface configured. Three tables are provided for the various port interface types available:

- Ethernet
- Frame Relay (ASR 5000 only)
- ATM (ASR 5000 only)

Table 486: show port info Command Output Descriptions for Ethernet Port Line Card

Field	Description
Port Type	The configured port type. Supported Ethernet port types and data transfer rates.
Role	The communication role played by this port. • **Management Port**: Port has been designated for remote management access. • **Service Port**: Port handles subscriber traffic.
Description	The textual description given to the port during software configuration. If no description was configured, **(None Set)** appears in this field.
Controlled By Card **ASR 5000 only**	The slot number and type of the front-installed application card to which this Ethernet line card is mapped.

Field	Description
Redundancy Mode	The redundancy mode configured for this Ethernet line card port. Possible redundancy modes are: • **Card**: No redundancy will be used. • **Port**: Port redundancy will be used.
Framing Mode **ASR 5x00 only**	Ethernet
Redundant With	The slot number and port number of the Ethernet card that is redundant with this Ethernet line card. If a redundant port is not available, **Not Redundant** appears in this field.
Preferred Port **Not for VPC-DI, CF**	Indicates if this card will assume revertive (auto-recovery) redundancy functionality should this line card be brought back into service after a failure.
Physical ifIndex	The static identification number for the slot/port combination on this Line Card. This ID is used in SNMP traps sent when the link status of the Ethernet port goes up or down.
Administrative State	**Enabled** indicates that this card has been configured for use via software.
Configured Duplex **ASR 5x00 only**	Indicates the port's configured duplex mode. Possible modes are: • **Auto**: The port auto-detects the appropriate mode (Full- or Half-duplex) for communicating with the network. • **Full duplex** • **Half duplex**
Configured Speed **ASR 5x00 only**	The maximum data rate configured for this port. Possible rates are: • **Auto**: The port auto-detects the appropriate data rate for communicating on the network. • **10 Mbps** • **100 Mbps** • **1000 Mbps** (ASR 5000: supported on Ethernet 1000 Line Cards, Quad Gigabit Ethernet Line Cards, and SPIO Cards)
Configured Flow Control **ASR 5000 only**	**Quad Gigabit Ethernet Line Card (QGLC) only**: **Enabled** indicates that Ethernet MAC level flow control has been enabled for this Ethernet port. Note that this is not necessarily the operational state of flow control, as both sides of the connection must agree to flow control during Ethernet negotiation.
Interface MAC Address **ASR 5500 only**	The interface media access control (MAC) address for the port.

Field	Description
Fixed MAC Address **ASR 5500 only**	The fixed media access control (MAC) address for the port.
MAC Address **ASR 5000 and VPC-SI/VPC-DI**	The media access control (MAC) address for the port. If Virtual MAC addressing is enabled, the MAC address is followed by **(Virtual)**.
Boxer Interface TAP **ASR 5000 only** **VPC-DI, SF only**	Indicates whether this interface has been tapped for debugging or simulation purposes.
Link State	The port's link status: **Up** or **Down**.
Link Duplex **ASR 5x00 only**	The actual duplex mode (**Auto**, **Full** or **Half**) currently being used for the link.
Link Speed **ASR 5x00 only**	The actual data rate currently being supported by the port.
Flow Control **ASR 5x00 only**	Indicates the current *negotiated* state of Ethernet MAC level flow control (**Enabled** or **Disabled**. Also see **Configured Flow Control** above).
Link Aggregation Group	If this port is configured as part of a Link Aggregation Group (LAG), this field indicates the group number to which this port belongs and whether the port is a Master or a Member. If the port is not configured as part of a Link Aggregation Group, **None** appears in this field.
(min_link) **ASR 5500 only**	Indicates the minimum number of links that must be available for this LAG to be up (usable).
(mode)	Indicates whether this LAG is redundant or non-redundant.
LAG Toggle Link **ASR 5000 only**	**Yes** indicates that the QGLC will generate "port link down" and "port link up" events for this LAG port.
LAG Redundancy Mode	If this port is configured as part of a LAG, this field indicates the Redundancy Mode configured for this Link Aggregation Group: • **Standard**: During failover to the redundant card the amount of bandwidth available will be reduced from what was available for the original LAG. • **Switched**: Used when the Active LAG ports and are connected to different external switches in the service provider's network.
LAG Hold Time	If *LAG Redundancy Mode* is set to **Switched**, this field indicates the time, in seconds, that will elapse before the system determines that the failover LAG ports must be switched again. This prevents the system from switching rapidly back and forth between the cards during routine maintenance (for example when Ethernet cables are being removed and reconnected between cards).

Field	Description
Link Aggregation Master	If this port is configured as part of a LAG, this field identifies the slot and port number hat is the Master of this Link Aggregation Group.
Link Aggregation State	Indicates the result of the LACP negotiation.
Untagged: *(No VLAN IDs have been configured)*	
Logical ifIndex	The dynamically assigned identification number for the IP interface bound to this port. This ID is used in SNMP traps sent when the IP interface goes up or down or switches between top and bottom line cards.
Operational State	The operational state and mode of the card, in the format <state, mode>. Possible operational states are Up or Down. Possible operational modes are: • **Active**: Indicates that the card is an active component that will be used to process subscriber data sessions. • **Standby**: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • **Offline**: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because the card is not installed correctly (for example, the card interlock switch is not locked) or that its software processes have been halted.
Tagged VLAN: *(VLAN IDs have been configured)*	
Logical ifIndex	The dynamically assigned identification number for the IP interface bound to this port. This ID is used in SNMP traps sent when the IP interface goes up or down or switches between top and bottom line cards.
VLAN Type	**Subscriber** indicates that the VLAN has been associated with a subscriber. **Standard** is not associated with a subscriber.
VLAN Priority	The value of the 802.1p priority bit as an integer from 0 through 7, with 7 being the highest priority. (ASN-GW only)
Administrative State	**Enabled** indicates that this card has been configured for use via software.

Field	Description
Operational State	The operational state and mode of the VLAN, in the format <state, mode>. Possible operational states are Up or Down. Possible operational modes are: • **Active**: Indicates that the card is an active component that will be used to process subscriber data sessions. • **Standby**: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • **Offline**: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because the card is not installed correctly (for example, the card interlock switch is not locked) or that its software processes have been halted.
Number of VLANs	The total number of VLANs associated with this port.
SFP Module **ASR 5x00 only**	**NOTE:** This field appears only for Ethernet line cards that support the use of a small form-factor pluggable (SFP) transceiver module. Refer to the **show hardware card** command for additional information.

Table 487: show port info Command Output Descriptions for Frame Relay Port Line Card (ASR 5000)

Field	Description
Port Type	The configured port type: **STM1/OC3 Channelized**
Description	The textual description given to the port during software configuration. If no description was configured, **(None Set)** appears in this field.
Controlled By Card	The slot number and card type of front-installed application card to which this line card is mapped.
Redundancy Mode	The redundancy mode configured for this line card. Possible redundancy modes are: • **Card Mode**: No redundancy will be used. • **Port Mode**: Port redundancy will be used.
Framing Mode	**SDH** (default is E1) or **SONET** (default is DS1)
Redundant With	The slot number and port number of the line card that is redundant with this line card. If a redundant port is not available, **None** appears in this field.
Preferred Port	Indicates whether or not this card will assume revertive (auto-recovery) redundancy functionality should this card be brought back into service after a failure.

Field	Description
Physical ifIndex	The static identification number for the slot/port combination on this Line Card. This ID is used in SNMP traps sent when the link status of the Ethernet port goes up or down.
Administrative State	**Enabled** indicates that this card has been configured for use via software.
Link State	The port's link status: **Up** or **Down**.
Line Timing	Indicates whether or not this port has been configured to recover a timing clock from the line or port on the peer end of the connection for distribution to all chassis line cards. Line timing can be obtained from the following sources: • **BITS**: Line timing is recovered from the BITS port on the SPIO card • **line-timing**: Line timing is obtained through the line or port connected to the far end port. • **internal clock**: The line timing is obtained from the chassis' internal clock source. This internal clock is configured and enabled via the **clock-source internal** CLI command.
SFP Module	This field indicates if a small form-factor pluggable (SFP) module is installed on the card and its type. Possible SFP types are M5 or M6.

Field	Description
Path *x* e1 *y* **or** Path *x* ds1 *y*	Identifies a specific routing path configuration (configured with the **path** command) associated with a frame relay DLCI (data link connection identifier, configured with the **dlci** command). Information provided includes: • The exact mapping of containers (C), virtual containers (VC), tributary units (TU) and/or tributary unit groups (TUG) that is/are appropriate for the configured channel characteristics. For example: **tu12-au3 1/1**. • The framing mode being used. For **ds1** the options are: **esf** (extended superframe), **sf** (superframe), and **unframed**. For **e1** the options are: **cas** (standard mapping with CAS), **cas-crc4** (CRC4 mapping with CAS), **crc4** mapping and **standard** mapping. • The mapping mode being used (**bit-sync** or **byte-sync**). For each configured path being utilized, the following additional information also is provided (for release 8.1 and later, the following items are configured with the **frame-relay** command): • **Timeslots**: Identifies the number of timeslot groupings for multiple fractional DS1/E1 channels. The maximum number of timeslots that can be defined is 8. • **Frame Relay Intf Type**: Indicates the frame relay interface type: **DCE** (Data Communication Equipment), **DTE** (Data Terminal Equipment), or **NNI** (Network to Network interface). The default is **DTE**. • **Frame Relay LMI Type**: Indicates the frame relay local management interface (LMI) protocol type: **ANSI**, **CISCO**, **Q933a**, or **None**. The default is **None**.

Field	Description
	• • **Frame Relay LMI n391**: Indicates the number of keep-alive exchanges that will occur before the system requests a full status through the n391 local management interface. Possible values are 1 through 255. The default is 6. • **Frame Relay LMI n392**: Indicates the Error threshold value. It specifies the total number of errors within the event count specified by n393 local management interface to bring down the link. Possible values are 1 through 10 and default is 2. • **Frame Relay LMI n393**: Indicates the Monitored Events count. This monitored event count is set for the n392 local management interface. Possible values are 1 through 10. The default is 2. • **Frame Relay DLCI**: The specific Frame Relay PVC DLCI ID descriptor number associated with this path. • **Logical ifindex**: The dynamically assigned identification number for the IP interface bound to this Frame Relay PVC DLCI. This ID is used in SNMP traps sent when the IP interface goes up or down or switches between top and bottom line cards. • **Admin State**: **Enabled** Indicates that this Frame Relay DLCI PVC has been configured for use via software. • **Operational State**: The operational state and mode of the Frame Relay PVC DLCI, in the format <state, mode>. Possible operational states are **Up** or **Down**. Possible operational modes are: • **Active**: Indicates that the Frame Relay PVC DLCI is an active component that will be used to process subscriber data sessions.
	• **Standby**: Indicates that the Frame Relay PVC DLCI is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur • **Offline**: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be due to the fact that the card is not installed correctly (e.g., the card interlock switch is not locked) or that its software processes have been halted. • **Shaping**: Indicates the type of egress traffic shaping being used to control flow for this DLCI. Possible values are: **cir** (Committed Info Rate), **cir-eir** (Committed Info Rate with Excess Rate), **ppr** (Peak Packet Rate), and **wfq** (Weighted Fair Queueing). • **Number of DLCI**: The number of the Data Link Connection Identifier(s) (DLCI) associated with this timeslot. The DLCI is configured via the **dlci** command. The DLCI identifies the virtual connection so the receiving end knows which information connection a frame belongs to. • **Reserved Bandwidth**: The amount of bandwidth (in bits per second) reserved for this E1 or DS1 path. • **Number of DLCI**: The total number of DLCIs associated with this port

Table 488: show port info Command Output Descriptions for ATM Line Card (ASR 5000)

Field	Description
Port Type	The configured port type: **STM1/OC3 ATM**.
Description	The description given to the port during software configuration. If no description was configured, **(None Set)** will be displayed.
Controlled By Card	The slot number and type of front installed application card to which this line card is mapped.
Redundancy Mode	The redundancy mode of the card. The possible modes are: • **Normal**: Normal card redundancy. • **Port**: Port redundancy will be used.
Framing Mode	**SDH** (default for E1) or **SONET** (default for DS1)
Redundant With	The slot number and port number of the line card that is redundant with this line card. If a redundant port is not available, **None** appears in this field.
Preferred Port	Indicates whether or not this card will assume revertive (auto-recovery) redundancy functionality should this card be brought back into service after a failure.
Physical ifIndex	The static identification number for a slot/port combination. This ID is used in SNMP traps sent when the link status of the port goes up or down.
Administrative State	Indicates whether or not the card has been configured for use via software. If it has been configured, **Enabled** appears in this field.
Link State	The link status, either **Up** or **Down**.
Line-timing	Indicates whether or not this port has been configured to recover a timing clock from the line or port on the peer end of the connection for distribution to all chassis line cards. Line timing can be obtained from the following sources: • **BITS**: Line timing is recovered from the BITS port on the SPIO card • **line-timing**: Line timing is obtained through the line or port connected to the far end port. • **internal clock**: The line timing is obtained from the chassis' internal clock source. This internal clock is configured and enabled via the **clock-source internal** CLI command.
SFP Module	This field indicates if a small form-factor pluggable (SFP) module is installed on the card and its type. Possible SFP types are M5 or M6.

Field	Description
PVC VPI xxx VCI yyy	Indicates the virtual path identifier (VPI) and virtual connection identifier (VCI) numbers configured for a Permanent Virtual Connection (PVC). For each defined PVC VPI and VCI, the following associated information also is provided: • **Traffic Type**: Either **AAL2** (ATM Adaptation Layer 2) or **AAL5** (ATM Adaptation Layer 5). The default is **AAL5**. • **Logical ifIndex**: The dynamically assigned identification number for the IP interface bound to this port. This ID is used in SNMP traps sent when the IP interface goes up or down or switches between top and bottom line cards. • **Admin State**: **Enabled** indicates that this port has been configured for use via software. • **Operational State**: The operational state and mode of the card, in the format <state, mode>. Possible operational states are **Up** or **Down**. Possible operational modes are: • **Active**: Indicates that the card is an active component that will be used to process subscriber data sessions. • **Standby**: Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • **Offline**: Indicates that the card is installed but is not ready to process subscriber data sessions. This could be due to the fact that the card is not installed correctly (such as, the card interlock switch is not locked) or that its software processes have been halted. • **Encapsulation**: **AAL5 llc-snap** (logical link layer encapsulation) or **AAL5 vc-mux** (virtual circuit multiplexing).
	• **Shaping**: The type of traffic shaping (rates) configured for this PVC: **cbr** (constant bit rate), **ubr** (unspecified bit rate), **ubr+** (unspecified bit rate with minimum cell rate) or **vbr** (variable bit rate).
Number of PVCs/CCs	The total number of PVCs configured for this port.
Reserved Bandwidth	The amount of bandwidth (in cells/second) reserved. The bandwidth can be utilized by a single PVC or it can span across multiple PVCs.

show port npu counters

The output of this command displays four types of counters per counter type:

- Rx Frames
- Rx Bytes

- Tx Frames
- Tx Bytes

Table 489: show port npu counters Command Output Descriptions

Field	Description
Counters for port	The port for which the counters are displayed. The very next line displays the type of line card that the port belongs to.
Unicast	The number of Unicast frames and bytes received and transmitted.
Multicast	The number of Multicast frames and bytes received and transmitted.
Broadcast	The number of Broadcast frames and bytes received and transmitted.
IPv4 unicast	The number of Unicast IP version 4 frames and bytes received and transmitted.
IPv4 non-unicast	The number of non-Unicast IP version 4 frames and bytes received and transmitted.
IPv6 unicast	The number of Unicast IP version 6 frames and bytes received and transmitted.
IPv6 non-unicast	The number of non-Unicast IP version 6 frames and bytes received and transmitted.
Fragments received	The number of packet fragments qualified for re-assembly.
Packets reassembled	The number of packets that were successfully re-assembled.
Fragments to kernel	The number of qualified packet fragments that were sent to the kernel for re-assembly.
HW error	The number of packets discarded due to first-in, first-out (FIFO) overrun or underrun.
Port non-operational	The number of packets discarded due to port not operational.
SRC MAC is multicast	The number of packets discarded due to source MAC address is multicast.
Unknown VLAN tag	The number of packets discarded due to an unrecognized virtual local area network (VLAN) tag.
Other protocols	The number of packets discarded due to incorrect protocol type (neither IP or ARP).
Not IPv4	The number of packets discarded due to non IPv4
Bad IPv4 header	The number of packets discarded due to invalid IPv4 header
IPv4 MRU exceeded MRU exceeded	The number of packets discarded due to packet length is too long. **Note** From 21.20.19 release onwards, the **IPv4 MRU exceeded** counter has been changed to **MRU exceeded**. MRU exceeded is a generic counter for all types of packets.
TCP tiny fragment	The number of packets discarded due to TCP tiny fragment
No ACL match	The number of packets discarded due to not match from ACL lookup
Filtered by ACL	The number of packets discarded due to ACL filter

Field	Description
TTL expired	The number of packets discarded because their time-to-live parameter was exceeded.
Flow lookup twice	The number of packets discarded due to flow lookup to be performed twice (prevent microcode from looping)
Unknown IPv4 class	The number of packets discarded due to unknown classification received from hardware
Too short: IP	The number of packets discarded due to IP packet too short
Too short: ICMP	The number of packets discarded due to ICMP packet too short for lookup key
Too short: IGMP	The number of packets discarded due to IGMP packet too short for lookup key
Too short: TCP	The number of packets discarded due to TCP packet too short for lookup key
Too short: UDP	The number of packets discarded due to UDP packet too short for lookup key
Too short: IPIP	The number of packets discarded due to UDP packet too short for lookup key
Too short: GRE	The number of packets discarded due to GRE header size < 8 bytes
Too short: GRE key	The number of packets discarded due to GRE header says key present but header size < 13 bytes
Don't frag discards	Packets requiring fragmentation that are discarded by the NPU because the IP header don't fragment bit is set.
Fragment packets	Packets fragmented by the NPU due to exceeding MTU of egress port.
Fragment fragments	Total number of fragments fragmented by the NPU and sent to the egress port.
IPv4VlanMap dropped	Total number of IPv4 VLAN map packets that were dropped.
IPSec NATT keep alive	Total number of NAT-Traversal keep alive packets.
MPLS Flow not found	Total number of packets dropped when an MPLS flow was not found.
MPLS unicast	The number of MPLS Multicast frames and bytes received and transmitted.

Field	Description
Size **ASR 5000 and VPC-SI**	The number of frames and bytes that were received and transmitted according to the following size ranges: - Less than 17 - 17 through 64 - 65 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 2047 - 2048 through 4095 - 4096 though 4500 - Greater than 4500
Size **ASR 5500 only**	The number of frames and bytes that were received and transmitted according to the following size ranges: - 0 through 63 - 64 through 127 - 128 through 255 - 256 through 511 - 512 through 1023 - 1024 through 2047 - 2048 through 4095 - 4096 though 8191

show port table

Table 490: show port table Command Output Descriptions

Field	Description
Port	Specifies the chassis slot and port numbers (<slot>/<port>) for all installed line cards.
Role	The communication role played by this port. • **Mgmt**: Port has been designated for remote management access. • **Srvc**: Port handles subscriber traffic.

Field	Description
Type	The card type descriptor.
Admin	Indicates whether or not the card has been configured for use via software. If it has been configured, **Enabled** will be displayed. If not, **Disabled** will be displayed.
Oper	The operational state of the card – **Up** or **Down**.
Link	The link status – **Up** or **Down**.
State	The operational mode of the card that the port belongs to. The card can be in one of the following modes: • **Active:** Indicates that the card is an active component that will be used to process subscriber data sessions. • **Standby:** Indicates that the card is a redundant component. Redundant components will become active through manual configuration or automatically should a failure occur. • **Offline:** Indicates that the card is installed but is not ready to process subscriber data sessions. This could be because it is not completely installed (for example. the card interlock switch is not locked). Refer to the *Installation Guide* for additional information.
Pair	Interface slot/port number of LAG peer port. LAG Port Status: • LA+ = Port is actively used for distributing • LA- = Port failed to negotiate LACP • LA~(tilde) = Port negotiated LACP but another peer was selected • LA*(asterisk) = Port is (re)negotiating LACP • LA# = Port has been gone down because the min-link criteria is not met (ASR 5500 only)
Redundant	Interface slot/port number of redundant LAG peer port.
Untagged:	Indicates the administrative, operational, link and active/standby states of an untagged (non-VLAN) port.
Tagged: VLAN <vlan_id>	Indicates the administrative, operational, link and active/standby states of a VLAN port.

show port transceiver (ASR 5500)

Table 491: show port transceiver Command Output Descriptions (ASR 5500)

Field	Description
Port <slot/port>	Specifies the chassis slot and port number for the port.

Field	Description
SFP Transceiver info	Identifies the type of transceiver installed in the port.
SFP Vendor info	**Vendor Name:** Identifies the vendor's name **Vendor IEEE ID:** Displays the module vendor's IEEE ID.
SFP Vendor Rev. info	Displays the revision level for this vendor's module.
SFP Parts info	**P/N:** Displays the vendor's part number for this transceiver. **S/N:** Displays the vendor's serial number for this module. **Date:** Displays the vendor's manufacturing date for this module.
Nominal Bitrate	Displays the nominal bitrate for this module in megabits per second,
Length 50/125um	Core size = 50/125 microns
Length 62.5/125um	Core size = 62.5/125 microns
Wavelength	Displays the wavelength in nanometers (nm).
Diagnostic Monitor	Indicates whether diagnostic monitoring is supported (Yes/No).
Internally Calibrated	Indicates whether this module is internally calibrated (Yes/No).
Externally Calibrated	Indicates whether this module is externally calibrated (Yes/No).
SFF-8472 Compliance	Indicates whether this module complies with SFF-8472 – Diagnostic Monitoring Interface for Optical Transceivers (Yes/No).
Alarms	**Low Alarm Threshold** – trigger value for Low Alarm parameter **Low Warn Threshold** – trigger value for Low Warning Alarm parameter **Actual Value** – current actual parameter value **High Warn Threshold** – trigger value for High Warning Alarm parameter **High Alarm Threshold** – trigger value for High Alarm parameter
Alarm Threshold Parameters	**Temp (C)** – temperature (Centigrade) **Voltage (V)** – DC voltage **Bias (mA)** – laser bias current in milliamperes **TxPower (dBm)** – transmit power in decibels **RxPower (dBm)** – receive power in decibels

show port utilization table

Important The **verbose** option for this command displays port utilization with kilobit accuracy using decimal points.

Table 492: show port utilization table Command Output Descriptions

Field	Description
Port <slot/port>	Specifies the chassis slot and port number for the port.
Type	Identifies the port type.
Average Port Utilization (in mbps)	
Current	Displays average current port utilization in megabits per second (Mbps).
5min	Displays average port utilization over the last 5-minute interval in Mbps.
15min	Displays average port utilization over the last 15-minute interval in Mbps.
Rx	Displays port utilization for received packets.
Tx	Displays port utilization for transmitted packets.



CHAPTER 112

show ppp

This chapter describes the output of the **show ppp** command.

- show ppp, on page 1705
- show ppp full username, on page 1706
- show ppp statistics pdsn-service, on page 1709

show ppp

Table 493: show ppp Command Output Descriptions

Field	Description
PPP Summary	The total number of PPP sessions that are in progress (either active, dormant, being set up, and being disconnected).
Layer Info	The layer status for the various control protocols used in the establishing of the PPP status. Information is displayed for the following: • **LCP:** Link Control Protocol • **IPCP:** Internet Protocol Control Protocol • **CCP:** PPP Compression Control Protocol The information provided represents the total number of sessions that have successfully negotiated the specified control protocol.

Field	Description
Compression	The total number of PPP sessions that meet of each of the following specified characteristics: Sessions using Van Jacobsen (VJ) header compression in either direction (local to remote or remote to local). Sessions using Robust Header Compression (ROHC) in either direction (local to remote or remote to local). Sessions using either the Normal or Stateless compression modes. Sessions using no compression or one of the following compression protocols in either direction (local to remote or remote to local): • STAC • MPPC • DEFLATE
Errors	The total number of errors recorded for all of the PPP sessions that are in progress (either active, dormant, being set up, and being disconnected). Many of the error statistics are recorded for the receiving (indicated by In) and transmission (indicated by Out) of data packets.
Data Stats	Displays cumulative statistics for all of the data received (indicated by In) and transmitted (indicated by Out).

show ppp full username

Table 494: show ppp full username Command Output Descriptions

Field	Description
Username	The subscriber's username.
Callid	The subscriber's call identification (callid) number.
Msid	The subscriber's mobile station identification (MSID) number.
LCP State	Indicates whether or not the Link Control Protocol (LCP) was successfully negotiated (Opened). If not, Not Opened will be displayed.
mtu	The subscriber's maximum transmission unit (MTU) size in octets.
mru	The subscriber's maximum reception unit (MRU) size in octets.
auth algorithm	The protocol the subscriber used for authentication. Possible protocols are: • **CHAP:** Challenge Handshake Authentication Protocol • **PAP:** Password Authentication Protocol

Field	Description
PFC (loc to rem): (rem to loc):	The PPP PFC transmit and receive settings. (loc to rem): Specifies how Protocol field Compression is applied for PPP packets transmitted to the Peer. Possible values are: • ignore • apply • reject (rem to loc): Specifies whether Protocol Field Compressed PPP packets can be received from the Peer. Possible values are: • allow • deny
ACFC (loc to rem): (rem to loc):	Information is displayed for both directions of the session (remote-to-local and local-to-remote).
async map	The PPP asynchronous control character mapping (a 32-bit map). Information is displayed for both directions of the session (remote-to-local and local-to-remote).
IPCP State	Indicates whether or not the Internet Protocol Control Protocol (IPCP) was successfully negotiated (Opened). If not, Not Opened will be displayed.
IP Header comp	Indicates whether or not Van Jacobsen (VJ) header compression or Robust Header Compression (ROHC) is being implemented for the subscriber's session. If neither, none is displayed. Information is displayed for both directions of the session (remote-to-local and local-to-remote).
Local Address	The PPP local address for the subscriber session.
Remote Address	The IP address assigned to the subscriber's mobile device for the duration of the session.
Primary DNS	Indicates the IP address of the primary Domain Name Server (DNS) assigned to the subscriber.
Secondary DNS	Indicates the IP address of the secondary Domain Name Server (DNS) assigned to the subscriber.
Primary NBNS	Indicates the IP address of the primary NetBIOS Name Server (NBNS) assigned to the subscriber.
Secondary NBNS	Indicates the IP address of the secondary NetBIOS Name Server (NBNS) assigned to the subscriber.
IPV6CP State	Indicates whether or not the Internet Protocol v6 Control Protocol (IPv6CP) was successfully negotiated (Opened). If not, Not Opened will be displayed.
In octs(unframed)	The total number of unframed octets received.

Field	Description
In pkts	The total number of packets received
Out octs(unframed)	The total number of unframed octets sent
Out pkts	The total number of packets sent
In ctrl octs	The total number of control octets received
In ctrl pkts	The total number of control packets received
Out ctrl octs	The total number of control octets sent
Out ctrl pkts	The total number of control packets sent
In framed octs	The total number of framed octets received
Out framed octs	The total number of framed octets sent
In data (unfr/data-cmp) octs	The total number of unframed data compressed data octets received
Out data (unfr/data-cmp) octs	The total number of unframed data compressed data octets sent
In data (iphdr-cmp) octs	The total number of data octets with IP header compression received
Out data (iphdr-cmp) octs	The total number of data octets with IP header compression sent
In data (iphdr-cmp-fail) octs	The total number of data octets with failed IP header compression received
In data (iphdr-cmp-fail) pkts	The total number of data packets with failed IP header compression received
In data (iphdr-rohc) octs	The total number of data octets with ROHC IP header compression received
Out data (iphdr-rohc) octs	The total number of data octets with ROHC IP header compression sent
In data (iphdr-rohc-fail) octs	The total number of data octets with failed ROHC IP header compression received
In data(iphdr-rohc-fail) pkts	The total number of data packets with failed ROHC header compression received
In discards	The total number of input discards
In errors	The total number of input errors
Out discards	The total number of output discards
Out errors	The total number of output errors
Bad address	The total number of bad addresses
Bad control	The total number of bad control messages
Pkt too long	The total number of packets that were too long
Bad FCS	The total number of bad Frame Check Sequences (FCS)
Bad pkt length	The total number of bad packet lengths

Field	Description
Echo req rcvd	The total number of echo requests received
Echo rsp rcvd	The total number of echo responses received
Echo req sent	The total number of echo requests sent
Echo rsp sent	The total number of echo responses sent
Invalid magic-number rcvd	The total number of invalid magic numbers received

show ppp statistics pdsn-service

Table 495: show ppp statistics pdsn-service Command Output Descriptions

Field	Description
PPP statistics for pdsn-service	Indicates the name of the PDSN service for which PPP statistics are being displayed.
total sessions initiated	Indicates the total number of subscriber sessions that have been received by the by the system for processing.
session re-negotiated	Indicates the total number of subscriber sessions that have been re-negotiated by the by the system.
successful sessions	Indicates the total number of subscriber sessions that have been successfully connected by the by the system.
failed sessions	Indicates the total number of subscriber sessions that the system has/have failed to process.
total sessions released	Indicates the total number of subscriber sessions that have been disconnected.
failed re-negotiations	Indicates the number of PPP calls that failed while LCP or IPCP was being re-negotiated.
released by local side	Indicates the total number of subscriber sessions that have been dropped by the system.
released by remote side	Indicates the total number of subscriber sessions that have been dropped by the mobile nodes.
Session Failures	
LCP failure max-retry	Indicates the number of sessions that were released during setup due to the system not receiving a response prior to the expiration of the maximum number of Link Control Protocol (LCP) retries.
LCP failure option-issue	Indicates the number of sessions that were released during setup due to failed negotiations between the system and the mobile nodes over Link Control Protocol (LCP) options.
LCP failure unknown	Indicates the number of calls that failed because of miscellaneous LCP failures.

Field	Description
IPCP failure max-retry	Indicates the number of sessions that were released during setup due to the system not receiving a response prior to the expiration of the maximum number of Internet Protocol Control Protocol (IPCP) retries.
IPCP failure option-issue	Indicates the number of sessions that were released during setup due to failed negotiations between the system and the mobile nodes over Internet Protocol Control Protocol (IPCP) options.
IPCP failure unknown	Indicates the number of calls that failed because of miscellaneous IPCP related failures.
IPv6CP failure max-retry	Indicates the number of IPv6CP calls that failed after the maximum number of retries.
IPv6CP failure option issue	Indicates the number of sessions that were released during setup due to failed negotiations between the system and the mobile nodes over IPv6CP options.
IPv6CP failure unknown	Indicates the number of calls that failed because of miscellaneous IPv6CP related failures.
Authentication failures	Indicates the number of sessions that were released during setup due to subscriber authentication failures
Authentication aborted	Indicates the number of times that authentication was not successful because the peer failed to provide the required request or response packet in time.
remote terminated	Indicates the number of sessions that were released by the mobile node.
lower layer disconnected	Indicates the number of times that the peer terminated the lower protocol layer.
miscellaneous failures	Indicates the number of session failures that occurred due to reasons other than those listed here.
Session Progress	
sessions (re)entered LCP	Indicates the number of sessions entering or re-entering the Link Control Protocol (LCP) phase of call setup.
sessions (re)entered Auth	Indicates the number of sessions entering or re-entering the authentication phase of call setup.
sessions (re)entered IPCP	Indicates the number of sessions entering or re-entering the Internet Protocol Control Protocol (IPCP) phase of call setup.
sessions (re)entered IPv6CP	Indicates the number of sessions entering or re-entering the IPv6CP phase of call setup.
successful LCP	Indicates the number of calls that completed LCP successfully.
successful Authentication	Indicates the number of calls that completed authentication successfully.
Session Re-negotiations	
initiated by local	Indicates the number of session re-negotiations initiated by the system.
initiated by remote	Indicates the number of session re-negotiations initiated by the mobile nodes.

Field	Description
address mismatch	Indicates the number of session re-negotiations that occurred due to mis-matched IP addresses.
lower layer handoff	Indicates the number of times that the PDSN service renegotiated PPP because of a suspicious RP handoff.
parameter update	Indicates the number of times that the PDSN service renegotiated PPP to update some PPP parameters (e.g. DNS address obtained from HA for regular MIP)
other reasons	Indicates the number of session re-negotiations that occurred due to reasons other than those listed here.
connected session re-neg	Indicates the number of PPP renegotiation happened for sessions which are already in connected/established state.
Session Authentication	
CHAP auth attempt	Indicates the number of sessions that attempted to authenticate using the Challenge Handshake Authentication Protocol (CHAP).
CHAP auth success	Indicates the number of sessions that successfully authenticated using the Challenge Handshake Authentication Protocol (CHAP).
CHAP auth failure	Indicates the number of sessions that failed authentication using the Challenge Handshake Authentication Protocol (CHAP).
CHAP auth aborted	Indicates the number of times that CHAP authorization was aborted due to the fact that the peer failed to provide the required CHAP response packet in time.
PAP auth attempt	Indicates the number of sessions that attempted to authenticate using the Password Authentication Protocol (PAP).
PAP auth success	Indicates the number of sessions that successfully authenticated using the Password Authentication Protocol (PAP).
PAP auth failure	Indicates the number of sessions that failed authentication using the Password Authentication Protocol (CHAP).
PAP auth aborted	Indicates the number of times that PAP authorization was aborted due to the fact that the peer failed to provide the required PAP response packet in time.
MSCHAP auth attempt	Indicates the number of sessions that attempted to authenticate using MicroSoft CHAP (MS CHAP).
MSCHAP auth success	Indicates the number of sessions that successfully authenticated using MicroSoft CHAP (MS CHAP).
MSCHAP auth failure	Indicates the number of sessions that failed authentication using MicroSoft CHAP (MS CHAP).
MSCHAP auth aborted	Indicates the number of times that MSCHAP authorization was aborted due to the fact that the peer failed to provide the required CHAP response packet in time.

Field	Description
sessions skipped PPP Auth	Indicates the number of sessions that skipped PPP authorization.
Session Disconnect reason	
remote initiated	Indicates the number of sessions for which the mobile node initiated the disconnection.
remote disc. lower layer	Indicates the number of sessions in which the mobile node disconnected the lower layers of the protocol stack.
admin disconnect	Indicates the number of sessions for which the system initiated the disconnection.
local disc. lower layer	Indicates the number of sessions in which the system disconnected the lower layers of the protocol stack.
idle timeout	Indicates the number of sessions disconnected due to exceeding their idle timeout limit.
absolute timeout	Indicates the number of sessions disconnected due to exceeding their absolute timeout limit.
keep alive failure	Indicates the number of sessions disconnected due to keep alive failures.
no resource	Indicates the number of sessions disconnected due to lack of resources on the local side (CPU and memory).
flow add failure	Indicates the number of sessions for which the Network Processor Unit (NPU) failed to add a flow.
exceeded max LCP retries	Indicates the number of sessions disconnected due to exceeding their maximum number of Link Control Protocol (LCP) retries.
exceeded max IPCP retries	Indicates the number of sessions disconnected due to exceeding their maximum number of Internet Protocol Control Protocol (IPCP) retries.
exceeded max setup timer	Indicates the number of sessions disconnected due to exceeding their maximum amount of time allotted for session setup.
invalid dest-context	Indicates the number of sessions disconnected due to the specification of an invalid destination context. **NOTE:** Refer to the System Administration and Administration Reference for additional information about destination contexts and how they are determined.
LCP option-neg failed	Indicates the number of sessions that were disconnected due to failed negotiations between the system and the mobile nodes over Link Control Protocol (LCP) options.
IPCP option-neg failed	Indicates the number of sessions that were disconnected due to failed negotiations between the system and the mobile nodes over Internet Protocol Control Protocol (IPCP) options.
no remote-ip address	Indicates the number of sessions that were disconnected due to the lack of an IP address for the mobile node.

Field	Description
call type detect failed	Indicates the number of sessions that were disconnected due to the system not being able to determine what type of service to provide for the session. The possible services are: • pdsn-simple-ip • pdsn-mobile-ip • ha-mobile-ip
source address violation	Indicates the number of sessions that were disconnected due to source address violations.
exceeded max IPv6CP retries	Indicates the number of sessions disconnected due to exceeding their maximum amount of time allotted for IPv6CP setup.
IPv6CP option-neg failed	Indicates the number of sessions that were disconnected due to failed negotiations between the system and the mobile nodes over IPv6CP options.
remote disc. upper layer	Indicates the number of times a session was disconnected because the remote peer disconnected the upper protocol layer.
long duration timeout	The number of sessions disconnected due to expiration of the long duration timer.
PPP auth failures	The number of sessions that failed due to PPP authorization failures.
miscellaneous reasons	Indicates the number of sessions that were disconnected for reasons other than those listed here.
Session Data Compression	
sessions negotiated comp	Indicates the total number of sessions that negotiated the use data compression.
STAC Compression	Indicates the total number of sessions that negotiated the use data compression using the STAC protocol.
MPPC compression	Indicates the total number of sessions that negotiated the use data compression using the MPPC protocol.
Deflate Compression	Indicates the total number of sessions that negotiated the use data compression using the DEFLATE protocol.
CCP negotiation failures	Indicates the number of Compression Control Protocol negotiation failures.
Session Header Compression	
VJ compression	Indicates the total number of sessions that negotiated the use of Van Jacobsen (VJ) header compression.
ROHC Compression	Indicates the total number of sessions that negotiated the use of Robust Header Compression (ROHC).
LCP Echo Statistics	
total LCP Echo Req. sent	The total number of LCP Echo requests sent to the peer.

Field	Description
LCP Echo Req. resent	The total number of LCP echo requests retransmitted to the peer.
LCP Echo Reply received	The total number of LCP echo replies received from the peer.
LCP Echo Request timeout	The total number of LCP Echo timeouts that occurred since a Reply was not received.
Receive Errors	
bad FCS errors	Indicates the number of packets received with an invalid Frame Check Sequence (FCS).
unknown protocol errors	Indicates the number of packets received with an invalid protocol type.
bad Address errors	Indicates the number of packets received with a bad address field.
bad control field errors	Indicates the number of packets received with a bad control field.
bad pkt length	Indicates the number of packets received with an invalid packet length.



CHAPTER 113

show prepaid

This chapter describes the output of the **show prepaid** command.

- show prepaid 3gpp2 statistics, on page 1715
- show prepaid wimax statistics asngw-service, on page 1716

show prepaid 3gpp2 statistics

Table 496: show prepaid 3gpp2 statistics Command Output Descriptions

Field	Description
Total pre-paid sessions	The total number of Pre-paid sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued.
Current pre-paid sessions	The number of currently active Pre-paid sessions.
Total online-auth success	The total number of successful online pre-paid authorizations (credit updates).
Total online-auth failure	The total number of failed online pre-paid authorizations (credit updates).
Online prepaid errors	The number of online prepaid messaging errors.
Initial auth prepaid err&#65533;	The number of errors, while processing radius responses, specific to radius protocol violations such as authenticator attribute failed validation.&#65533;
Total ptt sessions	The total number of PTT sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued.
Current ptt sessions	The number of currently active PTT sessions.
Total ptt filtering sess	The total number of PTT filtering sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued. NOTE: A PTT filtering session discards all user traffic that is not sent directly to, or from, the PTT switch.
Current ptt filtering sess	The number of currently active PTT filtering sessions. NOTE: A PTT filtering session discards all user traffic that is not sent directly to, or from, the PTT switch.

Field	Description
Total non ptt sessions	The total number of non-PTT sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued.
Current non ptt sessions	The number of currently active sessions that are not PTT sessions.
Total non determined sess	The total number of sessions counted since the last system restart or since the last clear prepaid 3gpp2 statistics command was issued that can not be determined whether or not they are PTT sessions.
Curr non determined sess	The number of currently active sessions that can not be determined whether or not they are PTT sessions.

show prepaid wimax statistics asngw-service

Table 497: show prepaid wimax statistics asngw-service Command Output Descriptions

Field	Description
Total prepaid sessions	The total cumulative prepaid sessions processed by this service.
Current prepaid sessions	The number of prepaid sessions currently active in this service.
Total online-auth success	The total number of authentication success for online prepaid authentication requests.
Total online-auth failures	The total number of authentication failures/rejects received for online authentication requests.
Online prepaid errors	The number of errors encountered due to the prepaid response message (success) being discarded due to problems like missing appropriate attributes or wrong attribute values though we had received it as access accept from radius server.
Initial auth prepaid err	The number of errors, while processing radius responses, specific to radius protocol violations such as authenticator attribute failed validation.



CHAPTER 114

show process

This chapter describes the output of the **show process** command.

- show process status, on page 1717

show process status

Displays process listings in the system. The process listing information can be viewed for a card or CPU (or both).

Table 498: show process status Command Output Descriptions for Card or CPU

Field	Description
USER	Indicates the internal Linux system user, that is, either "root" or "cli". **Note** The "user" referred here is not the same as context users, local users, or TACACS+ users that are configured in the system.
PID	Indicates the process ID.
PPID	Indicates the parent process ID.
STARTED	Indicates the process starting time.
%CPU	Indicates the CPU percentage that the process has used.
%MEM	Indicates the memory percentage that the process has used.
COMMAND	Displays the command that was used to start the process, along with the arguments used.



CHAPTER 115

show ps-network

This chapter includes the **show ps-network** command output tables.

- show ps-network all status, on page 1719
- show ps-network statistics ranap-only, on page 1721
- show ps-network statistics sccp-only, on page 1725
- show ps-network statistics gtpu-only, on page 1727

show ps-network all status

Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 499: show ps-network all status Command Output Descriptions

Field	Description
PS Network name	Indicates the name of the Packet Switched (PS) network instance for which status is displayed.
Associated SCCP-Network	Indicates the name of the Signalling Connection Control Part (SCCP) network service instance which in associated with referecned PS network instance.
Associated GTPU Service	Indicates the name of the GTP-U service instance which in associated with referecned PS network instance.
GTPU Context Name	Indicates the name of the context in which GTP-U service instance is configured.
SGSN Point Code	Indicates the address of SGSN in SS7 point code notation which is serving the referenced PS network instance.
Status	Indicates the status of SGSN which is serving the referenced PS network instance.
Network Status	Indicates the status of network in which the referenced PS network instance is placed.
NRI	Indicates the Network Resource Identication (NRI) bit configuration status for the referenced PS network.

Field	Description
IDNNS	Indicates the Intra-Domain NAS Node Selector (IDNNS) configuration status for the referenced PS network to transport the NRI value.
CORE NODE MAP	Indicates the core node mapping configuration status for the referenced PS network.
Initiated Ranap Reset	Indicates if the HNB-GW Initiated RANAP Reset function is enabled or disabled. **Important** Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs.
Ranap Reset Ack Timer	The timer value, in seconds, that defines how long the HNB-GW waits for a RESET ACK message from the SGSN after transmitting a RESET message. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. **Important** Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs.
Ranap Reset Maximum Retransmissions	Sets the maximum number of retries allowed for the HNB-GW to transmit a RANAP RESET message to the SGSN if the RESET ACK timer expires. This setting is used only if the HNB-GW Initiated RANAP Reset function is enabled. **Important** Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs.
Ranap Reset Guard Timer	The timer that the HNB-GW starts after receiving a RESET message from the PS core network. While this timer is running, the HNB-GW discards any new RESET messages that it receives. **Important** Before StarOS 14.0 release, this counter was displayed in show hnbgw-service command outputs.
Global RNC-Id	This group displays the information related to global Radio Network Controller settings for use by the PS core network for HNB-GW service(s) on a chassis. It is configured under the PLMN-ID.
MCC	The Mobile Country Code defined for use with this HNB-GW service. It consists of the first 3 digits of the Available Radio Network PLMN ID.
MNC	The Mobile Network Code defined for use with this HNB-GW service. It consists of the last 3 digits of the Available Radio Network PLMN ID.
Id	The Radio Network Controller ID provided to HNBs for use by the PS core network for this HNB-GW service. It is configured under the PLMN-ID

show ps-network statistics ranap-only

Table 500: show ps-network statistics ranap-only Command Output Descriptions

Field	Description
RANAP	This group displays the statistics of RANAP in a PS network on chassis.
Initial UE Tx	Total number of initial UE requests transmitted.
Direct Transfer Rx	Total number of Direct Transfer requests received.
Direct Transfer Tx	Total number of Direct Transfer responses sent.
Reset Rx	Total number of RESET requests received.
Reset Tx	Total number of RESET responses sent.
Reset Ack Rx	Total number of RESET Ack requests received.
Reset Ack Tx	Total number of responses against RESET Ack request sent.
Reset Resource Rx	Total number of RESET RESOURCE requests received.
Reset Resource Tx	Total number of RESET RESOURCE responses sent.
Reset Resource Ack Rx	Total number of RESET RESOURCE Ack requests received.
Reset Resource Ack Tx	Total number of responses against RESET RESOURCE Ack request sent.
Iu Release Request Tx	Total number of Iu RELEASE requests sent.
Iu Release Command Rx	Total number of Iu RELEASE command received.
Iu Release Complete Tx	Total number of Iu RELEASE Complete response sent.
Paging Request Rx	Total number of Paging rquests received.
RAB Assignment Request Rx	Total number of RAB assignment requests received.
RAB Setup/Mod Rx	Total number of RAB setup or modification requests received.
RAB Release Rx	Total number of RAB Release requests received.
RAB Assignment Response Tx	Total number of responses against RAB assignment requests sent.
RAB Setup/Mod Success Tx	Total number of RAB setup or modification Success response sent.
Total RAB Setup/Mod Fail Tx	Total number of RAB setup or modification Fail response sent.
RAB Setup/Mod Fail(Local) Tx	Total number of RAB setup or modification Fail response sent where RAB setup or modification failed due to local reason/cause.
RAB Release Success Tx	Total number of RAB Release Success response sent.

Field	Description
Total RAB Release Fail Tx	Total number of RAB Release Success response sent.
RAB Release Fail(Local) Tx	Total number of RAB Release Fail response sent where RAB Release failed due to local reason/cause.
RAB Queued Tx	Total number of RAB messages quesed for transmission.
RAB Setup/Mod Timer Exp	Total number of instances where RAB setup/modification timer expired before process of request.
RAB Release Timer Exp	Total number of instances where RAB Reelase timer expired before process of request.
RAB Set/Mod/Rel Local Fail	This group displays the total number of RAB setup or modification or release requests failed due to local reason/cause.
Local Failure Cause	This group idendifies the local cause for RAB setup or modification or release request failure.
Radio Network Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in radio network layer.
Invalid Rab Id	Total number of RAB setup or modification or release requests failed due to invalid RAB id in radio network layer.
Interaction With Other Proc	Total number of RAB setup or modification or release requests failed as system was interacting with another process.
Transport Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in Transport layer.
Sig Trans Res Fail	Total number of RAB setup or modification or release requests failed due to Sig trans Resource failure in transport layer.
Iu Tran Conn failed to Estab	Total number of RAB setup or modification or release requests failed where Iu Transmission connection failed to establish in transport layer.
Protocol Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in Protocol layer.
Transfer syntax error	Total number of RAB setup or modification or release requests failed due to transfer syntax error in Protocol layer.
Asn error(Reject)	Total number of RAB setup or modification or release requests failed due to ASN (Reject) syntax error in Protocol layer.
Asn error	Total number of RAB setup or modification or release requests failed due to ASN syntax error in Protocol layer.
Msg not comp with Rcvr state	Total number of RAB setup or modification or release requests failed as message was not compatible with Recovery state in Protocol layer.
Semantic error	Total number of RAB setup or modification or release requests failed due to semantic error in Protocol layer.

Field	Description
Asn error(Falsely const msg)	Total number of RAB setup or modification or release requests failed due to ASN error (falsely constructed messages) in Protocol layer.
Miscellaneous Cause	This group idendifies the total number of RAB setup or modification or release request failure due to miscellaneous cause (not listed in this table).
No Resource Available	Total number of RAB setup or modification or release requests failed due to non availability of resourcse.
Unspecified	Total number of RAB setup or modification or release request failure due to sunspecified cause (not listed in this table).
<*class_name*> Class	This group displays the total number of RAB setup or modification or release request failure grouped in Class name <*class_name*>. Following groups are supported: • Conversational Class • Streaming Class • Interactive Class • Background Class • Unknown Class
RAB Setup/Mod Rx	Total number of RAB setup or modification requests received for specific class.
RAB Setup/Mod Success Tx	Total number of RAB setup or modification sucess messages sent for specific class.
RAB Release Rx	Total number of RAB Release requests received for specific class.
Total RAB Setup/Mod Fail Tx	Total number of RAB setup or modification failure messages sent for specific class.
RAB Setup/Mod Fail(Local) Tx	Total number of RAB setup or modification failure messages sent for specific class where RAB setup or modification failed due to local reason/cause.
RAB Release Success Tx	Total number of RAB Release success messages sent for specific class.
Total RAB Release Fail Tx	Total number of RAB Release fail messages sent for specific class.
RAB Release Fail(Local) Tx	Total number of RAB Release fail messages sent for specific class where RAB setup or modification failed due to local reason/cause.
RAB Queued Tx	Total number of RAB messages queued for processing or transmission.
Relocation Request Rx	Total number of RAB Relocation request received by system for this PS network.
RAB Setup Rx	Total number of RAB Relocation setup request received by system for this PS network.
Relocation Request ACK Tx	Total number of RAB Relocation Ack messages sent agains setup request received by system for this PS network.
RAB Setup Success Tx	Total number of RAB setup success messages sent agains setup request received by system for this PS network.

Field	Description
Total RAB Setup Fail Tx	Total number of RAB setup fail messages sent agains setup request received by system for this PS network.
RAB Setup Fail(Local) Tx	Total number of RAB setup failure messages sent from this system where RAB setup or modification failed due to local reason/cause.
Local Failure Cause	This group idendifies the local cause for RAB setup or modification or release request failure.
Radio Network Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in radio network layer.
Invalid Rab Id	Total number of RAB setup or modification or release requests failed due to invalid RAB id in radio network layer.
Interaction With Other Proc	Total number of RAB setup or modification or release requests failed as system was interacting with another process.
Transport Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in Transport layer.
Sig Trans Res Fail	Total number of RAB setup or modification or release requests failed due to Sig trans Resource failure in transport layer.
Iu Tran Conn failed to Estab	Total number of RAB setup or modification or release requests failed where Iu Transmission connection failed to establish in transport layer.
Protocol Layer Cause	This group idendifies the total number of RAB setup or modification or release request failure due to error in Protocol layer.
Transfer syntax error	Total number of RAB setup or modification or release requests failed due to transfer syntax error in Protocol layer.
Asn error(Reject)	Total number of RAB setup or modification or release requests failed due to ASN (Reject) syntax error in Protocol layer.
Asn error	Total number of RAB setup or modification or release requests failed due to ASN syntax error in Protocol layer.
Msg not comp with Rcvr state	Total number of RAB setup or modification or release requests failed as message was not compatible with Recovery state in Protocol layer.
Semantic error	Total number of RAB setup or modification or release requests failed due to semantic error in Protocol layer.
Asn error(Falsely const msg)	Total number of RAB setup or modification or release requests failed due to ASN error (falsely constructed messages) in Protocol layer.
Miscellaneous Cause	This group idendifies the total number of RAB setup or modification or release request failure due to miscellaneous cause (not listed in this table).
No Resource Available	Total number of RAB setup or modification or release requests failed due to non availability of resourcse.

Field	Description
Unspecified	Total number of RAB setup or modification or release request failure due to sunspecified cause (not listed in this table).
<*class_name*> Class	This group displays the total number of RAB Setup request grouped in Class name <*class_name*>.
RAB Setup Rx	Total number of RAB setup requests received for specific class.
RAB Setup Success Tx	Total number of RAB setup sucess messages sent for specific class.
Total RAB Setup Fail Tx	Total number of RAB setup failure messages sent for specific class.
RAB Setup Fail(Local) Tx	Total number of RAB setup failure messages sent for specific class where RAB setup failed due to local reason/cause.
Relocation Detect Tx	Total number of RAB Relocation Detect messages sent by system in this PS network.
Relocation Required Tx	Total number of RAB Relocation Required request messages sent by system in this PS network.
Fwd SRNS Context Request Tx	Total number of FWD SRNS Context request messages sent by system in this PS network.
Relocation Prep Failure Rx	Total number of Relocation Preparation failure response messages sent by system in this PS network.
Relocation Cancel Tx	Total number of Relocation cancle command messages received by system in this PS network.
Relocation Command Rx	Total number of Relocation command messages received by system in this PS network.
Srns Context Request Rx	Total number of SRNS Context Request messages received by system in this PS network.
Srns Context Response Tx	Total number of response sent for SRNS Context Request messages received by system in this PS network.
<*class_name*> Class	This group displays the total number of RAB Setup request grouped in Class name <*class_name*>.
RAB Setup Rx	Total number of RAB setup requests received for specific class.

show ps-network statistics sccp-only

Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 501: show ps-network statistics sccp-only Command Output Descriptions

Field	Description
SCCP	This group displays the statistics of SCCP in a PS network on chassis.
SCCP Connection Request Rx	Total number of SCCP connection Request received by HNB-GW from the Core Node. This counter changes when Core Node initiates SCCP connection during Relocation.
SCCP Connection Request Tx	Total number of SCCP connection Request sent by HNB-GW towards the CN after getting RUA Connect Request for a Registered UE. This counter changes when RUA Connect Request sent for a Registered UE.
SCCP Connection Confirm Rx	Total number of SCCP Connection Confirmation messages received by HNB-GW from the Core Node. This counter changes when CN sends the SCCP connection confirmation for a requested SCCP Connection Request.
SCCP Connection Confirm Tx	Total number of SCCP Connection Confirmation response messages sent by HNB-GW to the Core Node. This counter changes when HNB-GW sends the SCCP connection confirmation response for a requested SCCP Connection Request to CN.
SCCP Connection Reject Rx	Total number of SCCP Connection Reject messages received by HNB-GW from the Core Node. This counter changes when Core node Rejects the SCCP Conn Request due to some parameter mismatch, etc.
SCCP Connection Reject Tx	Total number of SCCP Connection Rejection response messages sent by HNB-GW to the Core Node. This counter changes when HNBGW initiates the tear Down on receiving RUA disconnect from HNB which doesn't contain RANAP Iu-release complete message and other failure scenarios.
SCCP Connection Data Rx	Total data received by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when CN sends the data towards HNB-GW over SCCP connection.
SCCP Connection Data Tx	Total data sent by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when HNB-GW sends the data towards CN over SCCP connection.
SCCP Disconnect Rx	Total number of SCCP Disconnect messages received by HNB-GW from Core Node. This counter changes when CN initiate tear-down procedure for SCCP connection.
SCCP Disconnect Tx	Total number of SCCP Disconnect response messages sent by HNB-GW to Core Node. This counter changes when HNBGW initiates the tear-down procedure on receiving RUA disconnect from HNB which doesn't contain RANAP Iu-release complete message and other failure scenarios.

Field	Description
SCCP Uni Data Rx	Total Connection-less data, like paging, received by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when CN sends any connection-less data, like paging, towards HNB-GW over SCCP connection.
SCCP Uni Data Tx	Total Connection-less data, RANAP Reset, RANAP reset Resource, sent by HNB-GW over SCCP connection between HNB-GW and Core Node. This counter changes when HNB-GW sends or forward any Connection-less data, like RANAP reset, RANAP Reset Resource, towards CN over SCCP connection.

show ps-network statistics gtpu-only

Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 502: show ps-network statistics gtpu-only Command Output Descriptions

Variables	Description
GTPU	This group displays the statistics of SCCP in a PS network on chassis.
GTPU Fwd Packets Tx	Indicates the total number of packets forwarded by HNB-GW to SGSN over GTP-U connection during a session. This counter increments when a GTP-U packet forwarded by HNB-GW to CN.
GTPU Fwd Bytes Tx	Indicates the total number of Bytes forwarded by HNB-GW to SGSN over GTP-U connection during a session. This counter increments when a GTP-U Byte forwarded by HNB-GW to CN.
GTPU Packets Rx	Indicates the total number of packets received by HNB-GW from SGSN over GTP-U connection during a session. This counter increments when a packet received by HNB-GW from CN.
GTPU Packets Tx	Indicates the total number of packets sent by HNB-GW towards SGSN over GTP-U connection during a session. This counter increments when a GTP-U packet sent by HNB-GW to CN.

Variables	Description
GTPU Bytes Rx	Indicates the total number of bytes received by HNB-GW from SGSN over GTP-U connection during a session. This counter increments when a byte received by HNB-GW from CN.
GTPU Bytes Tx	Indicates the total number of bytes sent by HNB-GW towards SGSN over GTP-U connection. Trigger: Increments when a byte sent by HNB-GW to CN. Availability: Across PS Networks



CHAPTER 116

show quality-of-service-profile

This chapter describes the output of the **show quality-of-service-profile** command.

• show quality-of-service-profile full name, on page 1729

show quality-of-service-profile full name

Table 503: show quality-of-service-profile full name Command Output Descriptions

Field	Description
QoS Profile Name	Displays the name of the QoS Profile.
Description	Displays the description of the QoS Profile.
Preferred Traffic Class	Displays the configured preferred traffic class. The preferred traffic class can be: • Background • Conversational • Interactive • Streaming
Quality of Service Capping	
Prefer Type	Displays the configured preferred type of Quality of Service capping, the preferred type can be: • Subscription and Local • Subscription • Local
Traffic Class	Displays the configured Traffic Class, the configured Traffic Class can be: • Background • Conversational • Interactive • Streaming
Sdu delivery order	Displays if the SDU delivery order is specified or not.

Field	Description
Delivery Of Erroneous Sdus	Displays if delivery of erroneous SDUs is configured or not.
Max Bit Rate Uplink	Displays the configured Maximum Kbps rate for the uplink direction.
Max Bit Rate Downlink	Displays the configured Maximum Kbps rate for the downlink direction.
Allocation/Retention Priority	Displays the configured Allocation/Retention priority.
Guaranteed Bit Rate Uplink	Displays the Guaranteed Kbps rate for the uplink direction.
Guaranteed Bit Rate Downlink	Displays the Guaranteed Kbps rate for the downlink direction.
Sdu Max Size	Displays the maximum number of octets (size) of the SDU
Minimum Transfer delay	Displays the configured Minimum transfer delay.
Sdu Error Ratio	Displays the configured SDU error ratio.
Residual BER	Displays the configured residual bit error rate.
QoS APN-AMBR	
Max uplink	Indicates the aggregate maximum bit rate (AMBR) for uplink (subscriber to network) traffic.
Max downlink	Indicates the aggregate maximum bit rate (AMBR) for downlink (network to subscriber) traffic.
Sending of epc-qos-params to GGSN	This parameter is used to verify the configuration for EPC QoS support on SGSN. The **epc-qos-params-in-gtpv1** command is used to enable or disable the SGSN to send EPC QoS parameters to GGSN. On enabling this command E-ARP and APN-AMBR parameters are included in the GTPV1 SM messages towards the GGSN. The parameter **Enabled with GPRS Subs** is displayed if the keyword **gprs-subscriptio**n is selected in the **epc-qos-params-in-gtpv1** command.
Operator Defined QCI	Indicates if the Operator Specific QCI values are enabled or disabled.



CHAPTER 117

show radius

This chapter describes the output of the **show radius** command.

- show radius client status, on page 1731
- show radius counters all, on page 1731
- show radius servers , on page 1740

show radius client status

Table 504: show radius client status verbose Command Output Descriptions

Field	Description
RADIUS Client Status	The RADIUS client's status as "UP" or "DOWN".
Active nas-ip-address	The NAS IP address configured for the client that is currently active. The NAS IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation. **NOTE:** If the RADIUS Client Status is "DOWN", then this field displays "NONE".
Configured Primary nas-ip-address	The NAS IP address configured as the primary and the interface's current status as "UP" or "Down".
Configured Backup nas-ip-address	The NAS IP address configured as the backup and the interface's current status as "UP" or "Down".

show radius counters all

Table 505: show radius counters all Command Output Descriptions

Field	Description
Per-Context RADIUS Authentication Counters	
Access-Request Response	
Invalid Source Address Received	The number of Access-Request responses received from invalid source addresses.

Field	Description
Responses Dropped due to Closed Sockets	The number of responses dropped due to closed sockets.
Response Dropped No Matching Request found	The number of responses dropped due to no matching requests.
Per-Context Change-of-Authorization Counters	
Invalid Source Address Received (RPF check failed)	The number of responses received from invalid source addresses.
Server-specific Change-of-Authorization Counters	
Change-of-Authorization server address	The IP address and port number of the Change-of-Authorization server.
Change-of-Authorization Request received	The number of CoA requests received.
Change-of-Authorization Ack sent	The number of CoA acknowledgements sent.
Change-of-Authorization Nak sent	The number of CoA negative acknowledgements sent.
Change-of-Authorization Nak Unsupported Attribute sent	The number of CoA negative acknowledgements sent with unsupported attribute.
Change-of-Authorization Nak Missing Attribute sent	The number of CoA negative acknowledgements sent with missing attribute.
Change-of-Authorization Nak NAS Id Mismatch sent	The number of CoA negative acknowledgements with NAS ID mismatch sent.
Change-of-Authorization Nak Invalid Request sent	The number of CoA negative acknowledgements with invalid request sent.
Change-of-Authorization Nak Unsupported Service sent	The number of CoA negative acknowledgements with unsupported service sent.
Change-of-Authorization Nak Sess Context Not Found sent	The number of CoA negative acknowledgements with session context not found sent.
Change-of-Authorization Nak Resource Unavailable sent	The number of CoA negative acknowledgements with resource unavailable sent.
Change-of-Authorization Malformed Packet Rcvd	The number of CoA message disconnected due to malformed message.
Change-of-Authorization Msg-Authenticator Mismatch	The number of CoA message disconnected due to message authenticator failure.
Change-of-Authorization Duplicate Request	The number of CoA requests dropped due to duplicate message.
Change-of-Authorization Event-Timestamp Check Failed	The number of CoA requests dropped due to Event-Timestamp attribute issues.
Change-of-Authorization Request Initiated sent	The number of CoA request Initiated sent.

Field	Description
Disconnect-Message Request received	The number of Disconnect-Message Requests received.
Disconnect-Message Ack sent	The number of Disconnect-Message Acknowledgements sent.
Disconnect-Message Ack Residual Session Removed sent	The number of Disconnect-Message Acknowledgements Residual Session Removed sent.
Disconnect-Message Nak sent	The number of Disconnect-Message Negative Acknowledgment sent.
Disconnect-Message Nak Unsupported Attribute sent	The number of Disconnect-Message Negative Acknowledgment with unsupported attributes sent.
Disconnect-Message Nak Missing Attribute sent	The number of Disconnect-Message Negative Acknowledgment with missing attributes sent.
Disconnect-Message Nak NAS Id Mismatch sent	The number of Disconnect-Message Negative Acknowledgment with NAS ID mismatch sent.
Disconnect-Message Nak Invalid Request sent	The number of Disconnect-Message Negative Acknowledgment with invalid requests sent.
Disconnect-Message Nak Unsupported Service sent	The number of Disconnect-Message Negative Acknowledgment with unsupported service sent.
Disconnect-Message Nak Session Context Not Found sent	The number of Disconnect-Message Negative Acknowledgment with session context not found sent.
Disconnect-Message Nak Context Not Removable sent	The number of Disconnect-Message Negative Acknowledgment with context not removable sent.
Disconnect-Message Nak Context Not Removable Dormant	The number of Disconnect-Message Negative Acknowledgment with context not removable dormant.
Disconnect-Message Nak Resource Unavailable sent	The number of Disconnect-Message Negative Acknowledgment with resource unavailable sent.
Disconnect-Message Malformed Packet Rcvd	The number of Disconnect-Message with malformed packet received.
Disconnect-Message Msg-Authenticator Mismatch	The number of Disconnect-Message with message authenticator mismatch.
Disconnect-Message Duplicate Request	The number of Disconnect-Message duplicate requests.
Disconnect-Message Event-Timestamp Check Failed	The number of Disconnect-Message with event timestamp check failed.
Disconnect-Message Request Initiated sent	The number of Disconnect-Message with request initiated sent.
Change-of-Authorization/Disconnect-Message timeout	The number of messenger timeouts while processing the CoA/Dm messages. This will be displayed only in the hidden mode.

Field	Description
Change-of-Authorization/Disc-Message messenger bounce	The number of messenger bounces while processing the CoA/Dm messages. This will be displayed only in the hidden mode.
Server-specific Authentication Counters	
Authentication server address	The IP address, port number, and server group of the RADIUS authentication server. The IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation.
Access-Request Sent	The total number of Access Request messages sent by the system to the server.
Access-Request with DMU Attributes Sent	The total number of Access Request messages that have been sent to the server with DMU attributes present.
Access-Request Pending	The total number of Access Request messages that have been sent to the server that are pending a response.
Access-Request Retried	The total number of Access Request messages that have been re-transmitted due to the expiration of the RADIUS timeout parameter.
Access-Request with DMU Attributes Retried	The total number of Access Request messages with DMU attributes present that have been re-transmitted due to the expiration of the RADIUS timeout parameter.
Access-Challenge Received	The total number of Access Challenges received from the server as part of the authentication process.
Access-Accept Received	The total number of Access Accept messages received by the system from the server.
Access-Reject Received	The total number of Access Reject messages received by the system from the server.
Access-Reject Received with DMU Attributes	The total number of Access Reject messages with DMU attributes present received by the system from the server.
Access-Request Timeouts	The total number of times that the configured RADIUS timeout parameter was exceeded causing the system to have to re-send an Access Request message.
Access-Request Current Consecutive Failures in a mgr	The current maximum number of consecutive failures that occurred for a single AAA manager while initiating Access-Request messages.
Access-Request Response Bad Authenticator Received	The total number of Accept Request responses received by the system from the server that contains a incorrect Authenticator field, thereby failing message authentication. The system drops these messages.
Access-Request Response Malformed Received	The total number of Accept Request responses received by the system from the server that were malformed. The system drops these messages.
Access-accept Malformed Rulebase Received	The total number of authentication responses received with multiple rulebase attributes.
Access-Request Response Malformed Attribute Received	The total number of malformed or invalid attributes received in Access-Request response messages.

Field	Description
Access-Request Response Unknown Type Received	The total number of Accept Request responses received by the system from the server that contained an unknown message type. The system drops these messages.
Access-Request Response Dropped	The total number of Accept Request responses from the server that were dropped.
Access-Request Response Last Round Trip Time	The time it took for the system to receive a valid response from the server for the last authentication request.
Access-Request Response Average Round Trip Time	The average time it took for the system to receive a valid response from the server for Access Request Response.
Prepaid Related Statistic Counters	
Online Access-Request Sent	The total number of Online Access Request messages sent.
Online Access-Request Pending	The total number of Online Access Request messages pending.
Online Access-Request Retried	The total number of Online Access Request messages retried.
Online Access-Accept Received	The total number of Online Access Accept messages received.
Online Access-Reject Received	The total number of Online Access Reject messages received.
Online Access-Request Timeouts	The total number of Online Access Request message timeouts.
Online Access-Request Response Bad Authenticator Received	The total number of Online Access Request messages that failed with a bad authenticator.
Online Access-Request Response Malformed Received	The total number of Online Access Request Response messages that were malformed.
Online Access-Request Response Malformed Attr Received	The total number of Online Access Request Response messages that contained a malformed attribute.
Online Access-Request Response Unknown Type Received	The total number of Online Access Request Response messages that are of an unknown type.
Online Access-Request Response Bad Message Authenticator	The total number of Online Access Request Response messages that contained a bad message authenticator.
Online Access-Request Response NO Message Authenticator	The total number of Online Access Request Response messages that contained no message authenticator.
Server-specific Probing Counters	
State	The state of the RADIUS server. Enabled or Disabled.
Number of transactions issued	The total number of transactions issued to the RADIUS server.
Number of successful transactions	The total number of complete successful transactions to the RADIUS server.
Number of failed transactions	The total number of failed transactions to the RADIUS server.

Field	Description
Last successful transaction time	The time of day that the last successful transaction was completed with the RADIUS server.
Last failed transaction time	The time of day that the last failed transaction with the RADIUS Server occurred.
Last roundtrip time	The amount of time, in milliseconds, that it took from when a request was sent to and acknowledgement was received from the RADIUS server.
Server-specific Keepalive Auth Counters	
Keepalive Access-Request Sent	The number of keepalive access requests that were sent.
Keepalive Access-Request Retried	The number of keepalive access-requests that were retried.
Keepalive Access-Request Timeouts	The number of keepalive access-requests that timed out.
Keepalive Access-Accept Received	The number of keepalive access-accept messages that were received.
Keepalive Access-Reject Received	The number of keepalive access-reject messages that were received
Keepalive Access-Response Bad Authenticator Received	The number of bad authenticator keepalive access-response that were received.
Keepalive Access-Response Malformed Received	The number of malformed keepalive-access responses that were received.
Keepalive Access-Response Malformed Attribute Received	The number of malformed attributes for keepalive-access responses that were received.
Keepalive Access-Response Unknown Type Received	The number of unknown keepalive-access responses that were received.
Keepalive Access-Response Dropped	The number of keepalive-access responses that were dropped.
Per-Context RADIUS Accounting Counters	
Accounting Response	
Invalid Source Address Received	The number of Accounting responses received from invalid source addresses.
Responses Dropped due to Closed Sockets	The number of responses dropped due to closed sockets.
Response Dropped No Matching Request found	The number of responses dropped due to no matching requests.
Server-specific Accounting Counters	
Accounting server address	The IP address, port number, and server group of the RADIUS accounting server, and the UDP port over which the system exchanges accounting data with the server. The IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation.
Accounting-Request Sent	The total number of Accounting Request messages sent by the system to the server.

Field	Description
Accounting-Start Sent	The total number of Accounting sessions that have been established.
Accounting-Stop Sent	The total number of Accounting sessions that have been stopped.
Accounting-Interim Sent	The total number of Accounting Interim messages that have been sent to the server. This mainly contains the accumulated packets/bytes counts.
Accounting-On Sent	The total number of Accounting-on sessions that have been sent.
Accounting-Off Sent	The total number of Accounting-off sessions that have been stopped.
Accounting-Request Pending	The total number of Accounting Request messages that have been sent to the server that are pending a response.
Accounting-Request Retried	The total number of Accounting-requests that have been retried.
Accounting-Start Retried	The total number of Accounting-start messages that have been retried
Accounting-Stop Retried	The total number of Accounting-stop messages that have been retried.
Accounting-Interim Retried	The total number of Accounting-interim messages that have been retried.
Accounting-On Retried	The total number of Accounting-on messages that have been retried.
Accounting-Off Retried	The total number of Accounting-off messages that have been retried.
Accounting-Response Received	The total number of Accounting-response messages that have been received.
Accounting-Request Timeouts	The total number of Accounting-request messages that have timed out.
Accounting-Request Current Consecutive Failures in a mgr	The current maximum number of consecutive failures that occurred for a single AAA manager while initiating Accounting-Request messages.
Accounting-Response Bad Response Received	The total number of Accounting-Response messages that failed with a bad authenticator.
Accounting-Response Malformed Received	The total number of Accounting-Response responses received by the system from the server that were malformed.
Accounting-Response Unknown Type Received	The total number of Accounting-Response responses received by the system from the server that contained an unknown message type.
Accounting-Response Dropped	The total number of keepalive Accounting Response messages that were dropped.
Accounting-Response Last Round Trip Time	The time it took for the system to receive a valid response from the server for the last Accounting Response.
Accounting-Response Average Round Trip Time	The average time it took for the system to receive a valid response from the server for Accounting Responses.
Accounting Total G1 (Acct-Output-Octets)	The total number of accounted bytes outputted to user.
Accounting Total G2 (Acct-Input-Octets)	The total number of accounted bytes as user input.

Field	Description
Server-specific Keepalive Acct Counters	
Keepalive Accounting-Request Sent	The total number of keepalive accounting request messages sent.
Keepalive Accounting-Request Retried	The total number of keepalive accounting messages retried.
Keepalive Accounting-Request Successful	The total number of successful keepalive accounting messages.
Keepalive Accounting-Request Timeouts	The total number of keepalive accounting timeout messages.
Keepalive Accounting-Response Bad Response Received	The total number of keepalive accounting request response messages that failed with a bad authenticator.
Keepalive Accounting-Response Malformed Received	The total number of keepalive accounting request response messages that were malformed.
Keepalive Accounting-Response Unknown Type Received	The total number of keepalive accounting request response messages that failed with an unknown type.
Keepalive Accounting-Response Dropped	The total number of keepalive accounting request response messages that were dropped.
Per-Context RADIUS Mediation Accounting Counters	
Accounting Response	
Invalid Source Address Received	The number of Mediation Accounting responses received from invalid source addresses.
Responses Dropped due to Closed Sockets	The number of responses dropped due to closed sockets.
Response Dropped No Matching Request found	The number os responses dropped due to no matching requests being found.
Server-specific Mediation Accounting Counters	
Mediation Accounting server address	The IP address of the RADIUS Mediation accounting server, and the UDP port over which the system exchanges accounting data with the mediation server. The IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation.
Accounting-Request Sent	Indicates the total number of Accounting-Request messages sent by the system to the Mediation server.
Accounting-Start Sent	Indicates the total number of Accounting sessions that have been established with Mediation server.
Accounting-Stop Sent	The total number of Accounting sessions that have been stopped by Mediation server.
Accounting-Interim Sent	The total number of Accounting-Interim messages that have been sent to the Mediation server. This mainly contains the accumulated packets/bytes counts.
Accounting-On Sent	The total number of Accounting-On sessions that have been sent.

Field	Description
Accounting-Off Sent	The total number of Accounting-Off sessions that have been stopped.
Accounting-Request Pending	The total number of Accounting-Request messages that have been sent to the mediation server that are pending a response.
Accounting-Request Retried	The total number of Accounting-Requests that have been retried.
Accounting-Start Retried	The total number of Accounting-Start messages that have been retried
Accounting-Stop Retried	The total number of Accounting-Stop messages that have been retried.
Accounting-Interim Retried	The total number of Accounting-Interim messages that have been retried.
Accounting-On Retried	The total number of Accounting-On messages that have been retried.
Accounting-Off Retried	The total number of Accounting-Off messages that have been retried.
Accounting-Response Received	The total number of Accounting-Response that were received.
Accounting-Request Timeouts	The total number of Accounting-Request timeouts.
Accounting-Request Current Consecutive Failures in a mgr	The current maximum number of consecutive failures that occurred for a single AAA manager while initiating Accounting-Request messages.
Accounting-Response Bad Response Received	The total number of Accounting-Response messages that failed with a bad authenticator.
Accounting-Response Malformed Received	The total number of Accounting-Response responses received by the system from the server that were malformed.
Accounting-Response Unknown Type Received	The total number of Accounting-Response messages received by the system from the Mediation server that contained an unknown message type. The system drops these messages.
Accounting-Response Dropped	The total number of Accounting-Response messages from the server that were dropped.
Access-Response Last Round Trip Time	The amount of time it took for the system to receive a valid response from the mediation server for the last Access-Response messages.
Accounting-Response Average Round Trip Time	The average time it took for the system to receive a valid response from the server for Accounting-Response messages.
Accounting-Request Timeouts Due to Context Switching	The total accounting response messages dropped due to SGW context replacement.
Accounting-Response Dropped Due to Context Switching	The total accounting request messages timed out due to SGW context replacement.

show radius servers

Table 506: show radius servers detail Command Output Descriptions

Field	Description
VVVVV	

Field	Description
	Displays information about the type and state of the RADIUS server. From left-to-right, the first character represents the RADIUS server **Type** as one of the following: • (A) - Authentication • (a) - Accounting • (C) - Charging • (c) - Charging Accounting • (M) - Mediation • (m) - Mediation Accounting From left-to-right, the second character represents the RADIUS server **Preference** as one of the following: • (P) - Primary • (S) - Secondary From left-to-right, the third character represents the RADIUS server **State** as one of the following: • (A) - Active • (N) - Not Responding • (D) - Down • (W) - Waiting Accounting-On • (I) - Initializing • (w) - Waiting Accounting-Off • (a) Active Pending • (U) - Unknown From left-to-right, the fourth character indicates the RADIUS server **Admin**istrative **Status** (which is saved in the configuration file for re-establishment at reboot) as one of the following: (E) - Enabled (D) - Disabled From left-to-right, the fifth character indicates whether the RADIUS server's saved **Admin**istrative **Status** may be overridden at the next reboot: (O) - Overridden: (Note: to preserve the desired Administrative State, use the appropriate configuration mode radius [accounting| charging|charging accounting] server command to reset the admin-status.) (.) - Not Overridden

Field	Description
IP	Displays the IP address of the RADIUS server. The IP address is in IPv4 dotted-decimal notation or IPv6 colon-separated hexadecimal notation.
Port	Displays the UDP port used to communicate with the RADIUS server.
Group	Display the RADIUS server group to which the server belongs.
Event History	Displays a historical record of state information for the server including a time/date stamp.
Total servers matching specified criteria	Displays the total number of RADIUS servers returned by the execution of the command.



CHAPTER 118

show rct stats

This chapter describes the output of the show rct stats command. RCT refers to the Recovery Control Task that controls automatic failover and restart of other tasks within StarOS.

- show rct stats, on page 1743
- show rct stats verbose, on page 1744

show rct stats

Table 507: show rct stats Command Output Descriptions

Field	Description
RCT stats details (Last *n* Actions)	
#	Action number.
Action	Text describing the type of action. For example, Migration, Switchover, Shutdown.
From	Slot number of the card initiating the action.
To	Slot number of the destination card.
Start Time	Timestamp for when the action was initiated in the format YYYY-MMM-DD+hh:mm:ss.sss.
Duration	Duration of the action in seconds.
Status	Indicates Success or Failure.
RCT stats summary	
Migrations	Total number of task migrations.
Management Card: Average time: Packet Card:	Number of management card migrations. Average migration time expressed as n.nnn seconds. Number of packet card migrations.

Field	Description
Average time:	Average migration time expressed as n.nnn seconds.
Switchovers	Total number of switchovers (unplanned and planned) between cards.
Average time:	Average switchover time expressed as n.nnn seconds.

show rct stats verbose

Table 508: show rct stats verbose Command Output Descriptions

Field	Description
RCT stats details (Last *n* Actions)	
#	Action number.
Action	Text describing the type of action. For example, Migration, Switchover, Shutdown.
Type	Planned or Unplanned
From	Slot number of the card initiating the action.
To	Slot number of the destination card.
Start Time	Timestamp for when the action was initiated in the format YYYY-MMM-DD+hh:mm:ss.sss.
Duration	Duration of the action in seconds.
Graceful	Displays that Graceful Card Migration functionality (available in Release 21.3 and higher) is enabled or disabled for the given RCT Stat number. In 21.3 and higher releases this functionalily is enabled by default and cannot be disabled.
Recovered[n]	If any task (sessmgr or aaamgr) is failed during the migration and recovered, this field reports the details like facility, instance, cpu id and pid number.
Status	Indicates Success or Failure.
RCT stats summary	
Migrations	Total number of task migrations.
Management Card:	Number of management card migrations.
Average time:	Average migration time expressed as n.nnn seconds.
Packet Card:	Number of packet card migrations.
Average time:	Average migration time expressed as n.nnn seconds.
Switchovers	Total number of switchovers (unplanned and planned) between cards.

Field	Description
Average time:	Average switchover time expressed as n.nnn seconds.
RCT stats verbose (Last *n* Actions)	
Stats <n>	Action number.
Action	Text describing the type of action. For example, Migration, Switchover, Shutdown.
Type	Planned or Unplanned.
From	Slot number of the card initiating the action.
To	Slot number of the destination card.
Start Time	Timestamp for when the action was initiated in the format YYYY-MMM-DD+hh:mm:ss.sss format.
Failure Reason	Text string indicating the reason for the failure. For example: "CPU_CRITICAL_TASK_FAILURE".
Failure Device	Text string indicating device associated with the failure. For example: "CPU_0".
Is Card Usable	Yes or No.
Recovery Status	Success or Failure.
Facility	Task facility name that caused migration failure. (Success = "N.A.").
Instance	Task instance number that caused migration failure. (Success = "N.A.").
Duration	Event duration in format: n.nnn sec.
Graceful	Displays whether Graceful Card Migration is Enabled (default) or Disabled. Contact Cisco to disable this functionality.
Recovered [1]	Displays graceful recovery stats information during card migration, for example: [f:sessmgr, i:6, cpu:50, pid:13170].
Recovered [2]	Displays graceful recovery stats information during card migration, for example: [f:sessmgr, i:3, cpu:50, pid:13167].



CHAPTER 119

show resources

This chapter describes the output of the **show resources** command.

- show resources cpu, on page 1747
- show resources session, on page 1748

show resources cpu

Table 509: show resources cpu Command Output Descriptions

Field	Description
Active CPUs	Displays information for CPUs on packet processing cards and management cards that are in the active mode.
Total CPUs	The total number of CPUs on active cards.
Highest Load	The highest loading of a processor among all of the active processors. The processor that experienced the loading is identified in the format: (CPU <slot_number>/<processor_number>)
Total Memory	The total amount of memory available for all active processors in gigabytes.
Total Used	The total amount of memory (in gigabytes) used for all active processors.
Least Free	The lowest amount of memory (in megabytes) available to an active processor. The processor with the lowest amount of available memory is identified in the format: (CPU <slot_number>/<processor_number>)
Total Temporary Files	The total amount of space for temporary files being maintained in memory.
Most Temporary Files	The maximum amount of memory used for temporary files on a specific active processor. The processor on which the memory is being used is identified in the format: (CPU <slot_number>/<processor_number>)
Standby CPUs	Displays information for CPUs on packet processing cards and management cards that are in the standby mode.
Total CPUs	The total number of CPUs on standby cards.

Field	Description
Highest Load	The highest loading of a processor among all of the standby processors. The processor that experienced the loading is identified in the following format: (CPU <slot_number>/<processor_number>)
Total Memory	The total amount of memory (in gigabytes) available for all standby processors.
Total Used	The total amount of memory (in gigabytes) used for all standby processors.
Least Free	The lowest amount of memory (in megabytes) available to an standby processor. The processor with the lowest amount of available memory is identified in the format: (CPU <slot_number>/<processor_number>)
Total Temporary Files	The total amount of space for temporary files being maintained in memory.
Most Temporary Files	The maximum amount of memory used for temporary files on a specific standby processor. The processor on which the memory is being used is identified in the format: (CPU <slot_number>/<processor_number>)

show resources session

Table 510: show resources session Command Output Descriptions

Field	Description
In-Use Session Managers	
Number of Managers	The total number of Session Managers currently in use on processing calls.
Capacity	The allowed call capacity for all of the Session Managers currently in use.
Usage	The total number of sessions currently active.
Busy-Out Session Managers	
Number of Managers	The number of Session Manager tasks in a busied-out state and not available to service new sessions.
Capacity	Indicates the total session capacity of the system.
Usage	The number of Session Manager tasks in use.
Standby Session Managers:	
Number of Managers	The total number of Session Managers currently in standby mode waiting to process calls.
<XXXX> Service:	
In Use	The total number of configured service sessions that are currently in use processing subscriber sessions.

Field	Description
Max Used	The maximum number of service sessions used in processing subscriber sessions. This field displays a timestamp on each peak value and identifies the last time (if any) the peaks were cleared.
Limit	The total number of sessions that can be processed by all configured services of this type. This value is based on session capacity licenses and the configuration of the **max-subscribers** parameter for the services. **Note:** Not applicable for ASN PC Service.
License Status	Indicates whether or not the number of sessions being processed by all configured services of this type within the system falls within the range granted by the session capacity license installed. If it is within the range, "Within Acceptable Limits" is displayed. If not, "Exceeded Acceptable Limits" is displayed. **NOTE:** Not applicable for ASN PC Service.
ECS Information:	**NOTE:** This information is displayed only if Active Charging Service is configured in the non-unified mode.
In-Use ACS Managers:	
Number of Managers	The total number of ACS Managers currently active processing calls.
Capacity	Indicates call capacity of the system as <> min (minimum available ECS sessions), <> typical, and <> max (maximum possible ECS sessions).
Usage	The total number of ACS Manager tasks in use.
Standby ACS Managers:	
Number of Managers	The total number of ACS Managers currently in standby mode.
Enhanced Charging Service Service:	
In Use	The total number of service sessions that are currently in use.
Max Used	The maximum number of service sessions used.
Limit	The total number of sessions that can be processed by all configured services of this type. This value is based on session capacity license.
License Status	Indicates whether or not the number of sessions being processed by all configured services of this type within the system falls within the range granted by the session capacity license installed. If it is within the range, "Within Acceptable Limits" is displayed. If not, "Exceeded Acceptable Limits" is displayed.
ECS Information:	**NOTE:** This information is displayed only if Active Charging Service is configured in the unified mode.
Capacity	Indicates capacity of the system as <> est (estimated available ECS sessions) and <> max (maximum possible ECS sessions).
Enhanced Charging Service Service:	

Field	Description
In Use	The total number of ECS service sessions that are currently in use.
Max Used	The maximum number of ECS service sessions used.
Limit	The total number of sessions that can be processed by all configured services of this type. This value is based on session capacity license.
License Status	Indicates whether or not the number of sessions being processed by all configured services of this type within the system falls within the range granted by the session capacity license installed. If it is within the range, "Within Acceptable Limits" is displayed. If not, "Exceeded Acceptable Limits" is displayed.
P2P information:	
P2P Service:	
In Use	The total number of P2P service sessions that are currently in use.
Max Used	The maximum number of P2P service sessions used.
Limit	The total number of sessions that can be processed by all configured services of this type.
License Status	Indicates whether or not the number of sessions being processed by all configured services of this type within the system falls within the range granted by the session capacity license installed. If it is within the range, "Within Acceptable Limits" is displayed. If not, "Exceeded Acceptable Limits" is displayed.



CHAPTER 120

show rlf

This chapter includes the **show rlf** command output tables.

- show rlf-template all, on page 1751
- show rlf-template name, on page 1752
- show rlf-context-statistics diamproxy verbose , on page 1752
- show rlf-memcache-statistics diamproxy , on page 1753

show rlf-template all

Table 511: show rlf-template all Command Output Descriptions

Field	Description
RLF-Template	The name of the configured RLF Template.
Transactions Per Second	Indicates the configured Transactions Per Second (TPS) i.e. the number of messages that can be processed per second.
Burst Size	Indicates the configured maximum number of messages (burst) that can be sent out together, at an instant of time.
Thresholds (Upper-Lower)	Indicates the configured threshold for rate-limiting the outgoing messages.
Delay Tolerance	Indicates the configured maximum number of seconds the messages can be queued before it is processed.
Total RLF Templates Found	Indicates the total number of RLF templates being configured.

show rlf-template name

Table 512: show rlf-template name Command Output Descriptions

Field	Description
Transactions Per Second	Indicates the configured Transactions Per Second (TPS) i.e. the number of messages that can be processed per second.
Burst Size	Indicates the configured maximum number of messages (burst) that can be sent out together, at an instant of time.
Thresholds (Upper-Lower)	Indicates the configured threshold for rate-limiting the outgoing messages.
Delay Tolerance	Indicates the configured maximum number of seconds the messages can be queued before it is processed.

show rlf-context-statistics diamproxy verbose

Table 513: show rlf-context-statistics diamproxy verbose Command Output Descriptions

Field	Description
RLF Context Stats	The name of the context for which the RLF statistics is collected.
Template Name	The name of the configured RLF template.
Configured TPS	Indicates the configured Transactions Per Second (TPS) for throttling.
State	Indicates the current state of the RLF context.
Storage	Indicates the method of access to messages.
Direction	Indicates the traffic direction.
Active Duration In Sec	Total active time since RLF context was created.
Current Queue Size	Indicates the outstanding messages in the RLF queue.
Average TPS	This is the sum average TPS since RLF became active.
Trend TPS	Indicates the trend TPS value for the configured context.
Maximum TPS	Indicates the maximum TPS value for the configured context.
Minimum TPS	Indicates the minimum TPS value for the configured context.
Last 10 Secs Average TPS	Average value of TPS computed for the last 10 seconds.
Last 20 Secs Average TPS	Average value of TPS computed for the last 20 seconds.

Field	Description
Last 60 Secs Average TPS	Average value of TPS computed for the last 60 seconds.
Last 5 Mins Average TPS	Average value of TPS computed for the last 5 minutes.
Last 10 Mins Average TPS	Average value of TPS computed for the last 10 minutes.
Average executed Bypass TPS	Indicates the effective TPS when "rlf-bypass" is configured.
Last 10 Secs Average executed Bypass TPS	Average value of TPS computed for the last 10 seconds when RLF bypass is executed.
Last 30 Secs Average executed Bypass TPS	Average value of TPS computed for the last 30 seconds when RLF bypass is executed.
Last 60 Secs Average executed Bypass TPS	Average value of TPS computed for the last 60 seconds when RLF bypass is executed.
Last 5 Mins Average executed Bypass TPS	Average value of TPS computed for the last 5 minutes when RLF bypass is executed.
Last 10 Mins Average executed Bypass TPS	Average value of TPS computed for the last 10 minutes when RLF bypass is executed.
Num of times threshold exceeded	Number of times messages queued when RLF was in "OVER THRESHOLD" state.
Num of times queued	Number of times the messages are queued in RLF module.
Num of times dropped	Number of times the messages are dropped due to the RLF being full.
Num of times msg sent out directly	Number of times the messages that are sent directly when RLF bypass is not executed.
Num of times queue bypassed	Number of messages sent out when "rlf-bypass" was configured.
Num of times send message cb failed	Number of times the registered application callbacks failed after sending out a RLF message.
Num of times rlf status update cb failed	Number of times the registered application callbacks failed after sending out a RLF status update.
Diamproxy Instance Level Details	Shows the statistics details at each Diamproxy instance level.

show rlf-memcache-statistics diamproxy

Table 514: show rlf-memcache-statistics diamproxy Command Output Descriptions

Field	Description
Cache Pool For RLF Messages	

Field	Description
Block-Size	The size of block.
Blocking-Factor	Number of elements in block.
Blocks-In-Use	Number of blocks in use.
Total-Blocks	Total number of elements that are currently used.
Free-Blocks	Total number of elements that are currently unused.
Frequency	Indicates how many times the memory direct allocate is used.
Current Memory in Use	Indicates the current memory used for direct allocation.



CHAPTER 121

show rohc

This chapter describes the output of the **show rohc** command variants.

- show rohc statistics, on page 1755

show rohc statistics

Table 515: show rohc statistics Command Output

Field	Description
Compressor Statistics:	
Active contexts:	Number of active ROBust Header Compression (ROHC) contexts currently available in the system
Total setup:	Total number of Contexts created till now since the time the stats were being collected.
Total deleted:	Total number of Contexts destroyed till now since the time the stats were being collected.
Messages(TX):	Messages that were send from the Compressor
IR:	Number of ROHC IR packets
IR-DYN:	Number of ROHC IR Dynamic packets
Type0:	Number of ROHC Type -0 packets
Type1:	Number of ROHC Type-1 packets
Type2:	Number of ROHC Type-2 packets
Normal:	Number of ROHC Uncompressed packets
Feedback(RX):	All Feedback messages received by compressors
ACK:	Number of ROHC Feedback Ack received
NACK:	Number of ROHC Feedback NACK received
Static-NACK:	Number of ROHC Feedback STATIC NACK received

Field	Description
Error:	Number of Feedback packets that had errors.
Misc:	
Mode change:	Number of ROHC Mode changes
Profile change:	Number of ROHC Profile changes
State change:	Number of ROHC state changes
Pkts(TX):	Packets Transmitted
Pkts Sent:	Number of Packets sent
Bytes Sent:	Number of bytes sent
Pkts Processed:	Number of input packets discarded
Pkts Discarded:	Number of input packets processed.
Segmentation:	Number of input packets that were segmented.
Segment Pkts:	Number of ROHC segment packets
Only Feedback:	Number of ROHC feedbacks that were NOT piggybacked to other ROHC packets
Piggyback FB:	Number of ROHC feedbacks that were piggybacked to other ROHC packets
Only FB packets:	Number of ROHC packets that carry ONLY multiple ROHC feedbacks.
Efficiency(TX):	Transmission Efficiency
Uncomp Hdr:	Number of uncompressed headers
Compressed Hdr:	Number of compressed headers
Percentage comp:	Percentage comparison
Histogram(TX):	Transmission Histogram
Size: < 2:	Number less than 2
Size: < 4:	Number less than 4
Size: < 8:	Number less than 8
Size: < 16:	Number less than 16
Size: > 16:	Number greater than 16
Decompressor Statistics:	
Active contexts:	Number of active ROHC contexts currently available in the system
Total setup:	Total number of Contexts created till now since the time the stats were being collected.

Field	Description
Total deleted:	Total number of Contexts destroyed till now since the time the stats were being collected.
Messages(RX):	Received ROHC messages
IR:	Number of ROHC IR packets
IR-DYN:	Number of ROHC IR Dynamic packets
Type0:	Number of ROHC Type -0 packets
Type1:	Number of ROHC Type-1 packets
Type2:	Number of ROHC Type-2 packets
Normal:	Number of ROHC Uncompressed packets
Feedback(TX):	
ACK:	Number of ROHC Feedback Ack received
NACK:	Number of ROHC Feedback NACK received
Static-NACK:	Number of ROHC Feedback STATIC NACK received
Error:	Number of Feedback packets that had errors.
Errors(RX):	Errors in received ROHC pkts
Checksum:	Number of packets discarded due to checksum errors
State mismatch:	Number of packets discarded due to state mismatch
Parse error:	Number of packets discarded due to parsing errors
Memory:	Number of packets discarded due to memory constraints
Other error:	Number of packets discarded due to unclassified errors
Reassembly errors:	Number of packets discarded due to reassembly errors
Misc:	
Mode change:	Number of ROHC Mode changes
Profile change:	Number of ROHC Profile changes
State change:	Number of ROHC state changes
Pkts(RX):	Received ROHC packets
Pkts Rcvd:	Number of Packets received
Bytes Rcvd:	Number of bytes received
Decomp Pkts:	Number of decompressed packets sent out

Field	Description
Pkts Discarded:	Number of received packets discarded
Segmentation:	Number of output packets that got segmented.
Segment Pkts:	Number of ROHC segment packets received
Only Feedback:	Number of ROHC feedbacks that were NOT piggybacked to other ROHC packets
Piggyback FB:	Number of ROHC feedbacks that were piggybacked to other ROHC packets
Only FB packets:	Number of ROHC packets that carry ONLY multiple ROHC feedbacks.
Pkts(TX):	Transmitted ROHC packets
Pkts Sent:	Number of ROHC packets sent out
Bytes Sent:	Number of bytes sent out
Piggyback FB:	Number of Feedback packets sent as piggy back
Direct FB:	Number of Feedback packets sent without piggy back
Efficiency(RX):	Transmission Efficiency
Uncomp Hdr:	Number of uncompressed headers
Compressed Hdr:	Number of compressed headers
Percentage comp:	Percentage comparison
Histogram(RX):	Transmission Histogram
Size: < 2:	Number less than 2
Size: < 4:	Number less than 4
Size: < 8:	Number less than 8
Size: < 16:	Number less than 16
Size: > 16:	Number greater than 16



CHAPTER 122

show rp

This chapter describes the output of the **show rp** command.

- show rp, on page 1759
- show rp full username, on page 1762
- show rp statistics pdsn-service, on page 1767

show rp

Table 516: show rp Command Output Descriptions

Field	Description
RP Summary	
RP Sessions In Progress	Indicates the total number of sessions being facilitated.
Registration Request/Reply	
Renew RRQ Accepted	Indicates the total number of registration request renewals accepted.
Discarded	Indicates the total number of registration requests that have been discarded.
Intra PDSN Active H/O RRQ Accept	The number of intra PDSN handoffs accepted for the session when it was active.
Intra PDSN Dormant H/O RRQ Accept	The number of intra PDSN handoffs accepted for the session when it was dormant. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Inter PDSN Handoff RRQ Accepted	Indicates the total number of registration requests for inter-PDSN handoffs that have been accepted.
Reply Send Error	Indicates the total number of registration replies for which errors were experienced during transmission.
Registration Update/Ack	
Initial Update Transmitted	Indicates the total number of registration updates that have been transmitted.

Field	Description
Update Retransmitted	Indicates the total number of registration updates that have been re-transmitted.
Denied	Indicates the total number of registration updates that have been denied by the PCF.
Not Acknowledged	Indicates the total number of registration updates and/or acknowledgements that have not been acknowledged by the PCF.
Reg Ack Received	Indicates the total number of registration acknowledgements that have been discarded.
Reg Ack Discarded	Indicates the total number of registration acknowledgements that have been received.
Update Send Error	Indicates the total number of registration updates for which errors were experienced during transmission.
Registration Update Send Reason	
Lifetime Expiry	Indicates the total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session.
Upper Layer Initiated	Indicates the total number of registration updates that were initiated by upper processing layers.
Other Reasons	Indicates the total number of registration updates that were sent due to reasons other than those listed here.
Handoff Release	Indicates the total number of registration updates that were sent due to handoff releases.
Session Manager Died	Indicates the total number of registration updates that were sent due to the termination of Session Manager tasks. **NOTE:** If any data is reported for this field, there may be an issue with either the software or hardware. If you continue to experience problems, refer to the System Administration and Administration Reference for information on troubleshooting the problem.
Registration Update Denied	
Reason Unspecified	Indicates the total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified).
Admin Prohibited	Indicates the total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited).
PDSN Failed Authentication	Indicates the total number of denied registration updates that were sent with a reply code of 83H (Registration Denied - mobile node failed authentication).
Identification Mismatch	Indicates the total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch).
Poorly Formed Update	Indicates the total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request).
Session Update/Ack	
Initial Update Transmitted	Indicates the total number of session updates that have been transmitted.

Field	Description
Update Retransmitted	Indicates the total number of session updates that have been re-transmitted.
Denied	Indicates the total number of session updates that have been denied by the PCF.
Not Acknowledged	Indicates the total number of session updates that have not been acknowledged by the PCF.
Sess Update Ack Received	Indicates the total number of session acknowledgements that have been received.
Sess Update Ack Discarded	Indicates the total number of session acknowledgements that have been discarded.
Sess Update Send Error	Indicates the total number of session updates for which errors were experienced during transmission.
Session Update Send Reason	
Always On	Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature.
QoS Info	This is a session update statistic that is not supported at this time.
QoS Update Reason	
TFT Violation	Indicates that a TFT violation is the reason for QoS update.
Traffic Violation	Indicates that a traffic violation is the reason for the QoS update.
Traffic Policing	Indicates that a traffic policing action is the reason for the QoS update
Operator Triggered	Indicates that an operator triggered the QoS update.
Session Update Denied	
Reason Unspecified	Indicates the total number of session updates denied with a code of 80H (Session Denied - reason unspecified).
Insufficient Resources	Indicates the total number of session updates denied with a status code of 82H (Session Denied - insufficient resources).
Admin Prohibited	Indicates the total number of denied session updates denied with a status code of 81H (Session Denied - administratively prohibited).
Parameter not updated	Indicates the total number of session updates denied with a status code of 82H (Session Denied - insufficient resources).
PDSN Failed Authentication	Indicates the total number of denied session updates denied with a status code of 83H (Session Denied - mobile node failed authentication).
Identification Mismatch	Indicates the total number of denied session updates denied with a status code of 85H (Session Denied - identification mismatch).
Poorly Formed Update	Indicates the total number of denied session updates denied with a status code of 86H (Session Denied - poorly formed request).

Field	Description
Data	
GRE Packets Received	Indicates the total number of Generic Routing Encapsulation (GRE) packets received.
GRE Bytes Received	Indicates the total number of Generic Routing Encapsulation (GRE) bytes received.
GRE Packets Sent	Indicates the total number of Generic Routing Encapsulation (GRE) packets transmitted.
GRE Bytes Sent	Indicates the total number of Generic Routing Encapsulation (GRE) bytes transmitted.
GRE Packets Sent in SDB Form	This indicates the total Packets sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF.
GRE Bytes Sent in SDB Form	This indicates the total Bytes sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF.
GRE Segmentation	
Total Packets Received with segmentation indication	Indicates the total number of Generic Routing Encapsulation (GRE) packets received with segmentation indication.
Total Packets Sent with segmentation indication	Indicates the total number of Generic Routing Encapsulation (GRE) packets sent with segmentation indication.
Total successful reassembly	Indicates the total number of Generic Routing Encapsulation (GRE) packets that were successfully reassembled.
Total packets processed without proper reassembly	Indicates the total number of Generic Routing Encapsulation (GRE) packets that were processed without proper reassembly.

show rp full username

Table 517: show rp full username Command Output Descriptions

Field	Description
Username	The subscriber's username.
Callid	The subscriber's call identification (callid) number.
Msid	The subscriber's mobile station identification (MSID) number.
MN Sess Ref ID	The reference identification (Ref ID) number received from the mobile node.
GRE Key	The Generic Routing Encapsulation (GRE) key used with the subscribers session.
PCF Address	The IP address of the Packet Control Function (PCF) facilitating the subscriber's session.
PDSN Address	The IP address of the R-P interface on the Packet Data Service Node's that is facilitating the subscriber's session.

Field	Description
Lifetime	The maximum time that the session A10 connection can exist before it becomes expired. This value is assigned by the PDSN.
Remaining Lifetime	Remaining RP lifetime for the session.
SPI	The particular Security Parameter Index (SPI) that associates the PDSN and the PCF facilitating the session.
Service Option	RP service option for the session.
Flow Control State	Displays the Flow Control State for the session.
Prev System Id	System ID of the previous PCF for the session.
Current System Id	System ID of the current PCF for the session.
Prev Network Id	Network ID of the previous PCF for the session.
Current Network Id	Network ID of the current PCF for the session.
Prev Packet Zone Id	Packet zone ID of the previous PCF for the session.
Current Packet Zone Id	Packet zone ID of the current PCF for the session.
BSID	Base transceiver Station ID (Base Station ID) of the current PCF
A 10 Connection	
GRE Receive	
Total Packets Rcvd	The total number of packets received for the A10 connection.
Total Bytes Rcvd:	The total number of bytes received for the A10 connection.
GRE Send	
Total Packets Sent	The total number of packets sent for the A10 connection.
Total Bytes Sent:	The total number of bytes sent for the A10 connection.
Data Over Signaling Packets:	The total number of Data Over Signaling packets sent for the A10 connection.
Data Over Signaling Bytes:	The total number of Data Over Signaling bytes sent for the A10 connection.
Registration Request/Reply	
Renew RRQ Accepted	The total number of registration request renewals accepted.
Discarded	The total number of registration requests replies that have been discarded.
Intra PDSN Active H/O RRQ Accept	The number of intra PDSN handoffs accepted for the session when it was active.

Field	Description
Intra PDSN Dormant H/O RRQ Accept	The number of intra PDSN handoffs accepted for the session when it was dormant. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Inter PDSN Handoff RRQ Accepted	The total number of registration requests for inter-PDSN handoffs that have been accepted.
Reply Send Error	The total number of registration replies for which errors were experienced during transmission.
Registration Update/Ack	
Initial Update Transmitted	The total number of registration updates that have been transmitted.
Update Retransmitted	The total number of registration updates that have been re-transmitted.
Denied	The total number of registration updates that have been denied by the PCF.
Not Acknowledged	The total number of registration updates and/or acknowledgements that have not been acknowledged by the PCF.
Reg Ack Received	The total number of registration acknowledgements that have been received.
Reg Ack Discarded	The total number of registration acknowledgements that have been received.
Update Send Error	The total number of registration updates for which errors were experienced during transmission.
Registration Update Send Reason	
Lifetime Expiry	The total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session.
Upper Layer Initiated	The total number of registration updates that were initiated by upper processing layers.
Other Reasons	The total number of registration updates that were sent due to reasons other than those listed here.
Handoff Release	The total number of registration updates that were sent due to handoff releases.
Session Manager Exited	The total number of registration updates that were sent due to the termination of Session Manager tasks. **NOTE:** If any data is reported for this field, there may be an issue with either the software or hardware. If you continue to experience problems, refer to the System Administration and Administration Reference for information on troubleshooting the problem.
Registration Update Denied	
Reason Unspecified	The total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified).

Field	Description
Admin Prohibited	The total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited).
PDSN Failed Authentication	The total number of denied registration updates that were sent with a reply code of 83H (Registration Denied - mobile node failed authentication).
Identification Mismatch	The total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch).
Poorly Formed Update	The total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request).
Session Update/Ack	
Initial Update Transmitted	Indicates the total number of session updates that have been transmitted.
Update Retransmitted	Indicates the total number of session updates that have been re-transmitted.
Denied	Indicates the total number of session updates that have been denied by the PCF.
Not Acknowledged	Indicates the total number of session updates that have not been acknowledged by the PCF.
Sess Update Ack Received	Indicates the total number of session acknowledgements that have been received.
Sess Update Ack Discarded	Indicates the total number of session acknowledgements that have been discarded.
Sess Update Send Error	Indicates the total number of session updates for which errors were experienced during transmission.
Session Update Send Reason	
Always On	Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature.
QoS Info	This is a session update statistic that is not supported at this time.
QoS Update Reason	
TFT Violation	Indicates that a TFT violation is the reason for QoS update.
Traffic Violation	Indicates that a traffic violation is the reason for the QoS update.
Traffic Policing	Indicates that a traffic policing action is the reason for the QoS update
Operator Triggered	Indicates that an operator triggered the QoS update.
Session Update Denied	
Reason Unspecified	Indicates the total number of session updates denied with a code of 80H (Session Denied - reason unspecified).
Insufficient Resources	Indicates the total number of session updates denied with a status code of 82H (Session Denied - insufficient resources).

Field	Description
Admin Prohibited	Indicates the total number of denied session updates denied with a status code of 81H (Session Denied - administratively prohibited).
Parameter not updated	Indicates the total number of session updates denied with a status code of 82H (Session Denied - insufficient resources).
PDSN Failed Authentication	Indicates the total number of denied session updates denied with a status code of 83H (Session Denied - mobile node failed authentication).
Identification Mismatch	Indicates the total number of denied session updates denied with a status code of 85H (Session Denied - identification mismatch).
Poorly Formed Update	Indicates the total number of denied session updates denied with a status code of 86H (Session Denied - poorly formed request).
Profile ID Not Supported	Indicates that the profile ID is not supported.
Handoff in Progress	Indicates that a handoff is in progress.
GRE Receive	
Total Packets Received	The total number of Generic Routing Encapsulation (GRE) packets received.
Protocol Type Error	The total GRE packet s received with an unsupported protocol field in the header.
Total Bytes Received	The total number of Generic Routing Encapsulation (GRE) bytes received.
GRE Key Absent	The number of GRE packets received without a GRE key in the header.
GRE Checksum Error	GRE packets received that had a checksum error.
Invalid Packet Length	GRE packets received with invalid packet length.
GRE Send	
Total Packets Sent	The total number of Generic Routing Encapsulation (GRE) packets transmitted.
Total Bytes Sent	The total number of Generic Routing Encapsulation (GRE) bytes transmitted.
Total Packets Sent in SDB	The total Packets sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF.
Total Bytes Sent in SDB	The total Bytes sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF.
GRE Flow Control	
Total Packets Received with XOFF	The total number of packets received for this username while the flow control was set to XOFF.
Total Packets Received with XON	The total number of packets received for this username while the flow control was set to XON.

Field	Description
Total XON->XOFF Transactions	The total number of times the flow control indicator was changed from XON to XOFF for sessions involving this username.
Total Output Packets Dropped on XOFF	The total number of packets dropped after receiving an XOFF flow control command from the RAN.
Total Output Bytes Dropped on XOFF	The total number of bytes dropped after receiving an XOFF flow control command from the RAN.
Total RP sessions matching specified criteria	The total number of sessions that had the username specified on the command line.

show rp statistics pdsn-service

Table 518: show rp statistics pdsn-service Command Output Descriptions

Field	Description
PDSN Service	Displays the name of the PDSN services for which the statistics were gathered.
Session Stats	
Total Sessions Current	Indicates the total number of sessions that are in progress. These could be either active, dormant, being set up, or being disconnected.
Total Setup	Indicates the total number of sessions that have been successfully set up since system started.
Total Released	Indicates the total number of sessions that have successfully been disconnected.
Total Rev-A Sessions Current	Indicates the total number of Rev-A sessions that are in progress.
Total Rev-A Setup	Indicates the total number of Rev-A sessions that have been successfully set up since system started.
Total Rev-A Released	Indicates the total number of Rev-A sessions that have successfully been disconnected.
Total Downgraded from Rev-A to Rev-0	Indicates the total number of Rev-A sessions that have successfully been downgraded from Rev-A to Rev-0.
Session Releases	
De-registered	Indicates the total number of sessions that were disconnected through a normal de-registration process.
Lifetime Expiry	Indicates the total number of sessions that were disconnected due to the expiration of their lifetime timer.
PPP Layer Command	Indicates the number of sessions disconnected due to PPP initiating a tear-down.

Field	Description
PCF-Monitor Fail	The total number of sessions disconnected because the PCF monitor function detected that the PCF was down.
GRE Key Mismatch	The total number of sessions disconnected because the GRE key changed for a session.
Purged via Audit	The total number of sessions disconnected due to audit failures on session recovery.
Other Reasons	Indicates the number of sessions disconnected due to reasons other than those listed here.
Registration Request/Reply	
Total RRQ/Renew/Dereg RX	The total number of registration requests, renewals, and de-registrations received.
Total Accept	The total number of registration requests that have been accepted.
Total Denied	The total number of registration requests that have been rejected.
Total Discard	The total number of registration requests that have been discarded.
Init RRQ RX	The total number of initial registration requests that have been received.
Init RRQ Accept	The total number of initial registration requests received and accepted.
Init RRQ Denied	The total number of initial registration requests received and rejected.
Init RRQ Discard	The total number of initial registration requests that have been received and discarded.
Init Setup/Start RRQ RX	The total number of initial setup or start registration requests that have been received.
Init Setup/Start RRQ Denied	The total number of initial start or setup registration requests that have been received and rejected.
Init Setup/Start RRQ Acc	The total number of initial start or setup registration requests that have been received and accepted.
Init Setup/Start RRQ Dis	The total number of initial start or setup registration requests that have been received and discarded.
Renew RRQ RX	The total number of registration request renewals received.
Renew RRQ Accept	The total number of registration request renewals received and accepted.
Renew RRQ Denied	The total number of registration request renewals received and rejected.
Renew RRQ Discard	The total number of registration request renewals received and discarded
Renew No Airlink RX	The total number of registration request renewals received due to "No airlink".
Renew No Airlink Accept	The total number of registration request renewals received due to "No airlink" and accepted.
Renew No Airlink Denied	The total number of registration request renewals received due to "No airlink" and denied.

Field	Description
Renew No Airlink Discard	The total number of registration request renewals received due to "No airlink" and discarded.
Renew Actv Start RX	The total number of RRQ renewals with an Active Start record received.
Renew Actv Start Accept	The total number of RRQ renewals with an Active Start record received and accepted.
Renew Actv Start Denied	The total number of RRQ renewals with an Active Start record received and denied.
Renew Actv Start Discard	The total number of RRQ renewals with an Active Start record received and discarded.
Renew Actv Stop RX	The total number of RRQ renewals with an Active Stop record received.
Renew Actv Stop Accept	The total number of RRQ renewals with an Active Stop record received and accepted.
Renew Actv Stop Denied	The total number of RRQ renewals with an Active Stop record received and denied.
Renew Actv Stop Discard	The total number of RRQ renewals with an Active Stop record received and discarded.
Dereg Active Stop Accept	The total number of de-registration requests with an active stop that were accepted.
Dereg RRQ RX	The total number of de-registration requests that have been received.
Dereg RRQ Accept	The total number of de-registration requests received and accepted.
Dereg RRQ Denied	The total number of de-registration requests received and rejected
Dereg RRQ Discard	The total number of de-registration requests received and discarded.
Dereg No Active Stop RX	The total number of de-registration requests with a No Active Stop record received.
Dereg No Active Stop Accp	The total number of de-registration requests with a No Active Stop record received and accepted.
Dereg No Active Stop Denied	The total number of de-registration requests with a No Active Stop record received and denied
Dereg No Active Stop Disc	The total number of de-registration requests with a No Active Stop record received and discarded.
Dereg Active Stop RX	The total number of de-registration request with an Active Stop record received.
Dereg Active Stop Accp	The total number of de-registration request with an Active Stop record received and accepted.
Reply Send Error	The total number of registration replies for which errors were experienced during transmission.
Airlink Seq Num Invalid	The total number of replies sent when an invalid airlink sequence number is received in RRQ.
Intra PDSN Active ANID Handoff RRQ RX	The total number of intra PDSN handoff RRQs with active Access Network IDentifier (ANID) received.

Field	Description
Intra PDSN Active ANID Handoff RRQ Accepted	The total number of intra PDSN handoff RRQs with active ANID received and accepted.
Intra PDSN Active ANID Handoff RRQ Denied	The total number of intra PDSN handoff RRQs with active ANID received and denied.
Intra PDSN Active ANID Handoff RRQ Discarded	The total number of intra PDSN handoff RRQs with active ANID received and discarded.
Intra PDSN Dormant ANID Handoff RRQ RX	The total number of intra PDSN handoff RRQs with dormant ANID received. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Intra PDSN Dormant ANID Handoff RRQ Accepted	The total number of intra PDSN handoff RRQs with dormant ANID received and accepted. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Intra PDSN Dormant ANID Handoff RRQ Denied	The total number of intra PDSN handoff RRQs with dormant ANID received and denied. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Intra PDSN Dormant ANID Handoff RRQ Discarded	The total number of intra PDSN handoff RRQs with dormant ANID received and discarded. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Inter PDSN Active MEI ANID Handoff RRQ RX	The total number of inter PDSN handoff RRQs with active Mobility Event Indicator (MEI) and ANID received.
Inter PDSN Active MEI ANID Handoff RRQ Accepted	The total number of inter PDSN handoff RRQs with active MEI and ANID received and accepted.
Inter PDSN Active MEI ANID Handoff RRQ Denied	The total number of inter PDSN handoff RRQs with active MEI and ANID received and denied.
Inter PDSN Active MEI ANID Handoff RRQ Discarded	The total number of inter PDSN handoff RRQs with active MEI and ANID received and discarded.
Intra PDSN Active Handoff RRQ Accepted	Indicates the total number of registration requests received for active sessions going through an intra-PDSN handoff.

Field	Description
Intra PDSN Dormant Handoff RRQ Accepted	Indicates the total number of registration requests received for dormant sessions going through an intra-PDSN handoff. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Inter PDSN Handoff RRQ Accepted	Indicates the total number of registration requests received for sessions going through an inter-PDSN handoff.
Reply Send Error	Indicates the total number of registration replies for which errors were experienced during transmission.
Registration Request Denied	
Unspecified Reason	Indicates the total number of registration requests that were denied using reply code of 80H (Registration Denied - reason unspecified)
Admin Prohibited	Indicates the total number of registration requests that were denied using reply code of 81H (Registration Denied - administratively prohibited).
Insufficient Resources	Indicates the total number of registration requests that were denied using reply code of 82H (Registration Denied - insufficient resources).
PCF Failed Auth	Indicates the total number of registration requests that were denied using reply code of 83H (Registration Denied - mobile node failed authentication).
Identification Mismatch	Indicates the total number of registration requests that were denied using reply code of 85H (Registration Denied - identification mismatch).
Poorly Formed Request	Indicates the total number of registration requests that were denied using reply code of 86H (Registration Denied - poorly formed request).
Unknown PDSN Address	Indicates the total number of registration requests that were denied using reply code of 88H (Registration Denied - unknown PDSN address)
Reverse Tunnel Unavail	Indicates the total number of registration requests that were denied using reply code of 89H (Registration Denied - requested reverse tunnel unavailable).
Reverse Tunnel Required	Indicates the total number of registration requests that were denied using reply code of 8AH (Registration Denied - reverse tunnel is mandatory and "T"-bit not set).
Unrecognized Vendor Id	Indicates the total number of registration requests that were denied using reply code of 8DH (Registration Denied - unsupported vendor ID or unable to interpret data in the CVSE).
Session Already Closed	Renew and RRQ denied due to the session not present in the PDSN Dereq. Error code 0x8e.
RRQ Denied - Insufficient Resource Reasons	

Field	Description
No Session Manager	Indicates the total number of registration requests that were denied due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly.
No Memory	Indicates the total number of registration requests that were denied due to insufficient memory.
Session Managers Retried	Indicates that the system unsuccessfully attempted to try multiple Session Manager tasks to establish a session.
Input-Q Exceeded	Indicates that the queue in which incoming calls are kept prior to being processed exceeded its capacity.
Policy Rejected	The Registration Request was denied because the policy was rejected.
Session Manager Rejected	The Registration Request was rejected by the Session Manager.
A11 Manager Rejected	The Registration Request was rejected by the A11 Manager.
RRQ Denied - Poorly Formed Request Reasons	
Session Already Dormant	The number of RRQs that had Active Stop for a session that was already dormant. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Already Active	The number of RRQs that had Active Start for a session that was already active.
Airlink Setup Absent	The number of RRQs denied due to an absent connection-setup record in the initial RRQ.
Mismatched CoA/Src addr	The number of RPs denied due to a mismatch in the care-of-address field and the request source address.
Other Reasons	The number of RRQs denied due to other reasons for a badly formed RRQ.
RRQ Denied - Overload/Congestion Control	
Admin Prohibited (reject)	RRQs denied with error code 0x81h due to congestion control mechanism.
Unknown PDSN (redirect)	RRQs denied with error code 0x88 due to congestion control mechanism.
Registration Request Discard Reasons	
No Session Manager	Indicates the total number of registration requests that were discarded due to the lack of available Session Manager tasks. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly.
No Memory	Indicates the total number of registration requests that were discarded due to insufficient memory.
Malformed	Indicates the total number of registration requests that were discarded due to being poorly formed.

Field	Description
Auth Failure	Indicates the total number of registration requests that were discarded due to the mobile node failing authentication.
Session Manager Dead	Indicates the total number of registration requests that were discarded due to the termination of Session Manager tasks. **NOTE:** If any data is reported for this field, there may be an issue with either the software or hardware. If you continue to experience problems, refer to the System Administration and Administration Reference for information on troubleshooting the problem.
Admin Prohibited	Indicates the total number of registration requests that were discarded due to being administratively prohibited.
Session Manager NotReady	Indicates the total number of registration requests that were discarded due to a Session Manager task not being ready. This may occur when the system is booting up in the event that a Session Manager task terminated unexpectedly.
Unknown PDSN	Indicates the total number of registration requests that were discarded due to the request specifying an unknown PDSN address.
Internal Bounce Error	Indicates that an internal communication message between an A11 Manager task and a Session Manager task bounced was not successfully sent.
Input-Q Exceeded	Indicates that the queue in which incoming calls are kept prior to being processed exceeded its capacity.
Max Sessions Reached	Indicates the total number of registration requests that were discarded due to the PDSN service reaching its configured maximum number of subscribers or the exceeding of the system's session capacity license.
Invalid Pkt Len	Indicates the total number of registration requests that were discarded due to having an invalid packet length.
GRE Key Changed	RRQs discarded due to GRE key change in RRQ message.
Overload/Congestion	RRQs discarded due to congestion control mechanism.
Dropped During Handoff	RRQs dropped during handoff.
Misc Reasons	Indicates the number of registration requests that were discarded due to reasons other than those listed here.
Registration Update/Ack	
Reg Update Transmitted	Indicates the total number of registration updates that were transmitted.
Accepted	Indicates the total number of registration updates that were accepted by the PCF.
Denied	Indicates the total number of registration updates that were denied.
Not Acknowledged	Indicates the total number of registration updates that were not acknowledged.
Initial Update TX	Indicates the total number of initial registration updates that were transmitted.

Field	Description
Update Re-TX	Indicates the total number of registration updates that were re-transmitted.
Reg Ack Received	Indicates the total number of registration acknowledgements that were received.
Reg Ack Discard	Indicates the total number of registration acknowledgements that were discarded.
Update Send Error	Indicates the total number of registration updates for which errors were experienced during transmission.
Registration Update Send Reason	
Lifetime Expiry	Indicates the total number of registration updates that were sent due to the expiration of a lifetime timer during a subscriber session.
Other Reasons	Indicates the total number of registration updates that were sent due to reasons other than those listed here.
Upper Layer Initiated	Indicates the total number of registration updates that were initiated by upper processing layers.
Handoff Release	Indicates the number of registration updates that were sent due to handoff releases.
Session Manager Exited	Indicates the number of registration updates that were sent due to the termination of a Session Manager task.
Registration Update Denied	
Reason Unspecified	Indicates the total number of denied registration updates that were sent with a reply code of 80H (Registration Denied - reason unspecified).
Admin Prohibited	Indicates the total number of denied registration updates that were sent with a reply code of 81H (Registration Denied - administratively prohibited).
PDSN Failed Auth	Indicates the total number of denied registration updates that were sent with a reply code of 83H (Registration Denied - mobile node failed authentication).
Identification Mismatch	Indicates the total number of denied registration updates that were sent with a reply code of 85H (Registration Denied - identification mismatch).
Poorly Formed Update	Indicates the total number of denied registration updates that were sent with a reply code of 86H (Registration Denied - poorly formed request).
Registration Ack Discard Reasons	
Session Absent	Indicates the total number of registration acknowledgements that were discarded due to the session having been already ended because the acknowledgement was late.
No Memory	Indicates the total number of registration acknowledgements that were discarded due to insufficient memory.
Malformed	Indicates the total number of registration acknowledgements that were discarded due to being poorly formed.

Field	Description
Auth Failure	Indicates the total number of registration acknowledgements that were discarded due to the mobile node failing authentication.
Internal Bounce Error	Indicates that an internal communication message between an A11 Manager task and a Session Manager task bounced (was not successfully sent).
Input-Q Exceeded	Indicates the number of times that the queue in which incoming calls are kept prior to being processed exceeded its capacity.
Mismatched Id	Indicates the total number of discarded registration acknowledgements due to reply code 85H (Registration Denied - identification mismatch).
Invalid Pkt Len	Indicates the total number of registration acknowledgements that were discarded due to having an invalid packet length.
Misc Reasons	Indicates the number of registration acknowledgements that were discarded due to reasons other than those listed here.
Session Update/Ack	
Sess Update Transmitted	This is a session update statistic that is not supported at this time.
Accepted	This is a session update statistic that is not supported at this time.
Denied	This is a session update statistic that is not supported at this time.
Not Acknowledged	This is a session update statistic that is not supported at this time.
Initial Update TX	This is a session update statistic that is not supported at this time.
Update Retransmitted	This is a session update statistic that is not supported at this time.
Sess Ack Received	This is a session update statistic that is not supported at this time.
Sess Ack Discarded	This is a session update statistic that is not supported at this time.
Sess Update Send Error	This is a session update statistic that is not supported at this time.
Session Update Send Reason	
Always On	Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature.
QoS Info	This is a session update statistic that is not supported at this time.
Session Update Denied	
Reason Unspecified	This is a session update statistic that is not supported at this time.
Insufficient Resources	This is a session update statistic that is not supported at this time.
Admin Prohibited	This is a session update statistic that is not supported at this time.
Parameter not updated	This is a session update statistic that is not supported at this time.

Field	Description
PDSN Failed Auth	This is a session update statistic that is not supported at this time.
Identification Mismatch	This is a session update statistic that is not supported at this time.
Poorly Formed Update	This is a session update statistic that is not supported at this time.
Session Update Ack Discard Reasons	
Session Absent	Indicates the total number of session acknowledgements that were discarded due to the session having been already ended because the acknowledgement was late.
No Memory	Indicates the total number of session acknowledgements that were discarded due to insufficient memory.
Malformed	Indicates the total number of session acknowledgements that were discarded due to being poorly formed.
Auth Failure	Indicates the total number of session acknowledgements that were discarded due to the mobile node failing authentication.
Internal Bounce Error	Indicates that an internal communication message between an A11 Manager task and a Session Manager task bounced (was not successfully sent).
Input-Q Exceeded	Indicates the number of times that the queue in which incoming calls are kept prior to being processed exceeded its capacity.
Mismatched Id	Indicates the total number of discarded session acknowledgements due to reply code 85H (Registration Denied - identification mismatch).
Invalid Packet Length	Indicates the total number of session acknowledgements that were discarded due to having an invalid packet length.
Misc Reasons	Indicates the number of session acknowledgements that were discarded due to reasons other than those listed here.
Security Violations	
Total Violations	Indicates the total number of security violations that occurred.
Bad SPI #	Indicates the total number of security violations that occurred due to the receipt of a Security Parameter Index (SPI) that was in the reserved range (0 through 255).
Bad Authenticator	Indicates the total number of security violations that occurred due to a mis-computed authentication field.
Unknown SPI #	Indicates the total number of security violations that occurred due to the receipt of a Security Parameter Index (SPI) that is not configured on the PDSN.
Missing MN-HA Auth Extension	Indicates the total number of security violations that occurred due to missing mobile node-home agent authentication extensions.
Missing Reg Update Auth Extension	Indicates the total number of security violations that occurred due to missing registration update authentication extensions

Field	Description
GRE Receive	
Total Packets Received	Indicates the total number of Generic Routing Encapsulation (GRE) packets received.
Protocol Type Error	Indicates the total number of GRE packets received with an unsupported protocol type field in the header.
Total Bytes Received	Indicates the total number of Generic Routing Encapsulation (GRE) bytes received.
GRE Key Absent	Indicates the total number of GRE packets received with no GRE key in the header.
GRE Checksum Error	Indicates the number of errors that occurred in GRE packets.
Invalid Packet Length	Indicates the total number of GRE packets received with invalid packet lengths.
No Session Found	Indicates the total number of GRE packets received for which no sessions can be found.
GRE Send	
Total Packets Sent	Indicates the total number of Generic Routing Encapsulation (GRE) packets transmitted.
Total Bytes Sent	Indicates the total number of Generic Routing Encapsulation (GRE) bytes transmitted.
GRE Packets Sent in SDB Form	This indicates the total Packets sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF.
GRE Bytes Sent in SDB Form	This indicates the total Bytes sent with the Short Data Burst indication in the A10 data stream from the PDSN to the PCF.
GRE Flow Control	
Total Packets Received with XOFF	The total number of packets received for this username while the flow control was set to XOFF.
Total Packets Received with XON	The total number of packets received for this username while the flow control was set to XON.
Total XON->XOFF Transactions	The total number of times the flow control indicator was changed from XON to XOFF for sessions involving this username.
Total Output Packets Dropped on XOFF	The total number of packets dropped after receiving an XOFF flow control command from the RAN.
Total Output Bytes Dropped on XOFF	The total number of bytes dropped after receiving an XOFF flow control command from the RAN.
Total RP sessions matching specified criteria	The total number of sessions that had the username specified on the command line.
GRE Segmentation	
Total Packets Received with segmentation indication	Indicates the total number of Generic Routing Encapsulation (GRE) packets received with segmentation indication.

Field	Description
Total Packets Sent with segmentation indication	Indicates the total number of Generic Routing Encapsulation (GRE) packets sent with segmentation indication.
Total successful reassembly	Indicates the total number of Generic Routing Encapsulation (GRE) packets that were successfully reassembled.
Total packets processed without proper reassembly	Indicates the total number of Generic Routing Encapsulation (GRE) packets that were processed without proper reassembly.



CHAPTER 123

show s4sgsn

-
- show s4-sgsn statistics all, on page 1779

show s4-sgsn statistics all

Table 519: show s4-sgsn statistics all Command Output Descriptions

Field	Description
SGW Relocations:	
3G Intra SGSN RAU	Total number of Intra-SGSN RAUs involving SGW relocation for 3G.
2G Intra SGSN RAU	Total number of Intra-SGSN RAUs involving SGW relocation for 2G.
3G Inter SGSN RAU (S16)	Total number of Inter-SGSN RAUs on the S16 interface involving SGW relocation in 3G.
2G Inter SGSN RAU (S16)	Total number of Inter-SGSN RAUs involving SGW relocation on the S16 interface for 2G.
3G MME-SGSN RAU (S3)	The total number of MME-SGSN RAUs on the S3 interface involving SGW relocation in 3G.
2G MME-SGSN RAU (S3)	The total number of MME SGSN RAUs on the S3 interface involving SGW relocation in 2G.
Intra SGSN 2G to 3G RAU	Total number of intra-SGSN 2G to 3G RAUs involving SGW relocation.
Intra SGSN 3G to 2G RAU	Total number of Intra SGSN 3G to 2G RAUs involving SGW relocation.
3G Intra SGSN SRNS Relocation	Total number of intra SGSN SRNS relocations involving SGW relocation in 3G.

Field	Description
3G Inter SGSN SRNS Relocation (S16)	Total number of inter SGSN SRNS relocations across the S16 interface involving SGW relocation in 3G.
MME-SGSN SRNS Relocation (S3)	Total number of MME to SGSN SRNS relocations across the S3 interface involving SGW relocation.
ISR Deactivations:	
3G Intra RAU with SGW Relocation	Total number of ISR deactivations that occurred due to SGW relocation during an intra RAU in 3G.
3G NW Initiated Detach	Total number of ISR deactivations that occurred during the SGSN initiated detach procedure.
3G MR IDT Expiry	Total number of ISR deactivations that occurred if the user was implicitly detached due to a mobile reachability timer expiry.
3G MS Initiated Detach	Total number of ISR deactivations that occurred during the MS initiated detach procedure.
3G Cancel Location from HSS/HLR	Total number of ISR deactivations that occurred when a Cancel-Location request was received from the HLR/HSS.
3G SRNS Abort	Total number of ISR deactivations that occurred during the SRNS abort procedure.
3G Local Admin Detach	Total number ISR deactivations that occurred when an operator executed the **clear subscribers all local-purge** command.
3G SGW Change During SRNS	Total number of ISR deactivations that occurred when the SGW changes during SRNS.
2G Intra RAU with SGW Relocation	Total number of ISR deactivations that occurred due to SGW relocation during an intra RAU in 2G.
2G Implicit Detach	Total number of ISR deactivations that occurred due to an implicit detach in 2G.
Detach Notification from MME to 2G	Total number of ISR deactivations that occurred due to a detach notification message being received from MME in 2G.
S3 Interface Selection Statistics:	
3G S3 Selections from Standard Mapping	Total number of times that the MME address was selected based on the standard mapping (MSB bit of LAC is set) in 3G.
3G S3 Selections from Custom Mapping	Total number of times that the MME address was selected based on the custom-based mapping (using GUTI DB) in 3G.
2G S3 Selections from Standard Mapping	Total number of times that the MME address was selected based on the standard mapping (MSB bit of LAC is set) in 2G.

Field	Description
2G S3 Selections from Custom Mapping	Total number of times that the MME address was selected based on the custom-based mapping (using GUTI DB) in 2G.
Procedure Abort Statistics:	
3G Intra SRNS Abort Due to Total CSR Failure	Total number of intra SGSN SRNS relocations aborted if the intra SGSN SRNS relocation initiated an SGW relocation and the new SGW did not respond to the Create Session Request.
3G New SGSN SRNS Abort Due to Total CSR Failure	Total number of new SGSN SRNS relocations aborted if the new SGSN SRNS relocation initiated an SGW relocation and the new SGW did not respond to the Create Session Request.
PDP Deletion Statistics:	
DBR from new SGW during Intra SRNS	Indicates the total number of PDPs removed upon receiving a DBR from a new SGW during Intra SRNS relocation. This scenario can occur if a DBR is initiated from a new SGW before a Modify is received at its end.
GTPU Statistics:	
Total Packets Rcvd	The sum total of the **Total Packets from SGW** and **IDFT packets from SGW** counter values.
Total Packets from SGW	The total number of downlink packets received from the SGW (excluding indirect data forwarded packets).
Pkts queued	The total number of downlink packets queued by the S4-SGSN.
Pkts forward from queue	The total number of downlink packets queued, and successfully forwarded by the S4-SGSN.
Pkts dropped	The total number of downlink queued packets dropped by the S4-SGSN without forwarding due to various reasons. This total equals the sum of the following statistics: • Queue Full • Sess Dealloc Started • Paging Failure • Iu Release • BVC Reset / Block Rcvd
Queue Full	Total number of packets dropped due to the queue being full.
Sess Dealloc Started	Total number of packets dropped because the PDP session for which the data is queued is being de-allocated.
Paging Failure	Total number of packets dropped because of a paging failure.
Traffic Policing	Total number of packets dropped because of downlink traffic policing.

Field	Description
BVC Reset/Block Rcvd	Total number of packets dropped in a 2G S4-SGSN when a BVC Reset / Block is received.
Total Bytes Rcvd	The sum total of the **Total Bytes from SGW** and **IDFT bytes from SGW** counter values.
Total Bytes from SGW	The total number of downlink bytes received from the SGW (excluding indirect data forwarded bytes).
Bytes queued	The total number of downlink bytes queued by the S4-SGSN.
Bytes forward from queue	The total number of downlink bytes queued and successfully forwarded by the S4-SGSN.
Bytes dropped	The total number of downlink queued bytes dropped by the S4-SGSN without forwarding due to various reasons. This total is the sum of the values for the following statistics: • Queue Full • Sess Dealloc Started • Paging Failure • Traffic Policing • Iu release • BVC Reset / Block Rcvd)
Queue Full	Total number of bytes dropped due to queue being full.
Sess Dealloc Started	Number of bytes dropped because the PDP session for which the data is queued is being deallocated.
Paging Failure	Total number of bytes dropped because of paging failure.
Traffic Policing	Total number of bytes dropped because of downlink traffic policing.
BVC Reset/Block Rcvd	Total number of bytes dropped in 2G S4-SGSN when a BVC Reset / Block is received.
IDFT Statistics:	
IDFT packets to SGW	Total number of old SGSN connected mode handovers when indirect data forwarding is enabled at the old SGSN to retransmit the queued downlink packets from RNC to eNodeB. During this scenario, the RNC sends the queued downlink packets to SGSN and SGSN sends it through IDFT to the SGW and SGW forwards it to eNodeB. This statistics denotes the number of packets sent through SGSN by RNC to SGW for indirect data forwarding

Field	Description
IDFT packets from SGW	Total number of new SGSN connected mode handovers when indirect data forwarding is enabled at the new SGSN to retransmit the queued downlink packets from eNodeB to RNC. During this scenario, the eNodeB sends the queued downlink packets to SGW through an IDFT setup by MME and SGW sends it through IDFT to the SGSN and SGSN forwards it to RNC. This stat denotes the number of packets sent through SGSN by SGW to RNC for indirect data forwarding.
IDFT bytes to SGW	This counter is incremented during old SGSN SRNS relocation when indirect data forwarding is enabled at the old SGSN to retransmit the queued downlink packets from RNC to eNodeB. During this scenario, the RNC sends the queued downlink packets to SGSN and SGSN sends it through IDFT to the SGW and SGW forwards it to eNodeB. This stat denotes the number of bytes sent through SGSN by RNC to SGW for indirect data forwarding
IDFT bytes from SGW	The total number of new SGSN connected mode handovers when indirect data forwarding is enabled at the new SGSN to retransmit the queued downlink packets from eNodeB to RNC. During this scenario, the eNodeB sends the queued downlink packets to SGW through an IDFT setup by MME and SGW sends it through IDFT to the SGSN and SGSN forwards it to RNC. This stat denotes the number of bytes sent through SGSN by SGW to RNC for indirect data forwarding.
S4 Overcharge Protection Statistics	
3G Release Access Bearer with ARRL bit set	Indicates the total number of Release Access Bearer messages sent within UMTS with ARRL bit set.
2G Release Access Bearer with ARRL bit set	Indicates the total number of Release Access Bearer messages sent within GPRS with ARRL bit set.



CHAPTER 124

show saegw

This chapter describes the output of the **show saegw** command.

- show saegw-service statistics all-name , on page 1785
- show saegw-service statistics all, on page 1786

show saegw-service statistics all-name

Displays statistics information for SAEGW services.

Field	Description
Current Subscribers By RAT-Type:	
EUTRAN	The total number of EUTRAN PDNs by RAT-Type.
UTRAN	The total number of UTRANs PDNs by RAT-Type.
GERAN	The total number of GERANs PDNs by RAT-Type.
NB-IoT	The total number of NB-ToT PDNs.
LTE-M	The total number of LTE-M initiated PDNs.
Other	The total number of Others PDNs by RAT-Type.
Current PDNs by RAT-Type:	
EUTRAN	The total number of active EUTRAN PDNs by RAT-Type.
UTRAN	The total number of active UTRANs PDNs by RAT-Type.
GERAN	The total number of active GERANs PDNs by RAT-Type.
NB-IoT	The total number of active NB-IoT PDNs.
LTE-M	The total number of active LTE-M PDNs.
Other	The total number of Others PDNs by RAT-Type

show saegw-service statistics all

Identifies the real usage of 5G Data DCNR sessions for SAEGW.

Table 520: show saegw-service statistics all Command Output Descriptions

Field	Description
DCNR Secondary RAT Data PDN Statistics	
Collocated PDNs:	
Active	The total number of currently active SAEGW DCNR Secondary RAT-Data PDN Sessions. Count is incremented when DCNR bit is set for a PDN session, and a Secondary RAT Data received first time for that session **Note** Irrespective of how many Secondary RAT Data Usage Reports are received for a DCNR PDN, it shall be counted as one. As intention is to count number of real usages of 5G Data DCNR PDNs session, not the Secondary RAT Data Usage Reports. Counter is decremented when the identified DCNR Secondary RAT Data session gets released. **Note** DCNR Secondary RAT Data statistics will be decremented only when the session gets released. There might be also a scenario where DCNR session receives Secondary RAT Data once or twice only and if it is not reported in the subsequent messages from MME / SAEGW, as per current proposed solution, DCNR Secondary RAT Data statistics will not be decremented till the session is released.
Setup	The total number of cumulative SAEGW DCNR Secondary RAT-Data PDN Sessions setup. Count is incremented when DCNR bit is set for a PDN session, and a Secondary RAT Data received first time for that session **Note** Irrespective of how many Secondary RAT Data Usage Reports are received for a DCNR PDN, it shall be counted as one. As intention is to count number of real usages of 5G Data DCNR PDNs session, not the Secondary RAT Data Usage Reports.
Released	The total number of cumulative SAEGW DCNR Secondary RAT Data PDNs sessions released. Counter is incremented when the DCNR Secondary RAT Data PDN Session release. It is a cumulative counter, so it will not be decremented
PGW-Anchor PDNs:	

Field	Description
Active	The total number of active sessions using P-GW anchor PDNs.
Setup	The total number of setup sessions using P-GW anchor PDNs.
Released	The total number of releases sessions using P-GW anchor PDNs.
SGW-Anchor PDNs:	
Active	The total number of active sessions using S-GW anchor PDNs.
Setup	The total number of setup sessions using S-GW anchor PDNs.
Released	The total number of releases sessions using S-GW anchor PDNs.



CHAPTER 125

show samog-services

This chapter describes the output of the **show samog-services** command variants.

- show samog-service statistics, on page 1789
- show samog-service name, on page 1814

show samog-service statistics

Table 521: show samog-service statistics

Field	Description
SaMOG Statistics for all services	
MRME Service Stats	
Session Stats	
Total Attempted	Total number of sessions attempted.
Total Setup	Total number of sessions setup.
Total Current	Total number of sessions that are currently active.
Total Released	Total number of sessions released
Total Aborted	Total number of sessions aborted.
Total Disconnected	
Disconnected locally	Total number of sessions that were disconnected locally.
Disconnected by UE	Total number of sessions that were disconnected by the UE.
Disconnected by NAS	Total number of sessions that were disconnected by NAS.
Disconnected by CGW	Total number of sessions that were disconnected CGW.
Disconnected by AAA	Total number of sessions that were disconnected by AAA.

Field	Description
Radius Message Stats	
Total Start Req rcvd	Total number of RADIUS start request message received.
Total Start Req (Retransmitted) rcvd	Total number of RADIUS retransmitted start request message received.
Total Start Rsp sent	Total number of RADIUS start response message sent.
Total Interim Updt rcvd	Total number of RADIUS interim update received.
Total Interim Updt (Retransmitted) rcvd	Total number of RADIUS retransmitted interim update received.
Total Interim Updt Rsp sent	Total number of RADIUS interim update response sent.
Total Stop Req rcvd	Total number of RADIUS stop request message received.
Total Stop Req (Retransmitted) rcvd	Total number of RADIUS retransmitted stop request message received.
Total Stop Rsp sent	Total number of RADIUS stop response sent.
Total Accounting On rcvd	Total number of accounting on message received.
Total Accounting Off rcvd	Total number of accounting off message received.
Total Access Req rcvd	Total number of access request message received.
Total Access Req (Retransmitted) rcvd	Total number of retransmitted access request message received.
Total Access Challenge sent	Total number of Access Challenge message sent.
Total Access Accept sent	Total number of Access Accept sent due to congestion policy.
Total Access Reject sent	Total number of Access Rejected sent due to congestion policy.
Congestion control policy applied	
Total Unknown Req rcvd	Total number of unknown requests received for congestion control policy.
Total Send Failure	Total number of congestion control policy sent that failed.
Total Discarded	Total number of congestion control policy discarded.
Mandatory Attr Missing	Total number of missing mandatory attributes.
Start For Non-Existing Session	Total number of start messages sent to non-existing sessions.
Interim For Non-Existing Session	Total number of interim messages sent to non-existing sessions.
Stop For Non-Existing Session	Total number of stop messages sent to non-existing sessions.
Unknown Client	Total number of unknown client.

Field	Description
Invalid Authenticator	Total number of authenticators that is invalid
Stale Packets	Total number of stale packets.
Service Not Supported	Total number of services that are not supported.
No Resource	Total number of resources that are not available.
Internal Error	Total number of internal errors that occurred.
License Limit Exceeded	Total number of license limit exceeded.
Service Limit Exceeded	Total number of license limit exceeded.
Invalid Length	Total number of call control profiles with invalid length.
Invalid EAP	Total number of call control profiles with invalid EAP.
Pending Server Response	Total number of call control profiles with server response pending.
Congestion control policy applied	Total number of congestion control policies applied.
No Policy Match	Total number of Access-Requests dropped due to non-availability of matching PLMN based local policy.
DHCP Message Stats	
DHCP Messages Discarded	Total number of DHCP messages discarded.
Max Size Exceeded	Total number of DHCP messages discarded due to the maximum size exceeded.
Non-Existing Session	Total number of DHCP messages discarded due to a non-existing session.
GiAddr Mismatch	Total number of DHCP messages due to a Gi address mismatch.
Unsupported HW Type or Length	Total number of DHCP messages due to an unsupported hardware type or length.
Stale Packets	Total number of DHCP messages discarded due to stale packets.
Service Not Supported	Total number of DHCP messages discarded due to an unsupported service.
Reauthorization Stats	
Attempts	Total number of reauthorization attempts.
Success	Total number of reauthorization succeeded.
Failure	Total number of reauthorization failure.
Reauthentication Stats	
Attempts	Total number of reauthentication attempts.

Field	Description
Success	Total number of reauthentication succeeded.
Failure	Total number of reauthentication failure.
Handoff Stats	
With Authentication	
Attempts	Total number of sessions attempted for handoff using authentication mechanism.
Success	Total number of sessions with successful handoff using authentication mechanism.
Failure	Total number of handoff failure sessions using authentication mechanism.
With Accounting Start	
Attempts	Total number of sessions attempted for handoff using accounting mechanism.
Success	Total number of sessions with successful handoff using accounting mechanism.
Failure	Total number of sessions with handoff failure using accounting mechanism.
With Accounting Interim	
Attempts	Total number of sessions attempted for handoff using accounting interim mechanism.
Success	Total number of sessions with successful handoff using accounting interim mechanism.
Failure	Total number of sessions with handoff failure using accounting inerim mechanism.
DHCP to DHCP Handoff Statistics	
Received	Total number of DHCP to DHCP handoff statistics received.
Accepted	Total number of DHCP to DHCP handoff statistics accepted.
Denied	Total number of DHCP to DHCP handoff statistics denied.
EAP Client Stats	
Initial Identity Msgs	
NAI Formats	
Root NAI	Total number of UE Identity that uses the root NAI format.
Decorated NAI	Total number of UE Identity that uses the decorated NAI format.

Field	Description
UE Identity formats	
IMSI Identity	Total number of UE Identity that uses an IMSI identity.
Fast Reauth	Total number of UE Identity that uses the fast reauth NAI format.
Pseudonym	Total number of UE Identity that uses the pseudonym NAI format.
Emergency	Total number of UE Identity that uses the emergency NAI format.
Unknown NAI	Total number of UE Identity that uses an NAI format that is unknown.
EAP type	
EAP-AKA	Total number of Extensible Authentication Protocol AKA.
EAP-SIM	Total number of Extensible Authentication Protocol SIM.
EAP-AKA'	Total number of Extensible Authentication Protocol AKA'.
EAP-TLS	Total number of Extensible Authentication Protocol TLS.
EAP-TTLS	Total number of Extensible Authentication Protocol TTLS.
EAP-PEAP	Total number of Extensible Authentication Protocol PEAP.
EAP Unsupported	Total number of Extensible Authentication Protocol that is unsupported. **Important** This counter has been removed in Release 18 and later.
EAP Other	Total number of Extensible Authentication Protocol MSCHAPv2/other. Total number of Extensible Authentication Protocol EAP-TLS or EAP-TTLS/MSCHAPv2.
Initial Non-Identity Msgs	
Total Requested	Total number of initial non-identity messages requested.
Total Rejected	Total number of initial non-identity messages rejected.
Invalid Len	Total number of initial non-identity messages with invalid length.
Invalid Code	Total number of initial non-identity messages with invalid code.
Id Mismatch	Total number of initial non-identity messages with ID mismatch.
Invalid NAI	Total number of initial non-identity messages with invalid NAI.
Invalid IMSI	Total number of initial non-identity messages with invalid IMSI number.
Total Dropped	Total number of initial non-identity messages that were dropped.
Invalid code	Total number of initial non-identity messages with invalid code.

Field	Description
EAP Server Stats	
Total Sent	Total number of EAP server status sent.
Total Received	Total number of EAP server status received.
Success	Total number of EAP server connections succeeded.
Request	Total number of EAP server requests sent.
Failure	Total number of EAP server requests failed.
Drop	Total number of EAP server requests dropped.
Total Received- AKA	Total number of EAP AKA received.
Success	Total number of EAP AKA connections succeeded.
Request	Total number of EAP AKA requested.
Failure	Total number of EAP AKA requests failed.
Drop	Total number of EAP AKA requests dropped.
Total Received- AKA'	Total number of EAP AKA' received.
Success	Total number of EAP AKA' connections succeeded.
Request	Total number of EAP AKA' requested.
Failure	Total number of EAP AKA' requests failed.
Drop	Total number of EAP AKA' requests dropped.
Total Received- SIM	Total number of EAP SIM received.
Success	Total number of EAP SIM connections succeeded.
Request	Total number of EAP SIM requested.
Failure	Total number of EAP SIM requests failed.
Drop	Total number of EAP SIM requests dropped.
Total Received- TLS	Total number of EAP TLS received.
Success	Total number of EAP TLS connections succeeded.
Request	Total number of EAP TLS requested.
Failure	Total number of EAP TLS requests failed.
Drop	Total number of EAP TLS requests dropped.
Total Received- TTLS	Total number of EAP TTLS received.

Field	Description
Success	Total number of EAP TTLS connections succeeded.
Request	Total number of EAP TTLS requested.
Failure	Total number of EAP TTLS requests failed.
Drop	Total number of EAP TTLS requests dropped.
Total Received- PEAP	Total number of EAP PEAP received.
Success	Total number of EAP PEAP connections succeeded.
Request	Total number of EAP PEAP requested.
Failure	Total number of EAP PEAP requests failed.
Drop	Total number of EAP PEAP requests dropped.
Total Discarded	Total number of EAP server requests discarded
Framed MTU	Total number of framed MTUs sent.
Non-EAP Session Stats	
Attempted	Total number of non-EAP sessions attempted.
AAA Rejects	Total number of non-EAP sessions rejected by AAA server or rejected during AAA auth response parsing in SaMOG (invalid attributes, missing mandatory AVPs etc.)
Pre-authentication Calls	
Success	Total number of non-EAP sessions successfully established during the pre-authentication phase.
Failure	Total number of non-EAP sessions failed to be created during the pre-authentication phase. Possible reasons: internal errors, missing pre-auth phase configs, missing ACL/pool/rulebase etc.
AAA Disconnect with IMSI	Total number of AAA disconnects with IMSI during the pre-authentication phase.
AAA Disconnect without IMSI	Total number of AAA disconnects without IMSI during pre-authentication phase.
AAA Disconnect timeout	Total number of AAA disconnects due to a timeout during the pre-authentication phase.
Authentication & Authorization Calls	
Success	Total number of non-EAP sessions successfully established after UE is authenticated and authorized by AAA (i.e. TAL phase, wherein AAA provides User Identity).

Field	Description
Failure	Total number of non-EAP sessions failed to be created after UE is authenticated and authorized by AAA (i.e. TAL phase, wherein AAA provides User Identity). Possible reasons are network type selection failure, PGW selection failure, multi-device demux failure, internal errors etc.
Abort	Total number of non-EAP sessions aborted specifically due to IPSG demux failure, when multiple devices of same user are connected.
PGW/GGSN Selection Stats	
IP Address	Total number of PGW/GGSN IP addresses resolved during PGW selection.
Hostname	
SNAPTR Procedure	
Success	Total number of Snaptr queries that are successful for the given hostname for PGW selection.
Failure	Total number of Snaptr queries that failed for the given hostname for PGW selection.
APN FQDN	
SNAPTR Procedure	
Success	Total number of Snaptr queries that are successful for given APN FQDN for PGW selection.
Failure	Total number of Snaptr queries that failed for a given APN FQDN for PGW selection
A/AAAA Procedure	
Success	Total number of A/AAAA queries that are successful for given APN FQDN for PGW selection.
Failure	Total number of A/AAAA queries that failed for a given APN FQDN for PGW selection.
Network Access Mode Stats	
Local Offload	Total number of sessions selected for local offload network access mode.
GTPv1	Total number of sessions selected with network access mode as GTPv1.
GTPv2	Total number of sessions selected with network access mode as GTPv2.
PMIP	Total number of sessions selected with network access mode as PMIP.
Local Offload Flow Stats	
GTPv1	Total number of local offload flows with network mode as GTPv1.

Field	Description
GTPv2	Total number of local offload flows with network mode as GTPv2.
PMIP	Total number of local offload flows with network mode as PMIP.
Disconnect Messages Stats	
Disconnect Messages Sent	Total number of disconnect messages sent.
Disconnect Response Received	Total number of disconnect responses received.
Disconnect Response Ack Received	Total number of disconnect response acknowledgement received.
Residual Session Removed	Total number of residual sessions removed.
Disconnect Response Nack Received	Total number of disconnect response acknowledgement received.
Unsupported Attribute	Total number of unsupported attribute.
Missing Attribute	Total number of missing attribute.
NAS Id Mismatch	Total number of mismatch in the NAS ID.
Invalid Request	Total number of invalid requests.
Unsupported Service	Total number of unsupported services.
Unsupported Extension	Total number of unsupported extensions.
Admin Prohibited	Total number of administration prohibited.
Session Context Not Found	Total number of session context not found.
Session Context Not Removable	Total number of session context not removable.
Resource Unavailable	Total number of unavailable resources.
CGW Service Stats	
Subscribers Total	
Active	Total number of active subscribers.
Setup	Total number of subscribers setup.
Released	Total number of subscribers released.
PDNs Total	
Active	Total number of PDN connections active.
Setup	Total number of PDN connections setup.
Released	Total number of PDN connections released.

Field	Description
Rejected	Total number of PDN connections rejected.
PDNs By PDN-Type	
IPv4 PDNs	
Active	Total number of IPv4 PDNs active.
Setup	Total number of IPv4 PDNs connected.
Released	Total number of IPv4 PDNs released.
Rejected	Total number of IPv4 PDNs rejected.
IPv6 PDNs	
Active	Total number of IPv6 PDNs active.
Setup	Total number of IPv6 PDNs connected.
Released	Total number of IPv6 PDNs released.
Rejected	Total number of IPv6 PDNs rejected.
IPv4v6 PDNs	
Active	Total number of IPv4v6 PDNs active.
Setup	Total number of IPv4v6 PDNs connected.
Released	Total number of IPv4v6 PDNs released.
Rejected	Total number of IPv4v6 PDNs rejected.
PDNs By Network-Type	
GTPv1 PDNs	
Active	Total number of current active GTPv1 PDN connections.
Setup	Total number of GTPv1 PDN connections created.
Released	Total number of GTPv1 PDN connections released.
Rejected	Total number of GTPv1 PDN connections rejected.
GTPv2 PDNs	
Active	Total number of current active GTPv2 PDN connections.
Setup	Total number of GTPv2 PDN connections created.
Released	Total number of GTPv2 PDN connections released.
Rejected	Total number of GTPv2 PDN connections rejected.

Field	Description
Gi Redirect PDNs	
Active	Total number of locally offloaded PDN (including Pre-authentication) calls that are currently active.
Setup	Total number of locally offloaded PDN (including Pre-authentication) calls setup on SaMOG after a chassis reboot.
Released	Total number of locally offloaded PDN (including Pre-authentication) calls released by the SaMOG service.
Rejected	Total number of locally offloaded PDN (including Pre-authentication) calls rejected by the SaMOG service.
PDNs Released By Reason	
MAG Ini	Total number of PDN connections released by MAG.
PGW Ini	Total number of PDN connections released by PGW.
DHCP Client Ini	Total number of PDN connections released by DHCP.
GGSN Ini	Total number of PDN connections released by GGSN.
GTPC Path Failure	Total number of PDN connections released because of GTPC path failure.
GTPU Path Failure	Total number of PDN connections released because of GTPU path failure.
GTPU Error Ind	Total number of PDN connections released because of GTPU Error Indication.
Local	Total number of PDN connections released Locally.
Other	Total number of PDN connections released by reason undefined.
PDNs Aborted By Reason	
IP Allocation Failure	Total number of PDN connections aborted due to an IP allocation failure.
Bearer Id Alloc Failure	Total number of PDN connections aborted due to a bearer ID allocation failure.
IPv6 Neighbor Discovery Statistics	
IPv6 RS Received	Total number of IPv6 Router Solicitation messages received.
IPv6 RS Dropped	Total number of IPv6 Router Solicitation messages dropped.
IPv6 RA Sent	Total number of IPv6 Router Advertisement messages sent.
Data Statistics Per Interface	
S2A-GTP Total Data Statistics	

Field	Description
Uplink	
Total Pkts	
IPv4 Pkts(IPv4)	Total number of IPv4 payload packets sent over the IPv4 GTP tunnel towards P-GW.
IPv4 Pkts(IPv6)	Total number of IPv6 payload packets sent over the IPv4 GTP tunnel towards P-GW.
IPv6 Pkts(IPv4)	Total number of IPv4 payload packets sent over the IPv6 GTP tunnel towards P-GW.
IPv6 Pkts(IPv6)	Total number of IPv6 payload packets sent over the IPv6 GTP tunnel towards P-GW.
Total Bytes	
IPv4 Bytes(IPv4)	Total number of IPv4 payload bytes sent over the IPv4 GTP tunnel towards P-GW.
IPv4 Bytes(IPv6)	Total number of IPv6 payload bytes sent over the IPv4 GTP tunnel towards P-GW.
IPv6 Bytes(IPv4)	Total number of IPv4 payload bytes sent over the IPv6 GTP tunnel towards P-GW.
IPv6 Bytes(IPv6)	Total number of IPv6 payload bytes sent over the IPv6 GTP tunnel towards P-GW.
Dropped Pkts	
IPv4 Pkts(IPv4)	Total number of dropped IPv4 payload packets that were sent over the IPv4 GTP tunnel towards P-GW.
IPv4 Pkts(IPv6)	Total number of dropped IPv6 payload packets that were sent over the IPv4 GTP tunnel towards P-GW.
IPv6 Pkts(IPv4)	Total number of dropped IPv4 payload packets that were sent over the IPv6 GTP tunnel towards P-GW.
IPv6 Pkts(IPv6)	Total number of dropped IPv6 payload packets that were sent over the IPv6 GTP tunnel towards P-GW.
Dropped Bytes	
IPv4 Bytes(IPv4)	Total number of dropped IPv4 payload bytes that were sent over the IPv4 GTP tunnel towards P-GW.
IPv4 Bytes(IPv6)	Total number of dropped IPv6 payload bytes that were sent over the IPv4 GTP tunnel towards P-GW.

Field	Description
IPv6 Bytes(IPv4)	Total number of dropped IPv4 payload bytes that were sent over the IPv6 GTP tunnel towards P-GW.
IPv6 Bytes(IPv6)	Total number of dropped IPv6 payload bytes that were sent over the IPv6 GTP tunnel towards P-GW.
Downlink	
Total Pkts	Total number of downlink packets sent on S2a Interface.
IPv4 Pkts(IPv4)	Total number of IPv4 payload packets received over the IPv4 GTP tunnel towards P-GW.
IPv4 Pkts(IPv6)	Total number of IPv6 payload packets received over the IPv4 GTP tunnel towards P-GW.
IPv6 Pkts(IPv4)	Total number of IPv4 payload packets received over the IPv6 GTP tunnel towards P-GW.
IPv6 Pkts(IPv6)	Total number of IPv6 payload packets received over the IPv6 GTP tunnel towards P-GW.
Total Bytes	
IPv4 Bytes(IPv4)	Total number of IPv4 payload bytes received over the IPv4 GTP tunnel towards P-GW.
IPv4 Bytes(IPv6)	Total number of IPv6 payload bytes received over the IPv4 GTP tunnel towards P-GW.
IPv6 Bytes(IPv4)	Total number of IPv4 payload bytes received over the IPv6 GTP tunnel towards P-GW.
IPv6 Bytes(IPv6)	Total number of IPv6 payload bytes received over the IPv6 GTP tunnel towards P-GW.
Dropped Pkts	
IPv4 Pkts(IPv4)	Total number of dropped IPv4 payload packets that were received over the IPv4 GTP tunnel towards P-GW.
IPv4 Pkts(IPv6)	Total number of dropped IPv6 payload packets that were received over the IPv4 GTP tunnel towards P-GW.
IPv6 Pkts(IPv4)	Total number of dropped IPv4 payload packets that were received over the IPv6 GTP tunnel towards P-GW.
IPv6 Pkts(IPv6)	Total number of dropped IPv6 payload packets that were received over the IPv6 GTP tunnel towards P-GW.
Dropped Bytes	

Field	Description
IPv4 Bytes(IPv4)	Total number of dropped IPv4 payload bytes that were received over the IPv4 GTP tunnel towards P-GW.
IPv4 Bytes(IPv6)	Total number of dropped IPv6 payload bytes that were received over the IPv4 GTP tunnel towards P-GW.
IPv6 Bytes(IPv4)	Total number of dropped IPv4 payload bytes that were received over the IPv6 GTP tunnel towards P-GW.
IPv6 Bytes(IPv6)	Total number of dropped IPv6 payload bytes that were received over the IPv6 GTP tunnel towards P-GW.
S2A-PMIP Total Data Statistics	
Uplink	
Total Pkts	Total number of Uplink packets sent on S2a PMIP Interface.
Total Bytes	Total number of Uplink bytes sent on S2a PMIP Interface.
Dropped Pkts	Total number of Uplink packets dropped on S2a PMIP Interface.
Dropped Bytes	Total number of Uplink bytes dropped on S2a PMIP Interface.
Downlink	
Total Pkts	Total number of downlink packets sent on S2a PMIP Interface.
Total Bytes	Total number of downlink bytes sent on S2a PMIP Interface.
Dropped Pkts	Total number of downlink packets dropped on S2a PMIP Interface.
Dropped Bytes	Total number of downlink bytes dropped on S2a PMIP Interface.
Gn-U Total Data Statistics	
Uplink	
Total Pkts	Total number of Uplink packets sent on Gn-U Interface.
Total Bytes	Total number of Uplink data bytes sent on Gn-U Interface.
Dropped Pkts	Total number of Uplink packets dropped on Gn-U Interface.
Dropped Bytes	Total number of Uplink data bytes dropped on Gn-U Interface.
Downlink	
Total Pkts	Total number of Downlink packets sent on Gn-U Interface.
Total Bytes	Total number of Downlink data bytes sent on Gn-U Interface.
Dropped Pkts	Total number of Downlink packets dropped on Gn-U Interface.

Field	Description
Dropped Bytes	Total number of Downlink data bytes dropped on Gn-U Interface.
Data Statistics Per PDN-Type	
IPv4 PDNs	
Uplink	
Total Pkts	Total number of uplink packets sent for IPv4 PDNs.
Total Bytes	Total number of uplink bytes sent for IPv4 PDNs.
Downlink	
Total Pkts	Total number of downlink packets sent for IPv4 PDNs.
Total Bytes	Total number of downlink bytes sent for IPv4 PDNs.
IPv6 PDN	
Uplink	
Total Pkts	Total number of uplink packets sent for IPv6 PDNs.
Total Bytes	Total number of uplink bytes sent for IPv6 PDNs.
Downlink	
Total Pkts	Total number of downlink packets sent for IPv6 PDNs.
Total Bytes	Total number of downlink bytes sent for IPv6PDNs.
IPv4v6 PDNs	
Uplink v4	
Total Pkts	Total number of downlink packets sent for IPv4 PDNs.
Total Bytes	Total number of downlink bytes sent for IPv4PDNs.
Downlink v4	
Total Pkts	Total number of downlink packets sent for IPv4 PDNs.
Total Bytes	Total number of downlink bytes sent for IPv4 PDNs.
Uplink v6	
Total Pkts	Total number of downlink packets sent for IPv6 PDNs.
Total Bytes	Total number of downlink bytes sent for IPv6 PDNs.
Downlink v6	
Total Pkts	Total number of downlink packets sent for IPv6 PDNs.

Field	Description
Total Bytes	Total number of downlink bytes sent for IPv6 PDNs.
MIP AAA Authentication	
Attempts	Total number of sessions for MIP authentication attempts.
Success	Total number of successful MIP authentication sessions.
Total Failures	Total number of MIP authentication failures.
Actual Auth Failures	Total number of actual MIP Authentication failures.
Misc Auth Failures	Total number of Miscellaneous MIP Authentication failures.
Binding Updates Received	
Total Received	Total number of PMIPv6 PBUs received.
Total Accepted	Total number of PMIPv6 PBUs accepted.
Total Denied	Total number of PMIPv6 PBUs denied/failed during processing.
Total Discarded	Total number of PMIPv6 PBUs discarded or dropped.
Initial Binding Update Requests	
Received	Total number of initial binding update requests received.
Accepted	Total number of initial binding update requests accepted.
Denied	Total number of initial binding update requests denied.
Refresh Binding Update Requests	
Received	Total number of PMIPv6 PBUs received for renew.
Accepted	Total number of PMIPv6 PBUs for renew accepted.
Denied	Total number of PMIPv6 PBUs for renew denied/failed during processing.
DeReg Requests	
Received	Total number of PMIPv6 PBUs received for Deregistration.
Accepted	Total number of PMIPv6 PBUs for Deregistration accepted.
Denied	Total number of PMIPv6 PBUs for deregistration denied.
Handoff Requests	
Received	Total number of PMIPv6 PBUs received for Handoff.
Accepted	Total number of PMIPv6 PBUs for Handoff accepted.
Denied	Total number of PMIPv6 PBUs for handoff denied.

Field	Description
DHCP Discover Handoff Stats	
Received	Total number of DHCP Discover messages received during handoff.
Accepted	Total number of DHCP Discover messages accepted during handoff.
Denied	Total number of DHCP Discover messages denied during handoff.
Binding Acknowledgements Sent	
Total	Total number of PMIPv6 PBAs sent.
Accepted Reg	Total number of PMIPv6 PBAs sent accepting registrations and renew.
Accepted DeReg	Total number of PMIPv6 Deregistration PBUs accepted sending PBAs.
Denied	Total number of PMIPv6 PBUs denied sending PBAs.
Send Error	Total number of PMIPv6 PBAs failed to send.
Binding Update Deny Reasons	
Insufficient Resource	Total number of PMIPv6 PBUs rejected with insufficient resources.
Mismatched ID	Total number of PMIPv6 PBUs rejected for mismatch in ID.
MN Auth Failure	Total number of PMIPv6 PBUs rejected for MN Authentication failure.
Admin Prohibited	Total number of PMIPv6 PBUs rejected for Administratively Prohibited reason.
Msg ID Required	Total number of PMIPv6 PBUs rejected for Message ID Required.
DAD Failed	Total number of PMIPv6 PBUs rejected for requested Home Address allocation failure.
Not Home Subnet	Total number of PMIPv6 PBUs rejected for address allocation failure from address pool.
Sequence Out Of Window	Total number of PMIPv6 PBUs rejected for incorrect sequence number.
Reg Type Change Disallowed	Total number of PMIPv6 PBUs rejected for renews.
Unspecified Reason	Total number of PMIPv6 PBUs rejected for other reasons.
Service-Authorization Failed	Total number of PMIPv6 PBUs rejected for authorization failure.
Proxy Reg Not Enabled	Total number of PMIPv6 PBUs rejected when proxy registrations are not enabled.
Timestamp Mismatch	Total number of PMIPv6 PBUs rejected when timestamp in PBU is incorrect.
Timestamp Lower Than Expected	Total number of PMIPv6 PBUs rejected when timestamp in PBU is in past.

Field	Description
Missing MN-ID Option	Total number of PMIPv6 PBUs rejected when MN NAI Extension is missing.
Missing HNP Option	Total number of PMIPv6 PBUs rejected when Home Network Prefix Extension is missing.
Missing Access Tech Option	Total number of PMIPv6 PBUs rejected when Access Tech Type Extension is missing.
Missing Handoff Ind Option	Total number of PMIPv6 PBUs rejected when Handoff Indicator is missing.
Not Authorized For HNP	Total number of PMIPv6 PBUs rejected when Requested Home Address Prefix is not authorized.
Not LMA For Mobile	Total number of PMIPv6 PBUs rejected when LMA for Mobile is incorrect.
Not Authorized For Proxy Reg	Total number of PMIPv6 PBUs rejected when Proxy registrations are not allowed.
BCE Prefix Do Not Match	Total number of PMIPv6 PBUs rejected when requested Prefix session is not found.
GRE Key Option Required	Total number of PMIPv6 PBUs rejected when GRE key option is not found.
MCOA Unknown CoA	Total number of PMIPv6 PBUs rejected when Care of Address is incorrect.
Update Denied - Insufficient Resource Reasons	
No Session Manager	Total number of Binding Update Request Denied because of no Session Manager is available.
No Memory	Total number of Binding Update Request Denied because of no Memory available.
Session Manager Rejected	Total number of Binding Update Request Denied because of Session Manager Rejection.
Input-Q Exceeded	Total number of Binding Update Request Denied because of Input queue size is exceeded.
Simul Bindings Exceeded	Total number of Binding Update Request Denied because of number of simultaneous Binding Updates exceeded.
Address Alloc Failed	Total number of Binding Update Request Denied because of address allocation failed.
Update Denied - Admin Prohibited Reasons	
MN-AAA Auth Option Missing	Total number of PMIPv6 PBUs denied due to MN AAA Authentication mobility option missing.
H-bit Not Set	Total number of PMIPv6 PBUs are denied due to H (Home Registration)-Bit not set.

Field	Description
Invalid MN-AAA Option SPI	Total number of PMIPv6 PBUs denied due to invalid MN-AAA Authentication mobility option.
Invalid MN-HA Option SPI	Total number of PMIPv6 PBUs are denied due to invalid MN-HA Authentication mobility option.
Congestion Control Denied	Total number of PMIPv6 PBUs denied due to overload congestion control.
Policy Rejected	Total number of PMIPv6 PBUs are denied due to policy rejection.
HoA Not Authorized	Total number of PMIPv6 PBUs are denied as Home Address is not authorized.
No Permission	Total number of PMIPv6 PBUs denied with no permission.
Bad Request	Total number of PMIPv6 PBUs denied due to bad request.
Binding Updates Discard Reasons	
Congestion Discarded	Total number of PMIPv6 PBUs discarded due to overload congestion.
Checksum Error	Total number of PMIPv6 PBUs discarded due to checksum errors.
Initial Auth Pending	Total number of PMIPv6 PBUs are discarded due to initial authentication pending.
Session Not Found	Total number of PMIPv6 PBU denied and discarded due to session not found.
HAMGR Not Ready	Total number of PMIPv6 PBUs discarded as HAMgr is not ready.
Decode Failure	Total number of PMIPv6 PBUs discarded due to failure to decode.
Invalid Buffer Length	Total number of PMIPv6 PBUs discarded due to invalid buffer length.
Revocation Pending	Total number of PMIPv6 PBUs discarded due to revocation pending for the session.
Binding Revocation	
Sent	Total number of PMIPv6 Binding Revocations sent.
Retries Sent	Total number of PMIPv6 Binding Revocation retries sent.
Ack Rcvd	Total number of PMIPv6 Binding Revocation Ack Messages received.
Not Acknowledged	Total number of PMIPv6 Binding Revocation Ack Timeouts.
Rcvd	Total number of PMIPv6 Binding Revocations received.
Ack Sent	Total number of PMIPv6 Binding Revocation Ack sent.
Sent Revocation Trigger Reasons	

Field	Description
Unspecified	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Unspecified (0).
Administrative Reason	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Administrative Reason (1).
Inter-MAG Handoff-Same ATT	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Inter-MAG Handover - same Access Type (2).
Inter-MAG - Unknown Handoff	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Inter-MAG Handover - Unknown (4).
Inter-MAG Handoff-Diff ATT	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Inter-MAG Handover - different Access Type (3).
Per-Peer Policy	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Per-Peer Policy (128).
Revoking Node Local Policy	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Revoking Mobility Node Local Policy (129).
User Initiated Session Term	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason User-Initiated Session(s) Termination (5).
Access Network Session Term	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Access Network Session(s) Termination (6).
Out-of Sync BCE State	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason Possible Out-of-Sync BCE State (7).
Unknown	Total number of Binding Revocation Indications(BRI) sent with Revocation Trigger Reason other than defined values.
Received Revocation ACK Status	
Success	Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as success (0).
Partial-Success	Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as partial success (1).
Binding-Does-Not-Exist	Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Binding Does NOT Exist (128).
No IPv4-HoA-Bind	Total number of Binding Revocation Acknowledgements (BRA) received with Status Code as IPv4 Home Address Option Required (129).
Global-Revoc-Not-Authorized	Total number of Binding Revocation Acknowledgements (BRA) received with Status Code as Global Revocation NOT Authorized (130).
Revoc-MN-ID-Required	Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Revoked Mobile Nodes Identity Required (131).

Field	Description
Revoc-Failed-MN-Attached	Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Revocation Failed - MN is Attached (132).
Trigger-Not-Supported	Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Revocation Trigger NOT Supported (133).
Proxy-Bind-Rev-Not-Supported	Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Proxy Binding Revocation NOT Supported (135).
Revoc-Func-Not-Supported	Total number of Binding Revocation Acknowledgements(BRA) received with Status Code as Revocation Function NOT Supported (134).
Unknown	Total number of Binding Revocation Acknowledgements(BRA) received with Status Code other than defined values.
Binding Revocation ACK Discarded	
Total	Total number of received Binding Revocation Acknowledgements(BRA) discarded.
Session Not Found	Total number of received Binding Revocation Acknowledgements(BRA) discarded due to corresponding Session Not Found for the BRA.
Badly Formed Request	Total number of received Binding Revocation Acknowledgements(BRA) discarded due to Badly Formed message.
Decode Error	Total number of received Binding Revocation Acknowledgements(BRA) discarded due to Decode failure.
Checksum Error	Total number of received Binding Revocation Acknowledgements(BRA) discarded due to Checksum Error.
Invalid Message Type	Total number of received Binding Revocation Acknowledgements(BRA) discarded due to Invalid Message Type.
HAMGR Not Ready	Total number of received Binding Revocation Acknowledgements (BRA) discarded due to HAMGR Not Ready to process requests (recovering).
Matching Request Not Found	Total number of received Binding Revocation Acknowledgements(BRA) discarded due to matching revocation request not found.
Invalid Buffer Length	Total number of received Binding Revocation Acknowledgements (BRA) discarded due to Invalid Buffer Length found while decoding the message.
PMIPv6 Data Statistics	
Tunnel Data Received	
Total Packets	
IPv4 GRE(IPv4)	Total number of IPv4 data packets received on IPv4 GRE tunnel.
IPv4 GRE(IPv6)	Total number of IPv6 data packets received on IPv4 GRE tunnel.

Field	Description
IPv6 GRE(IPv4)	Total number of IPv4 data packets received on IPv6 GRE tunnel.
IPv6 GRE(IPv4)	Total number of IPv6 data packets received on IPv6 GRE tunnel.
Total Bytes	
IPv4 GRE(IPv4)	Total bytes of IPv4 bytes received on IPv6 GRE tunnel.
IPv4 GRE(IPv6)	Total bytes of IPv4 bytes received on IPv6 GRE tunnel.
IPv6 GRE(IPv4)	Total number of IPv4 bytes received on IPv6 GRE tunnel.
IPv6 GRE(IPv4)	Total number of IPv6 bytes received on IPv6 GRE tunnel.
Total Errors	
Protocol Type Error	Total number of data packets received on IPv6 GRE tunnel with invalid next header.
Invalid Pkt Length	Total number of data packets received on IPv6 GRE tunnel with invalid length.
No Session Foun	Total number of data packets received on IPv6 GRE tunnel for which binding is not found at SaMOG based on CoA address.
Tunnel Data Sent	
Total Packets	
IPv4 GRE(IPv4)	Total number of IPv4 data packets sent on IPv4 GRE tunnel.
IPv4 GRE(IPv6)	Total number of IPv6 data packets sent on IPv4 GRE tunnel.
IPv6 GRE(IPv4)	Total number of IPv4 data packets sent on IPv6 GRE tunnel.
IPv6 GRE(IPv4)	Total number of IPv6 data packets sent on IPv6 GRE tunnel.
Total Bytes	
IPv4 GRE(IPv4)	Total bytes of IPv4 bytes sent on IPv4 GRE tunnel.
IPv4 GRE(IPv6)	Total bytes of IPv6 bytes sent on IPv4 GRE tunnel.
IPv6 GRE(IPv4)	Total number of IPv4 bytes sent on IPv6 GRE tunnel.
IPv6 GRE(IPv4)	Total number of IPv6 bytes sent on IPv6 GRE tunnel.
EoGRE Data Statistics	
Tunnel Data Received	
Total Packets	

Field	Description
IPv4 EoGRE(IPv4)	Total number of IPv4 payload packets received over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport).
IPv4 EoGRE(IPv6)	Total number of IPv6 payload packets received over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport)
IPv6 EoGRE(IPv4)	Total number of IPv4 payload packets received over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport)
IPv6 EoGRE(IPv6)	Total number of IPv6 payload packets received over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport)
Total Bytes	
IPv4 EoGRE(IPv4)	Total number of IPv4 payload bytes received over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport).
IPv4 EoGRE(IPv6)	Total number of IPv6 payload bytes received over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport)
IPv6 EoGRE(IPv4)	Total number of IPv4 payload bytes received over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport)
IPv6 EoGRE(IPv6)	Total number of IPv6 payload bytes received over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport)
Total Errors	
Drop Error	Total number of Data Packets dropped on EoGRE Tunnel.
Dest MAC Violation	Total number of destination MAC address in the packet received over the EoGRE tunnel that does not match with SaMOG's virtual MAC, broadcast, or multicast address.
Tunnel Data Sent	
Total Packets	Total number of IPv4 payload packets sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport).
IPv4 EoGRE(IPv4)	Total number of IPv6 payload packets sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport)
IPv4 EoGRE(IPv6)	Total number of IPv4 payload packets sent over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport)
IPv6 EoGRE(IPv4)	Total number of IPv6 payload packets sent over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport)
IPv6 EoGRE(IPv6)	Total number of IPv4 payload packets sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport).
Total Bytes	Total number of data bytes sent on the EoGRE tunnel.

Field	Description
IPv4 EoGRE(IPv4)	Total number of IPv4 payload bytes sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport).
IPv4 EoGRE(IPv6)	Total number of IPv6 payload bytes sent over the IPv4 GRE tunnel (EoGRE tunnel with v4 transport)
IPv6 EoGRE(IPv4)	Total number of IPv4 payload bytes sent over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport)
IPv6 EoGRE(IPv6)	Total number of IPv6 payload bytes sent over the IPv6 GRE tunnel (EoGRE tunnel with v6 transport)

show samog-service statistics plmn mcc <mcc1> mnc <mnc1>

Table 522:

Field	Description
System Statistics	
Active GTPv2 PDNs	Total number of active GTPv2 PDN sessions received.
GTPv2 Sessions	Total number of GTPv2 sessions received.
EAP Session Statistics	
Attempted	Total number of EAP sessions attempted.
Success	Total number of EAP sessions succeeded.
Failure	Total number of failed EAP sessions.
Current	Total number of active EAP sessions.
S2A Statistics	
Create Session Request TX	Total number of Create Session Request sessionstransmitted on S2A interface.
Create Session Response Accept RX	Total number of create session response accept messages received based on S2A interface.
Create Bearer Request RX	Total number of Create bearer Request messages received.
Create Bearer Response Accept TX	Total number of Create Bearer Response Accept sessions transmitted.
Delete Session Request TX	Total number of Delete session requests transmitted.
Delete Session Response Accept RX	Total number of Delete session responses received.
Delete Bearer Request RX	Total number of Delete Bearer request messages received.

Field	Description
Delete Bearer Response Accept TX	Total number of Delete Bearer response messages tansmitted.
Diameter Authentication Statistics	
DER TX	Total number of DER messages transmitted.
DEA Accept RX	Total number of DEA Accept messages received.
RAR RX	Total number of RAR messages received.
RAA TX	Total number of RAA messages transmitted.
ASR RX	Total number of ASA messages received.
ASA TX	Total number of ASA messages transmitted.
STR TX	Total number of STR messages transmitted.
STA RX	Total number of STA messages received.
DHCPv6 Statistics	
IPV6 RA TX	Total number of IPV6 RA messages transmitted.
DHCP Statistics	
DHCP Sessions Active	Total number of active DHCP sessions.
DHCP Sessions Setup	Total number of DHCP sessions set up.
DHCP Sessions Released	Total number of DHCP session released.
DHCP DISCOVER RX	Total number of DHCP discover messages received.
DHCP OFFER TX	Total number of DHCP offer messages transmitted.
DHCP REQUEST RX	Total number of DHCP request messages received.
DHCP ACK TX	Total number of DHCP acknowledgment messages transmitted.
DHCP NAK TX	Total number of DHCP NAK messages transmitted.
RADIUS Accounting Statistics	
Accounting-Request TX	Total number of RADIUS accounting request DHCP messages transmitted.
Accounting-Response RX	Total number of RADIUS accounting response messages reeceived..
Accounting-Start TX	Total number of RADIUS accounting start messages transmitted.
Accounting-Stop TX	Total number of RADIUS accounting stop messsages transmitted.
Accounting-Request Timeout	Total number of RADIUS accounting request messages that are timedout.

show samog-service name

Table 523: show samog-service name Command Output Descriptions

Field	Description
Reporting Action	
Event Record	Indicates if RTT feature is enabled or not.



CHAPTER 126

show sbc

This chapter includes the **show sbc** command output tables.

- show sbc-service all, on page 1815
- show sbc-service cbc-associations all, on page 1817
- show sbc-service cbc-associations path-info all, on page 1817
- show sbc-service statistics all, on page 1818

show sbc-service all

Table 524: show sbc-service all Command Output Descriptions

Field	Description
Service name	The name of the service for which SBc statistics are being displayed.
Context	The name of the context configured on the system that is currently facilitating the SBc service.
Service-Id	The identification number of the service.
Status	The Operational status of the SBc service.
Bind	The Bind status of the SBc service.
SBc-MME IP Address	Displays the IP address of SBc interface on the MME side.
SCTP Port	Displays the SCTP Port number of the SBc interface on MME side.
Max SBc Associations Allowed	Displays the maximum number of CBC association allowed per SBc service.
SCTP Parameters	Displays the SCTP parameter template associated to SBc service.
SCTP Alpha	Displays the SCTP Retransmission Timeout (RTO) alpha value as configured in the SCTP Parameter Template.

Field	Description
SCTP Beta	Displays the SCTP Retransmission Timeout (RTO) beta value as configured in the SCTP Parameter Template.
SCTP Checksum Type	Displays the SCTP checksum type as configured in the SCTP Parameter Template.
SCTP Valid Cookie Lifetime	Displays the SCTP cookie lifetime value as configured in the SCTP Parameter Template.
SCTP Max Assoc Retrans	Displays the maximum number of retransmissions for SCTP associations value as configured in the SCTP Parameter Template.
SCTP Max Number of In Streams	Displays the maximum number of incoming streams for SCTP value as configured in the SCTP Parameter Template.
SCTP Init Retransmissions	Displays the maximum number of retransmissions for SCTP initiations value as configured in the SCTP Parameter Template.
SCTP Max MTU	Displays the maximum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template.
SCTP Max Number of Out Streams	Displays the maximum number of outgoing streams for SCTP value as configured in the SCTP Parameter Template.
SCTP Path Retransmissions	Displays the maximum number of retransmissions for SCTP paths value as configured in the SCTP Parameter Template.
SCTP Min MTU	Displays the minimum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template.
SCTP RTO Initial	Displays the initial time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template.
SCTP RTO Max	Displays the maximum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template.
SCTP RTO Min	Displays the minimum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template.
SCTP Sack Frequency	Displays the frequency for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template.
SCTP Sack Period	Displays the period of time for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template.
SCTP Start MTU	Displays the initial Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template.

Field	Description
SCTP Heartbeat Status	Displays the SCTP heartbeat status as configured in the SCTP Parameter Template.
SCTP HeartBeat Timer	Displays the SCTP heartbeat timer value as configured in the SCTP Parameter Template.
SCTP Bundle Status	Displays the SCTP data chunk bundle status as configured in the SCTP Parameter Template.
SCTP Bundle Timer	Displays the SCTP data chunk bundle timer value as configured in the SCTP Parameter Template.
SCTP Alternate Accept Flag	Displays the SCTP additional lifetime accept flag status as configured in the SCTP Parameter Template.

show sbc-service cbc-associations all

Table 525: show sbc-service cbc-associations all Command Output Descriptions

Field	Description
MM	Indicates the MME Manager instance (showing first 2 characters).
PEERID	Displays the Peer ID number of the Cell Broadcast Center (CBC) association.
Sbc Service Name	Displays the SBc service name to which the CBC is associated.
Assoc UpTime	Displays the total uptime of the association between the MME and the CBC.
CBC IP:Port	Displays the IP address and port number of the CBC. Up to 2 IPv4 or 2 IPv6 addresses can be used by the same CBC with SCTP multi-homing.

show sbc-service cbc-associations path-info all

Table 526: show sbc-service cbc-associations path-info all Command Output Descriptions

Field	Description
MMS	Indicates the MME Manager instance (showing first 2 characters). S - indicates the status of the path, either (D) Disabled or (A) Active.

Field	Description
PEERID	Displays the Peer ID number of the Cell Broadcast Center (CBC) association.
Source IP:Port	Displays the IP address and port number of the MME.
Dest IP:Port	Displays the IP address and port number of the CBC.

show sbc-service statistics all

Table 527: show sbc-service statistics all Command Output Descriptions

Field	Description
Total Services(SBc)	Total number of SBc services configured on this system.
SBc Statistics	This group includes counters for data transmitted and received for all SBc services.
Transmitted SBc Data	This subgroup includes counters for data transmitted for all SBc services.
Total Transmitted	Total number of messages transmitted from the MME to all CBCs.
Transmit Errors	This subgroup includes counters for errors encountered while transmitting SBc messages towards CBC.
Transport Errors	Total number of failures, due to SCTP, while transmitting SBc messages towards CBC.
Encode Failures	Total number of failures in sending messages to CBC due to message encoding failures
No buffers	Total number of failures in sending messages to CBC due to memory allocation failures.
Transport Buffer Failure	Total memory allocation failures during sending of SBc message over SCTP.
Encode Buffer Failure	Total memory allocation failures during encoding of IEs for SBc message.
Write Replace Warning Response	The total number of Write-Replace Warning Responses sent for all SBc services (Tracking Area Not Valid + MME Capacity Exceeded + Warn Bcast Not Operational + Message Accepted).
Tracking Area Not Valid	The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Tracking Area Not Valid.
MME Capacity Exceeded	The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause MME Capacity Exceeded.

Field	Description
Warn Bcast Not Operational	The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Warning Broadcast Not Operational.
Message Accepted	The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Message Accepted.
Stop Warning Response	The total number of Stop Warning Responses sent for all SBc services (Tracking Area Not Valid + MME Capacity Exceeded + Warn Bcast Not Operational + Message Accepted)
Tracking Area Not Valid	The total number of Stop Warning Response messages sent from the MME to the CBC with cause Tracking Area Not Valid.
MME Capacity Exceeded	The total number of Stop Warning Response messages sent from the MME to the CBC with cause MME Capacity Exceeded.
Warn Bcast Not Operational	The total number of Stop Warning Response messages sent from the MME to the CBC with cause Warning Broadcast Not Operational.
Message Accepted	The total number of Write Replace Warning Response messages sent from the MME to the CBC with cause Message Accepted.
Error Indication	The total number of Error Indication messages sent from the MME to the CBC.
Received SBc Data	This subgroup includes counters for data received for all SBc services.
Total Received PDUs	The total number of messages received from all CBCs.
PDU Decode Success	The total number of successful PDU decodes.
Receive Errors	This subgroup includes counters for PDU receive errors.
No Sbc Association	The total number of received SBc messages dropped due to no matching association.
PDU Decode Failures	The total number of received SBc messages dropped due to PDU decode failure.
Write Replace Warning Request	The total number of Write Replace Warning Request messages received from the CBC.
TAI List Not Present	The total number of Write Replace Warning Request messages received from the CBC without a List-Of-TAIs IE.
Stop Warning Request	The total number of Stop Warning Request messages received from the CBC.
TAI List Not Present	The total number of Stop Warning Request messages received from the CBC without a List-Of-TAIs IE.
Error Indication	The total number of Error Indication messages received from the CBC.

Field	Description
IE Errors	The total number of CBC IE failures.
Protocol Error Statistics	This subgroup includes counters for Protocol Errors for all SBc services.
Unknown Procedures	The total number of messages encountered with Unknown Procedure codes.
Unknown IEs	The total number of messages encountered with Unknown IEs.
Unknown Messages	The total number of unrecognized messages encountered.
Missing Mandatory IEs	The total number of messages encountered with Missing Mandatory IE.
Transfer Syntax Error	The total number of messages encountered with a Transfer Syntax Error.
Semantic Error	The total number of messages encountered with a Semantic Error
Message Not Compatible	The total number of messages encountered with error: Message Not Compatible.
Others	The total number of parser internal messages.
Abstract Syntax Errors	This subgroup includes counters for Abstract Syntax Errors for all SBc services.
Reject	The total number of messages encountered with Abstract Syntax Error with Criticality: Reject.
Ignore and notify	The total number of messages encountered with Abstract Syntax Error with Criticality: Ignore and Notify.
Ignore	The total number of messages encountered with Abstract Syntax Error with Criticality: Ignore.
Falsely Constr Message	The total number of messages encountered with Abstract Syntax Error: Falsely Constructed message.
SBc Association Statistics	This subgroup includes counters related to SBc Associations for all SBc services.
Total Active	The total number of SBc Associations currently Active.
Total Created	The total number of SBc Associations created.
Total Closed	The total number of SBc Associations closed.
Total Rejected	The total number of SBc Associations rejected.
CBC Transactions Created	The total number of CBC transactions created.
CBC Transaction Failed	The total number of CBC transactions failed.
CBC Transaction Timeout	The total number of CBC transactions timed out.

Field	Description
SCTP Statistics	This group displays the statistics captured over the SCTP interface and processed by this SBc service.
Transmitted SCTP Data	This sub-group displays the statistics of the total data processed and transmitted over SCTP interface by this SBc service.
Init Chunks	Indicates the total SCTP packets with INIT transmitted over SCTP interface by this SBc service.
Init Ack Chunks	Indicates the total SCTP packets with INIT-ACK transmitted over SCTP interface by this SBc service.
Shutdown Chunks	Indicates the total SCTP packets with SHUTDOWN transmitted over SCTP interface by this SBc service.
Shutdown Ack Chunks	Indicates the total SCTP packets with SHUTDOWN-ACK transmitted over SCTP interface by this SBc service.
Cookie Chunks	Indicates the total SCTP packets with COOKIE transmitted over SCTP interface by this SBc service.
Cookie Ack Chunks	Indicates the total SCTP packets with COOKIE-ACK transmitted over SCTP interface by this SBc service.
Data Chunks	Indicates the total SCTP packets with DATA transmitted over SCTP interface by this SBc service.
Data Ack Chunks	Indicates the total SCTP packets with DATA-ACK transmitted over SCTP interface by this SBc service.
Shutdown Complete Chunks	Indicates the total SCTP packets with SHUTDOWN-COMPLETE transmitted over SCTP interface by this SBc service.
Heartbeat Chunks	Indicates the total SCTP packets with HEARTBEAT transmitted over SCTP interface by this SBc service.
HeartBeat Ack Chunks	Indicates the total SCTP packets with HEARTBEAT-ACK transmitted over SCTP interface by this SBc service.
Abort Chunks	Indicates the total SCTP packets with ABORT transmitted over SCTP interface by this SBc service.
Error Chunks	Indicates the total SCTP packets with ERROR transmitted over SCTP interface by this SBc service.
Received SCTP Data	This sub-group displays the statistics of the total data received over SCTP interface and processed by this SBc service.
Init Chunks	Indicates the total SCTP packets with INIT received over SCTP interface by this SBc service.
Init Ack Chunks	Indicates the total SCTP packets with INIT-ACK received over SCTP interface by this SBc service.

Field	Description
Shutdown Chunks	Indicates the total SCTP packets with SHUTDOWN received over SCTP interface by this SBc service.
Shutdown Ack Chunks	Indicates the total SCTP packets with SHUTDOWN-ACK received over SCTP interface by this SBc service.
Cookie Chunks	Indicates the total SCTP packets with COOKIE received over SCTP interface by this SBc service.
Cookie Ack Chunks	Indicates the total SCTP packets with COOKIE-ACK received over SCTP interface by this SBc service.
Data Chunks	Indicates the total SCTP packets with DATA received over SCTP interface by this SBc service.
Data Ack Chunks	Indicates the total SCTP packets with DATA-ACK received over SCTP interface by this SBc service.
Shutdown Complete Chunks	Indicates the total SCTP packets with SHUTDOWN-COMPLETE received over SCTP interface by this SBc service.
Heartbeat Chunks	Indicates the total SCTP packets with HEARTBEAT received over SCTP interface by this SBc service.
HeartBeat Ack Chunks	Indicates the total SCTP packets with HEARTBEAT-ACK received over SCTP interface by this SBc service.
Abort Chunks	Indicates the total SCTP packets with ABORT received over SCTP interface by this SBc service.
Error Chunks	Indicates the total SCTP packets with ERROR received over SCTP interface by this SBc service.
Retransmitted SCTP Data	This sub-group displays the statistics of the total data processed and retransmitted over SCTP interface by this SBc service.
Init Chunks	Indicates the total SCTP packets with INIT retransmitted over SCTP interface by this SBc service.
Shutdown Chunks	Indicates the total SCTP packets with SHUTDOWN retransmitted over SCTP interface by this SBc service.
Shutdown Ack Chunks	indicates the total SCTP packets with SHUTDOWN-ACK retransmitted over SCTP interface by this SBc service.
Cookie Chunks	Indicates the total SCTP packets with COOKIE retransmitted over SCTP interface by this SBc service.
Data Chunks	Indicates the total SCTP packets with DATA transmitted over SCTP interface by this SBc service.
Total Bytes Sent	Indicates the total bytes processed and sent to lower layer over SCTP interface by this SBc service.

Field	Description
Total Bytes Received	Indicates the total bytes received from lower layer over SCTP interface by this SBc service for processing.
Total Packets Sent	Indicates the total packets processed and sent to lower layer over SCTP interface by this SBc service.
Total Packets Received	Indicates the total packets received from lower layer over SCTP interface by this SBc service for processing.



CHAPTER 127

show security

This chapter includes the **show security** command output tables.

Important The outputs of **show security** commands vary based on platform ASR 5000 or ASR 5500, VPC (virtualized), card type and the StarOS release.

- show security server talos-intelligence , on page 1825

show security server talos-intelligence

Table 528: show security server talos-intelligence

Field	Description
State Information	
State	The current state of the TSI controller, such as RUNNING, or NOT RUNNING.
Last DB Update	UTC time of most recent DB update.
Next DB Update	UTC time of next scheduled update.
Statistics	
Connect Attempts	Total number of attempted connections to the Mediator.
Connect Failures	Total number of failed connection attempts to the Mediator.
Message Failures	Total number of errors in response to message request to the mediator (ie, ECHO, VERDICT, MANIFEST).
FTP Failures	Total number of times the system failed to download a file via SFTP.
Message Timeouts	Total number of timeouts awaiting a message reply.
Storage Timeouts	Total number of timeouts waiting for local storage access.
Database Updates	Total number of times a successful set of DB updates was applied to SAS.

Field	Description
File Downloads	Total number of successful database file downloads.
Unexpected	Total number of unexpected conditions hit (Each results in a TSI controller error log message).



CHAPTER 128

show session

This chapter describes the output of the **show session** command variants.

- show session counters historical all, on page 1828
- show session disconnect-reasons, on page 1829
- show session disconnect-reasons buckets, on page 1829
- show session disconnect-reasons verbose, on page 1830
- show session progress, on page 1876
- show session recovery status verbose, on page 1879
- show session subsystem, on page 1880
- show session subsystem full, on page 1881
- show session subsystem verbose, on page 1881
- show session subsystem debug-info, on page 1882
- show session subsystem facility a11mgr all, on page 1882
- show session subsystem facility aaamgr all, on page 1883
- show session subsystem facility aaaproxy all, on page 1890
- show session subsystem facility asngwmgr all, on page 1891
- show session subsystem facility asnpcmgr all, on page 1892
- show session subsystem facility egtpegmgr all, on page 1893
- show session subsystem facility egtpinmgr all, on page 1894
- show session subsystem facility famgr all, on page 1894
- show session subsystem facility gtpcmgr all, on page 1895
- show session subsystem facility hamgr all, on page 1896
- show session subsystem facility ipsgmgr, on page 1896
- show session subsystem facility mmedemux, on page 1897
- show session subsystem facility mmemgr all, on page 1898
- show session subsystem facility sessmgr all, on page 1906
- show session summary, on page 1914
- show session trace statistics, on page 1916
- show session trace subscriber, on page 1917
- show session fp-flow-state-change statistics, on page 1918

show session counters historical all

Table 529: show session counters historical all Command Output Descriptions

Header	Description
Intv	The identification number of the sample interval.
Timestamp	The approximate time when the data was gathered. It is in the format YYYY:MM:DD:HH:MM:SS.
Number of Calls	
Arrived	Displays data for "total calls arrived" counters. **Note** This counter is not supported for the CUPS user plane service.
Rejected	Displays data for "total calls rejected" counters. **Note** This counter is not supported for the CUPS user plane service.
Connected	Displays data for "total calls connected" counters.
Disconn	Displays data for "total calls disconnected" counters.
Failed	Displays data for "total calls failed" counters.
Handoffs	Displays data for "total handoffs" counters. **Note** This counter is not supported for the CUPS user plane service.
Renewals	Displays data for "total renewal" counters. **Note** This counter is not supported for the CUPS user plane service.
(A+R+D+F+H+R) CallOps	Displays data for all call operations. This is a calculated value based on the following formula: (arrived + rejected + disconnected + failed + handoffs + renewals) **Note** This counter is not supported for the CUPS user plane service.
Access Technology Categories	
Number of Calls 2G (GERAN)	The number of calls using 2G GERAN (GSM/EDGE Radio Access Network) technology.

Header	Description
Number of Calls 3G (UTRAN)	The number of calls using 3G UTRAN (UMTS Terrestrial Radio Access Network) technology.
Number of Calls 4G (EUTRAN)	The number of calls using 4G EUTRAN (Enhanced UMTS Terrestrial Radio Access Network) technology.
Number of Calls eHRPD	The number of eHRPD (evolved High Rate Packet Data [3GPP2]) calls.
Number of Calls WiFi (Wireless LAN)	The number of WiFi calls.

show session disconnect-reasons

Table 530: show session disconnect-reasons Header Descriptions

Field	Description
Session Disconnect Statistics	
Total Disconnects	The total number of sessions disconnected since the system was started or since the last time that session disconnect reasons was cleared.
Disconnect Reason	The reason sessions were disconnected. Only reasons that have disconnects associated with them are listed.
Num Disc	The number of sessions disconnected for the reason.
Percentage mme-reselection-to-amf	The percentage of total disconnects. This disconnect reason is incremented, if the subscriber reslects to AMF as part of EPS to 5GS Idle Mobility Registration procedure.
mme-relocation-to-amf	This disconnect reason is incremented, if the subscriber relocates to AMF as part of EPS to 5GS Handover procedure

show session disconnect-reasons buckets

This command only displays output if bucket interval CONNECTION_TIME has been configured via the Global Configuration mode **session disconnect-reasons bucket-interval** command.

This feature is configured via the CLI command which sets a time interval value that is sent to all sessmgrs. Each sessmgr fills buckets with disconnect reason counts indexed by the time interval. The time interval for filling the buckets is indexed relative to time hh:00. For example: if the time interval is 5 minutes, the bucket is filled at hh:00, hh:05, hh:10, hh:15. So if current time is 06:57, buckets with values will be 06:55:00, 06:50:00 and 06:45:00.

Table 531: show session disconnect-reasons buckets Header Descriptions

Header	Description
Total Disconnects	The total number of sessions disconnected since the system was started or since the last time that session disconnect reasons was cleared. If CONNECTION_TIME is recently configured and the first timer has not expired (no buckets are filled yet), "NA" is displayed in place of timestamps for those buckets which are not filled. "NA" also appears if the buckets have been cleared with the **clear session disconnect-reasons [buckets]** command.
Disconnect Reason	The reason sessions were disconnected. Only reasons that have disconnects associated with them are listed.
interval	Month-Day-Timestamp of the bucket interval. This column displays the cumulative count of disconnect reasons at that timestamp calculated since beginning.
Num Disc	The number of sessions disconnected for the associated reason during this bucket interval.
Percentage	The percentage of total disconnects for the associated reason during this bucket interval.

show session disconnect-reasons verbose

Important In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

Table 532: show session disconnect-reasons verbose Header Descriptions

Header	Description
Total Disconnects	The total number of sessions disconnected since the system was started or since the last time that session disconnect reasons was cleared.
Disconnect Reason	The reason sessions were disconnected. Only reasons that have disconnects associated with them are listed unless the verbose keyword is specified.
Num Disc	The total number of sessions disconnected for the associated reason.
Percentage	The percentage of total disconnects for the associated reason.

In the following table, the indicator number at the end of the disconnect field name will vary depending upon the software build in which the **show session disconnect-reason** command is issued.

Table 533: show session disconnect-reasons Field Descriptions

Field	Description
Unknown (0)	The total number of sessions disconnected due to unknown reason.

Admin-disconnect (1)	The total number of sessions disconnected due to any of the following reasons:
	• Sessions disconnected when the Administrator issues the **clear subscribers all** CLI command.
	• Sessions disconnected by ECS due to any of the following reasons:
	  • Bearer does not contain active rules—when the last bearer has no rules left as part of some PCRF trigger.
	  • Charging-action has the **flow action** parameter configured as **terminate-session**.
	• Sessions disconnected by Diameter Credit Control Application (DCCA) due to any of the following reasons:
	  • Result code 4010 or 4012 is received at the command level, and for CCR-Initial and CCR-Update Credit Control Failure Handling (CCFH) is configured as Terminate or Retry-and-Terminate.
	  • Result code 5003 or 5030 is received at the command level.
	  • Abort-Session-Request message is received.

Remote-disconnect (2)	The total number of sessions disconnected by the remote system.
Local-disconnect (3)	The total number of sessions disconnected by local system.
No-resource (4)	The total number of sessions disconnected due to non-availability of resources.
Service-limit-exceeded (5)	The total number of sessions disconnected due to exceed in service limit.
PPP-LCP-negotiation-failed (6)	The total number of sessions disconnected due to LCP negotiation failed.
PPP-LCP-no-response (7)	The total number of sessions disconnected due to no response in PPP-LCP session.
PPP-LCP-loopback-detected (8)	The total number of sessions disconnected due to loop back detected in PPP-LCP.
PPP-LCP-max-retry-reached (9)	The total number of sessions disconnected due to maximum retries in PPP-LCP session.

Field	Description
PPP-LCP-echo-failed (10)	The total number of sessions disconnected due to PPP-LCP echo not received.
PPP-Auth-failed (11)	The total number of sessions disconnected due to authorization failed in PPP.
PPP-Auth-failed-no-AAA-response (12)	The total number of sessions disconnected due to authorization failed by no response on AAA server.
PPP-Auth-failed-no-peer-response (13)	The total number of sessions disconnected due to PPP authorization failed on no peer response.
PPP-Auth-failed-max-retry-reached (14)	The total number of sessions disconnected due to PPP authorization failed and reaching maximum retries limit.
Invalid-APN	If ePDG will receive APN-NI that is not according to 3GPP standard then ePDG will reject the call.
Invalid-AAA-attr-in-auth-response (15)	The total number of sessions disconnected due to invalid AAA attributes in authorization response.
Could-not-apply-subscriber-ACL (16)	The total number of sessions disconnected due to inability in applying subscriber's Access Control List (ACL).
Could-not-provide-service (17)	The total number of sessions disconnected due to service is not available.
AAA-return-IP-address-not-valid (18)	The total number of sessions disconnected due to return IP address from AAA server is invalid.
Pool-IP-address-not-valid (19)	The total number of sessions disconnected due to IP address in pool is invalid.
PPP-IPCP-negotiation-failed (20)	The total number of sessions disconnected due to PPP-IPCP negotiation failed.
PPP-IPCP-no-response (21)	The total number of sessions disconnected due to no response in PPP-IPCP.
PPP-IPCP-max-retry-reached (22)	The total number of sessions disconnected due to maximum retries in PPP-IPCP session.
No-IPV4-address-for-subscriber (23)	The total number of sessions disconnected due to no IPv4 address are available for subscriber.
Inactivity-timeout (24)	The total number of sessions disconnected due to system time out limit for silence (ideal) reached.
Absolute-timeout (25)	The total number of sessions disconnected due to timeout in complete session.
Max-data-limit-exceeded (26)	The total number of sessions disconnected due to maximum data limit exceeded.

Field	Description
Invalid-source-IPV4-address (27)	The total number of sessions disconnected due to invalid IPv4 address of subscriber.
MSID-auth-failed (28)	The total number of sessions disconnected due to MSID authentication failed.
MSID-auth-failed-no-aaa-response (29)	The total number of sessions disconnected due to MSID authentication failed and/or no response from AAA server.
A11-max-retry-reached (30)	The total number of sessions disconnected due to maximum limit for retries reached for A11 interface.
A11-lifetime-expired (31)	The total number of sessions disconnected due to A11 interface lifetime expired.
A11-msg-integrity-failure (32)	The total number of sessions disconnected due to failure in message integrity in A11 interface.
PPP-LCP-remote-disconnect (33)	The total number of sessions disconnected due to PPP-LCP remote disconnect.
Session-setup-timeout (34)	The total number of sessions disconnected due to timeout in setting up of session.
PPP-keepalive-failure (35)	The total number of sessions disconnected due to PPP keepalive attribute failure.
Flow-add-failed (36)	The total number of sessions disconnected due to fail in adding flow to session.
Call-type-detection-failed (37)	The total number of sessions disconnected due to failure in call type detection.
Wrong-ipcp-params (38)	The total number of sessions disconnected due to IPCP parameters are wrong.
MIP-remote-dereg (39)	The total number of sessions disconnected due to de-registration of Mobile IP on remote system.
MIP-lifetime-expiry (40)	The total number of sessions disconnected due to expiry of Mobile IP life time.
MIP-proto-error (41)	The total number of sessions disconnected due to protocol error in Mobile IP.
MIP-auth-failure (42)	The total number of sessions disconnected due to Mobile IP authentication failure.
MIP-reg-timeout (43)	The total number of sessions disconnected due to registration request timeout.
Invalid-dest-context (44)	The total number of sessions disconnected due to invalid destination context.

Field	Description
Source-context-removed (45)	The total number of sessions disconnected due to source context is removed from system.
Destination-context-removed (46)	The total number of sessions disconnected due to destination context is removed from system.
Required-service-address-unavailable (47)	The total number of sessions disconnected due to unavailability of required service address.
demux-mgr-failed-could-not-restart (48)	The total number of sessions disconnected due to failure in demux-mgr.
internal-error (49)	The total number of sessions disconnected due to some internal system error.
AAA-context-removed (50)	The total number of sessions disconnected due to AAA context is removed from system.
invalid-service-type (51)	The total number of sessions disconnected due to invalid service type.
mip-relay-req-failed (52)	The total number of sessions disconnected due to failure in Mobile IP relay request.
mip-rcvd-relay-failure (53)	The total number of sessions disconnected due to failure in Mobile IP received.
ppp_restart_inter_pdsn_handoff (54)	The total number of sessions disconnected due to restart in inter PDSN handoff.
gre-key-mismatch (55)	The total number of sessions disconnected due to mismatch in Generic Routing Encapsulation (GRE) key.
invalid-tunnel-context (56)	The total number of sessions disconnected due to invalid Tunnel context.
no-peer-lns-address (57)	The total number of sessions disconnected due to no peer LNS address
failed-tunnel-connect (58)	The total number of sessions disconnected due to failure in Tunnel connect.
l2tp-tunnel-disconnect-remote (59)	The total number of sessions disconnected due to tunnel disconnected by remote system.
l2tp-tunnel-timeout (60)	The total number of sessions disconnected due to tunnel timeout.
l2tp-protocol-error-remote (61)	The total number of sessions disconnected due to protocol error on remote system.
l2tp-protocol-error-local (62)	The total number of sessions disconnected due to protocol error on local system.
l2tp-auth-failed-remote (63)	The total number of sessions disconnected due to authorization failed on remote system.

Field	Description
l2tp-auth-failed-local (64)	The total number of sessions disconnected due to authorization failed on local system
l2tp-try-another-lns-from-remote (65)	The total number of sessions disconnected due to remote system tried for another LNS.
l2tp-no-resource-local (66)	The total number of sessions disconnected due to non-availability of resource on local system.
l2tp-no-resource-remote (67)	The total number of sessions disconnected due to non-availability of resource on remote system.
l2tp-tunnel-disconnect-local (68)	The total number of sessions disconnected due to tunnel disconnected on local system.
l2tp-admin-disconnect-remote (69)	The total number of sessions disconnected by administrator on remote system.
l2tpmgr-reached-max-capacity (70)	The total number of sessions disconnected due to L2TP Manager logging facility reached to maximum logging capacity.
MIP-Reg-Revocation (71)	The total number of sessions disconnected due to a failure in Mobile IP registration revocation.
path-failure (72)	The total number of sessions disconnected due to path failure in connecting session.
Dhcp-Relay-IP-Validation-Failed (73)	The total number of sessions disconnected due to a failure with the validation of the IP addresses with DHCP relay method.
Gtp-unknown-pdp-addr-or-pdp-type (74)	The total number of sessions disconnected due to unknown PDP address or PDP type.
Gtp-all-dynamic-pdp-addr-occupied (75)	The total number of sessions disconnected due to all dynamic PDP addresses are occupied and no PDP address is available to allocate.
Gtp-no-memory-is-available (76)	The total number of sessions disconnected due to out of memory problem.
dhcp-relay-static-ip-addr-not-allowed (77)	The total number of sessions disconnected due to the mobile requesting the use of a static IP address when static IP address requests are not allowed.
dhcp-no-ip-addr-allocated (78)	The total number of sessions disconnected as no IP address is allocated on DHCP Server.
dhcp-ip-addr-allocation-tmr-exp (79)	The total number of sessions disconnected due to time expired for IP address allocation on DHCP Server.
dhcp-ip-validation-failed (80)	The total number of sessions disconnected due to a failure with the validation of the IP address. This occurs because the IP address returned by DHCP Server is not present in the static pool in the destination context.

Field	Description
dhcp-static-addr-not-allowed (81)	The total number of sessions disconnected due to a failure with IP address in the static pool on destination context is not allowed by DHCP Server.
dhcp-ip-addr-not-available-at-present (82)	The total number of sessions disconnected due to non availability of IP address on DHCP Server.
dhcp-lease-expired (83)	The total number of sessions disconnected due to expiration of IP address lease time.
lpool-ip-validation-failed (84)	The total number of sessions disconnected due to validation failure of IP address in IP pool.
lpool-static-ip-addr-not-allowed (85)	The total number of sessions disconnected due to specified static IP address is not allowed in IP pool.
static-ip-validation-failed (86)	The total number of sessions disconnected due to a failure in validation of static IP address on remote system.
static-ip-addr-not-present (87)	The total number of sessions disconnected due to allocated static address is removed or not available.
static-ip-addr-not-allowed (88)	The total number of sessions disconnected due to prohibition of defined static IP address.
radius-ip-validation-failed (89)	The total number of sessions disconnected due to a failure in IP address validation on RADIUS.
radius-ip-addr-not-provided (90)	The total number of sessions disconnected due to IP address is not provided by RADIUS.
invalid-ip-addr-from-sgsn (91)	The total number of sessions disconnected due to invalid IP address received from SGSN.
no-more-sessions-in-aaa (92)	The total number of sessions disconnected due to sessions cleared in AAA.
ggsn-aaa-auth-req-failed (93)	The total number of sessions disconnected due to authentication request failure between GGSN and AAA server.
conflict-in-ip-addr-assignment (94)	The total number of sessions disconnected due to conflict in IP address assignment.
apn-removed (95)	The total number of sessions disconnected due to APN removed during session.
credits-used-bytes-in (96)	The total number of sessions disconnected due to exceeding the incoming data/bytes credit.
credits-used-bytes-out (97)	The total number of sessions disconnected due to exceeding the outgoing data/bytes credit.

Field	Description
credits-used-bytes-total (98)	The total number of sessions disconnected due to exceeding the total data/bytes credit.
prepaid-failed (99)	The total number of sessions disconnected due to a failure in processing prepaid account information.
l2tp-ipsec-tunnel-failure (100)	The total number of sessions disconnected due to the IPSec tunnel being failed to connect.
l2tp-ipsec-tunnel-disconnected (101)	The total number of sessions disconnected due to the IPSec tunnel being disconnected.
mip-ipsec-sa-inactive (102)	The total number of sessions disconnected due to in active security association (sa) of IPSec for specific Mobile IP address.
Long-duration-timeout (103)	The total number of sessions disconnected due to the expiration of the configured long-duration timer.
proxy-mip-registration-failure (104)	The total number of Proxy Mobile IP sessions disconnected due to Registration failures.
proxy-mip-binding-update (105)	The total number of Proxy Mobile IP sessions disconnected due to errors occurring during binding updates.
proxy-mip-inter-pdsn-handoff-require-ip-address (106)	The total number of Proxy Mobile IP sessions disconnected due to the mobile not providing the IP address it was assigned during IPCP negotiations resulting from inter-PDSN handoffs.
proxy-mip-inter-pdsn-handoff-mismatched-address (107)	The total number of Proxy Mobile IP sessions disconnected due to the mobile providing an IP address other than what it was assigned during IPCP negotiations resulting from inter-PDSN handoffs.
Local-purge (108)	The total number of sessions disconnected due to a locally-initiated purge.
failed-update-handoff (109)	The total number of sessions disconnected due to failure in update handoff.
closed_rp-handoff-complete (110)	The total number of sessions disconnected due to handoff completed.
closed_rp-duplicate-session (111)	The total number of sessions disconnected due to duplicate session.
closed_rp-handoff-session-not-found (112)	The total number of sessions disconnected due to hand off session not found.
closed_rp-handoff-failed (113)	The total number of sessions disconnected due to handoff failed for session.
pcf-monitor-keep-alive-failed (114)	The total number of sessions disconnected due to the expiration of the configured max-inactivity timer indicating that the PCF was unavailable.

Field	Description
call-internal-reject (115)	The total number of sessions disconnected due to call rejected internally.
call-restarted (116)	The total number of sessions disconnected due to call restarted on unknown reason.
a11-mn-ha-auth-failure (117)	The total number of sessions disconnected due to failure in authentication between Mobile node and Home Agent (HA).
a11-badly-formed (118)	The total number of sessions disconnected as A11 interface is formed badly.
a11-t-bit-not-set (119)	The total number of sessions disconnected due to t-bit is not set in interface.
a11-unsupported-vendor-id (120)	The total number of sessions disconnected due to unsupported vendor Id in interface.
a11-mismatched-id (121)	The total number of sessions disconnected due to mismatched Id in A11 interface.
mipha-dup-home-addr-req (122)	The total number of sessions disconnected due to duplicate home address request on HA.
mipha-dup-imsi-session (123)	The total number of sessions disconnected due to duplicate IMSI in session on HA.
ha-unreachable (124)	The total number of sessions disconnected due to unreachable HA.
IPSP-addr-in-use (125)	The total number of sessions disconnected due to IP Pool Sharing Protocol address is in use/not free on HA.
mipfa-dup-home-addr-req (126)	The total number of sessions disconnected due to duplicate home address request on FA.
mipha-ip-pool-busyout (127)	The total number of sessions disconnected due to IP pool busyout.
inter-pdsn-handoff (128)	The total number of sessions disconnected due to inter-PDSN handoff failure.
active-to-dormant (129)	The total number of sessions disconnected due to system enters to dormant state from active state. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
ppp-renegotiation (130)	The total number of sessions disconnected due to failure/conflict in PPP renegotiation.
active-start-parameter-change (131)	The total number of sessions disconnected due to change in start parameters.

Field	Description
accounting-tariff-boundary (132)	The total number of sessions disconnected due to the closure of an accounting record based configured tariff time.
a11-disconnect-no-active-stop (133)	The total number of sessions disconnected due to A11 interface is not active or stopped.
nw-reachability-failed-reject (134)	The total number of sessions disconnected due to failure in network reachability and request rejected.
nw-reachability-failed-redirect (135)	The total number of sessions disconnected due to failure in network reachability and request redirected.
container-max-exceeded (136)	The total number of sessions disconnected due to the closure of an accounting record based on the configured maximum number of container changes being exceeded.
static-addr-not-allowed-in-apn (137)	The total number of sessions disconnected due to static IP address is not allowed in APN.
static-addr-required-by-radius (138)	The total number of sessions disconnected due to static IP address required by RADIUS.
static-addr-not-allowed-by-radius (139)	The total number of sessions disconnected due to static IP address is not allowed by RADIUS.
mip-registration-dropped (140)	The total number of sessions disconnected due to registration dropped for Mobile IP address.
counter-rollover (141)	The total number of sessions disconnected due to counter rollover.
constructed-nai-auth-failed (142)	The total number of sessions disconnected due to authentication failure in subscriber's Network Access Identifier (NAI).
inter-pdsn-service-optimize-handoff-disabled (143)	The total number of sessions disconnected due to disabled inter-PDSN service optimization handoff.
gre-key-collision (144)	The total number of sessions disconnected due to collision in Generic Routing Encapsulation (GRE) key.
inter-pdsn-service-optimize-handoff-triggered (145)	The total number of sessions disconnected when inter PDSN service optimization handoff triggered.
intra-pdsn-handoff-triggered (146)	The total number of sessions disconnected when intra-PDSN service optimization handoff triggered.
delayed-abort-timer-expired (147)	The total number of sessions disconnected due to abort timer duration expired.
Admin-AAA-disconnect (148)	The total number of sessions disconnected as AAA server disconnected Administratively.
Admin-AAA-disconnect-handoff (149)	The total number of sessions disconnected due to AAA handoff disconnected Administratively.

Field	Description
PPP-IPV6CP-negotiation-failed (150)	The total number of sessions disconnected due to IPv6CP negotiation failed.
PPP-IPV6CP-no-response (151)	The total number of sessions disconnected due to no response during IPv6CP negotiation.
PPP-IPV6CP-max-retry-reached (152)	The total number of sessions disconnected due to maximum retries failed on IPv6CP negotiation.
PPP-Restart-Invalid-source-IPV4-address (153)	The total number of sessions disconnected due to PPP restarted by invalid Pv4 address of source.
a11-disconnect-handoff-no-active-stop (154)	The total number of sessions disconnected due to handoff in A11 interface is not active or stopped.
call-restarted-inter-pdsn-handoff (155)	The total number of sessions disconnected due to call restarted during inter PDSN handoff.
call-restarted-ppp-termination (156)	The total number of sessions disconnected due to call restarted on PPP termination.
mipfa-resource-conflict (157)	The total number of sessions disconnected due to resource conflict on FA.
failed-auth-with-charging-svc (158)	The total number of sessions disconnected due to authentication failure in charging services.
mipha-dup-imsi-session-purge (159)	The total number of sessions disconnected due to clearing of duplicate IMSI in session on HA.
mipha-rev-pending-newcall (160)	The total number of sessions disconnected due to revival of pending new calls.
volume-quota-reached (161)	The total number of sessions disconnected due to allocated data quota volume reached.
duration-quota-reached (162)	The total number of sessions disconnected due to time-out reached.
gtp-user-auth-failed (163)	The total number of sessions disconnected due to a failure in user/subscriber authentication.
MIP-Reg-Revocation-no-lcp-term (164)	The total number of sessions disconnected due to termination of an MIP Session for a Revocation being received from the HA and the PDSN is not configured to send a LCP Terminate Request.
MIP-private-ip-no-rev-tunnel (165)	The total number of sessions disconnected due to no reverse tunnel for MIP.
Invalid-Prepaid-AAA-attr-in-auth-response (166)	The total number of sessions disconnected due to invalid Prepaid attribute in authentication response.
mipha-prepaid-reset-dynamic-newcall (167)	The total number of MIP HA sessions disconnected due to receiving MIP registration with a home address of 0.0.0.0.

Field	Description
gre-flow-control-timeout (168)	The total number of RP sessions disconnected due to the PCF not removing flow control for a specified amount of time if GRE flow control for RP sessions is enabled.
mip-paaa-bc-query-not-found (169)	The total number of sessions that were disconnected because the binding cache was not found.
mipha-dynamic-ip-addr-not-available (170)	The total number of MIP HA sessions that were disconnected because a dynamic IP address was not available.
a11-mismatched-id-on-handoff (171)	The total number of sessions disconnected due to a mismatched ID in the A11 interface during a handoff.
a11-badly-formed-on-handoff (172)	The total number of sessions disconnected because the A11 interface is formed badly during a handoff.
a11-unsupported-vendor-id-on-handoff (173)	The total number of sessions disconnected due to unsupported vendor Id in the A11 interface during a handoff.
a11-t-bit-not-set-on-handoff (174)	The total number of sessions disconnected due to t-bit is not set in the A11 interface during a handoff.
MIP-Reg-Revocation-i-bit-on (175)	The total number of Mobile IP sessions disconnected at the PDSN/FA due to Revocation received from HA (with I bit set).
a11-RRQ-Deny-Max-Count (176)	The total number of sessions disconnected due to failures in processing A11-Registration-Request despite retries of the message by the PCF.
Dormant-Transition-During-Session-Setup (177)	The total number of sessions disconnected because they entered the dormant state during session setup. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
PPP-Rem-Reneg-Disc-Always-Cfg (178)	The total number of PPP sessions disconnected because they were renegotiated by the remote side by sending LCP Conf-req/nak/ack and the "always" option was used for the **remote-renegotiation disconnect** command/attribute.
PPP-Rem-Reneg-Disc-NAI-MSID-Mismatch (179)	The total number of PPP sessions disconnected because they were renegotiated by the remote side by sending LCP Conf-req/nak/ack and the "nai-prefix-msid-mismatch" option was used for the **remote-renegotiation disconnect** command/attribute.
mipha-subscriber-ipsec-tunnel-down (180)	The total number of subscribers disconnected because the IPSec tunnel facilitating their sessions went down.
mipha-subscriber-ipsec-tunnel-failed (181)	The total number of subscribers disconnected because an IPSec tunnel failed to be established.
mipha-subscriber-ipsecmgr-death (182)	The total number of subscribers disconnected because the IPSec Manager software task facilitating their sessions crashed.

Field	Description
flow-is-deactivated (183)	The total number of sessions disconnected because their respective flow was deactivated.
ecs-license-exceeded (184)	The total number of sessions disconnected because the licensed session capacity for the Enhanced Charging Service feature has been exceeded.
IPSG-Auth-failed (185)	The total number of sessions disconnected because IPSG authentication failed.
driver-initiated (186)	The total number of sessions disconnected due to driver initiation.
ims-authorization-failed (187)	The total number of sessions disconnected because of IMS authorization failures.
service-instance-released (188)	The total number of sessions disconnected because they were released by the service instances facilitating them.
flow-released (189)	The total number of sessions disconnected because their respective flows were released.
ppp-renego-no-ha-addr (190)	The total number of sessions disconnect because no HA address was supplied during PPP renegotiation.
intra-pdsn-handoff (191)	The total number of sessions disconnected during an intra-PDSN service handoff.
overload-disconnect (192)	The total number of sessions disconnected because the configured overload-disconnect threshold has been exceeded.
css-service-not-found (193)	The total number of sessions because the CSS service specified for handling the session was not found.
Auth-failed (194)	Total number of session authorizations failed due to rejection at OCS (Gy) or other AAA servers.
dhcp-client-sent-release (195)	The total number of sessions disconnected because the DHCP client sent a release.
dhcp-client-sent-nak (196)	The total number of sessions disconnected because the DHCP client sent a negative acknowledge message.
msid-dhcp-chaddr-mismatch (197)	The total number of sessions disconnected because the DHCP Client Hardware (MAC) Address (CHADDR) does not match with MSID of the ASN-GW session.
link-broken(198)	The total number of sessions disconnected because the link between the SGSN and the GGSN is broken resulting in the termination of ongoing Diameter Credit-Control sessions with the DIAMETER_LINK_BROKEN termination-cause.
prog-end-timeout(199)	The total number of sessions disconnected because the allowed BCMCS program limit time expires.

Field	Description
qos-update-wait-timeout(200)	The total number of sessions disconnected because the PDSN failed to update QoS for them.
css-synch-cause(201)	The total number of sessions disconnected because the session-audit between the ACS Manager task and Session Manager disconnects any dangling sessions in the Session Manager.
Gtp-context-replacement(202)	The total number of sessions disconnected due to GTP context replacement.
PDIF-Auth-failed(203)	The total number of sessions disconnected due to PDIF authentication process unable to set up a secure IPSec tunnel to subscriber.
l2tp-unknown-apn(204)	The total number of sessions disconnected due to unknown APN in L2TP message.
ms-unexpected-network-reentry(205)	The total number of sessions disconnected due unexpected network reentry by MS in WiMAX network.
r6-invalid-nai(206)	The total number of sessions disconnected due invalid NAI in R6 message in WiMAX network.
eap-max-retry-reached(207)	The total number of sessions disconnected due maximum retry limit for EAP authentication exhausted in WiMAX network.
vbm-hoa-session-disconnected(208)	vbm-hoa-session-disconnected
vbm-voa-session-disconnected(209)	vbm-voa-session-disconnected
in-acl-disconnect-on-violation(210)	in-acl-disconnect-on-violation
eap-msk-lifetime-expiry(211)	The total number of sessions disconnected due to EAP Master Session Key lifetime expiry in WiMAX network.
eap-msk-lifetime-too-low(212)	The total number of sessions disconnected due to EAP Master Session Key lifetime is too less to allow session.
inter-service-handoff(213)	The total number of sessions disconnected due to inter-service handoff in WiMAX network.
r6-max-retry-reached(214)	The total number of sessions disconnected due to maximum retry limit for R6 message exhausted in WiMAX network.
r6-nwexit-recd(215)	The total number of sessions disconnected due to network exit message received on R6 interface in WiMAX network.
r6-dereg-req-recd(216)	The total number of sessions disconnected due to de-registration message received on R6 interface in WiMAX network.
r6-remote-failure(217)	The total number of sessions disconnected due to remote peer failure on R6 interface in WiMAX network.

Field	Description
r6r4-protocol-errors(218)	The total number of sessions disconnected due to protocol error on R6 and/or R4 interface in WiMAX network.
wimax-qos-invalid-aaa-attr(219)	The total number of sessions disconnected due to invalid AAA attributes for QoS to a subscriber in WiMAX network.
npu-gre-flows-not-available(220)	The total number of sessions disconnected due to requested NPU GRE flow is not available for a subscriber in WiMAX network.
r4-max-retry-reached(221)	The total number of sessions disconnected due to maximum retry limit for R4 message exhausted in WiMAX network.
r4-nwexit-recd(222)	The total number of sessions disconnected due to network exit message received on R4 interface in WiMAX network.
r4-dereg-req-recd(223)	The total number of sessions disconnected due to de-registration message received on R4 interface in WiMAX network.
r4-remote-failure(224)	The total number of sessions disconnected due to remote peer failure on R4 interface in WiMAX network.
ims-authorization-revoked(225)	The total number of sessions disconnected due to IMS authorization revoked.
ims-authorization-released(226)	The total number of sessions disconnected due to IMS authorization released.
ims-auth-decision-invalid(227)	The total number of sessions disconnected due to invalid IMS authorization decision.
mac-addr-validation-failed(228)	The total number of sessions disconnected due to MAC address validation failure in WiMAX network.
excessive-wimax-pd-flows-configured(229)	The total number of sessions disconnected due to excessive packet data flows are configured in WiMAX network.
sgsn-cancel-location-subs-withdrawn(230)	The total number of sessions disconnected due to cancellation of the request to location substitution withdrawn.
sgsn-cancel-location-update(231)	The total number of sessions disconnected because the cancellation of the location update.
sgsn-mnr-expiry(232)	The total number of sessions disconnected due to manager expiry.
sgsn-identity-failure(233)	The total number of sessions disconnected due to identity check failure.
sgsn-security-failure(234)	The total number of sessions disconnected due to security verification failure.
sgsn-auth-failure(235)	The total number of sessions disconnected due to authentication failure.

Field	Description
sgsn-glu-failure(236)	The total number of sessions disconnected due to GLU failure.
sgsn-implicit-detach(237)	**Description:** The total number of sessions disconnected due to an implicit detach. **Trigger:** Pegs when the 2G-SGSN rejects an Attach Request due to same Random-TLLI collision If handling of Random-TLLI collision is enabled via the SGSN Global Configuration mode command 'gmm-message attach-with-tlli-in-use discard-message [only-on-same-nsei]'.
sgsn-subscriber-moved-to-different-smgr-instanc(238)	The total number of sessions disconnected due to subscriber moving to a different SMGR instance.
sgsn-subscriber-moved-to-peer-sgsn(239)	The total number of sessions disconnected due to subscriber moving to a peer SGSN.
sgsn-dns-failure-inter-rau(240)	The total number of sessions disconnected due to DNS failure during Inter-RAU.
sgsn-context-response-failure(241)	The total number of sessions disconnected due to context response failure.
sgsn-hlr-not-found-for-imsi(242)	The total number of sessions disconnected due to HLR not found for particular IMSI.
sgsn-ms-init-detach(243)	The total number of sessions disconnected due to MS initiated detach.
sgsn-roaming-not-allowed(244)	The total number of sessions disconnected because MS was not allowed to roam.
sgsn-duplicate-context(245)	The total number of sessions disconnected due to duplicate context.
hss-profile-update-failed(246)	The total number of sessions disconnected due to failure of profile update.
inactive-without-activating-any-pdp(247)	The total number of sessions disconnected where session is inactive and no PDP context is activated from this session.
asnpc-idle-mode-timeout(248)	The total number of sessions disconnected due to configured idle mode timeout duration is exhausted for ASN paging controller in WiMAX network.
asnpc-idle-mode-exit(249)	The total number of sessions disconnected due to idle mode exit message for ASN paging controller in WiMAX network.
asnpc-idle-mode-entry-auth-failed(250)	The total number of sessions disconnected due to authentication failure during idle mode entry for ASN paging controller in WiMAX network.
asngw-invalid-qos-configuration(251)	The total number of sessions disconnected due to invalid QoS configuration for subscriber in WiMAX network.

Field	Description
sgsn-dsd-allgprswithdrawn(252)	The total number of sessions disconnected due to the SGSN receiving a DSD message from the HLR, with the "All GPRS subscription withdrawn" flag set to true. The SGSN responds as if receiving a cancel location (subscription withdrawn) and clears the subscriber fully using this disconnect reason.
r6-pmk-key-change-failure(253)	The total number of sessions disconnected due to primary master key change failure on R6 interface in WiMAX network.
sgsn-illegal-me(254)	The total number of sessions disconnected because the ME was illegal.
sess-termination-timeout(255)	The total number of sessions disconnected due to failure monitored through BS monitor keep-alive probe.
sgsn-sai-failure(256)	The total number of sessions disconnected due to error in SGSN attachment in registration state.
sgsn-rnc-removal(257)	The total number of sessions disconnected due to error in SGSN inbound SRNS in registration state.
sgsn-rai-removal(258)	The total number of sessions disconnected due to error in Update PDP Context Response message for direct tunnel functionality. Direct tunnel functionality at GGSN was expecting some fields which were not received in the Update PDP Context Response message. Hence, GGSN was not able to establish tunnel appropriately with SGSN or RNC.
sgsn-init-deact(259)	The total number of sessions disconnected at SGSN due to unknown PDP context.
ggsn-init-deact(260)	The total number of sessions disconnected at SGSN due to PDP authentication failed.
hlr-init-deact(261)	The total number of sessions disconnected at SGSN due to duplicate PDP context
ms-init-deact(262)	The total number of sessions disconnected at SGSN due to no response from GGSN.
sgsn-detach-init-deact(263)	The total number of sessions disconnected at SGSN due to failed response from GGSN.
sgsn-rab-rel-init-deact(264)	The total number of sessions disconnected at SGSN due to unknown APN.
sgsn-iu-rel-init-deact(265)	The total number of sessions disconnected at SGSN due to service request initiated deactivation.
sgsn-gtpu-path-failure(266)	The total number of sessions disconnected at SGSN due to attachment procedure initiated abort.
sgsn-gtpc-path-failure(267)	The total number of sessions disconnected at SGSN due to ISRAU initiated abort procedure.

Field	Description
sgsn-local-handoff-init-deact(268)	The total number of sessions disconnected at SGSN due to unknown APN.
sgsn-remote-handoff-init-deact(269)	The total number of sessions disconnected at SGSN due to MM context cleanup initiated abort procedure.
sgsn-gtp-no-resource(270)	The total number of sessions disconnected at SGSN due to unknown abort procedure.
sgsn-rnc-no-resource(271)	The total number of sessions disconnected at SGSN due to abort procedure started by guard timeout.
sgsn-odb-init-deact(272)	The total number of sessions disconnected at SGSN due to abort procedure initiated on DHCP IP validate request.
sgsn-invalid-ti(273)	The total number of sessions disconnected due to id mismatch in MIPv6 session.
sgsn-actv-rejected-due-to-rnc(274)	The total number of sessions disconnected as AAA session id not-found
sgsn-apn-restrict-vio(275)	The total number of sessions disconnected due to security associate rekeying failure.
sgsn-actv-rejected-by-sgsn(276)	The total number of sessions disconnected due to failure in relocation in ASN-PC service.
sgsn-abnormal-deact(277)	The total number of sessions disconnected due to failure in paging controller relocation in ASN PC service.
sgsn-actv-rejected-by-ggsn(278)	The total number of sessions disconnected due to mismatch in authentication policy.
sgsn-err-ind(279)	The total number of sessions disconnected as DELETE MS ENTRY message received by the ASN Paging Controller.
asngw-non-anchor-prohibited(280)	The total number of sessions disconnected due to non-anchor ASN GW being prohibited.
asngw-im-entry-prohibited(281)	The total number of sessions disconnected due to unknown reason.
Session-idle-mode-entry-timeout(282)	The total number of sessions disconnected Administratively.
session-idle-mode-exit-timeout(283)	The total number of sessions disconnected by remote system
asnpc-ms-power-down-nwexit(284)	The total number of sessions disconnected by local system.
asnpc-r4-nwexit-recd(285)	The total number of sessions disconnected due to non-availability of resources.
sgsn-iu-rel-before-call-est(286)	The total number of sessions disconnected because of Iu Release during call establishment when service limits exceeded.

Field	Description
ikev2-subscriber-ipsecmgr-death(287)	The total number of sessions disconnected due to LCP negotiation failed.
All-dynamic-pool-addr-occupied(288)	The total number of sessions disconnected due to no response in PPP-LCP session.
mipv6ha-ip-addr-not-available(289)	The total number of sessions disconnected due to loop back detected in PPP-LCP.
bs-monitor-keep-alive-failed(290)	The total number of sessions disconnected due to failure monitored through BS monitor keep-alive probe.
sgsn-attach-in-reg-state(291)	The total number of SGSN sessions disconnected due to an error in the SGSN attachment during the registration state.
sgsn-inbound-srns-in-reg-state(292)	The total number of SGSN sessions disconnected due to an error in the SGSN inbound SRNS in a registration state.
dt-ggsn-tun-reestablish-failed(293)	The total number of SGSN sessions disconnected due to error in Update PDP Context Response message for direct tunnel functionality. Direct tunnel functionality at GGSN was expecting some fields which were not received in the Update PDP Context Response message. Hence, the GGSN was not able to establish a tunnel appropriately with the SGSN or the RNC.
sgsn-pdp-unknown(294)	The total number of SGSN sessions disconnected due to an unknown PDP context.
sgsn-pdp-auth-failure(295)	The total number of SGSN sessions disconnected because the PDP authentication failed.
sgsn-duplicate-pdp-context(296)	The total number of SGSN sessions disconnected due to duplicate PDP contexts.
sgsn-no-rsp-from-ggsn(297)	The total number of SGSN sessions disconnected because the SGSN does note receive a response from the GGSN.
sgsn-failure-rsp-from-ggsn(298)	The total number of SGSN sessions disconnected due to failed response from the GGSN.
sgsn-apn-unknown(299)	The total number of SGSN sessions disconnected due to an unknown APN.
sgsn-pdp-status-mismatch(300)	The total number of SGSN sessions disconnected due to deactivation initiated by a service request.
sgsn-attach-on-attch-init-abort(301)	The total number of SGSN sessions disconnected due to an attachment procedure-initiated abort.
sgsn-iu-rel-in-israu-init-abort(302)	The total number of SGSN sessions disconnected due to an ISRAU-initiated abort procedure.

Field	Description
sgsn-smgr-init-abort(303)	The total number of SGSN sessions disconnected because the SessMgr initiates an abort.
sgsn-mm-ctx-cleanup-init-abort(304)	The total number of SGSN sessions disconnected due to the MM context cleanup-initiated abort procedure.
sgsn-unknown-abort(305)	The total number of SGSN sessions disconnected due to an unknown abort procedure.
sgsn-guard-timeout-abort(306)	The total number of SGSN sessions disconnected because the abort procedure was started by the guard timer timeout.
vpn-bounce-dhcpip-validate-req(307)	The total number of SGSN sessions disconnected because the abort procedure was initiated upon receiving a DHCP IP validate request.
mipv6-id-mismatch(308)	The total number of sessions disconnected due to id mismatch in MIPv6 session.
aaa-session-id-not-found(309)	The total number of sessions disconnected as AAA session id not-found
x1/x5-max-retry-reached(310)	The total number of sessions disconnected due to security associate rekeying failure.
x1-nwexit-recd(311)	The total number of sessions disconnected due to failure in relocation in ASN-PC service.
x1-dereg-req-recd(312)	The total number of sessions disconnected due to failure in paging controller relocation in ASN PC service.
x1-remote-failure(313)	The total number of sessions disconnected due to mismatch in authentication policy.
x1x2-protocol-errors(314)	The total number of sessions disconnected as DELETE MS ENTRY message received by the ASN Paging Controller.
x2/x6-max-retry-reached(315)	The total number of sessions disconnected because the ASNGW TID entry was not found.
x2/x6-nwexit-recd(316)	The total number of sessions disconnected due to network exit message received on X2 interface in PHS network.
x2-dereg-req-recd(317)	The total number of sessions disconnected due to deregistration request received on X2 interface in PHS network.
x2-remote-failure(318)	The total number of sessions disconnected by remote system due to failure on X2 interface in PHS network.
x1-pmk-key-change-failure(319)	The total number of sessions disconnected due to primary master key change failure on X1 interface in PHS network.
SA-Rekeying-Failure(320)	The total number of sessions disconnected due to security associate rekeying failure.

Field	Description
Sess-sleep-mode-entry-timeout(321)	The total number of sessions disconnected due to session sleep mode entry timeout on PHS GW.
phsgw-non-anchor-prohibited(322)	The total number of sessions disconnected due to non-anchor PHS GW being prohibited.
asnpc-pc-relocation-failed(323)	The total number of sessions disconnected due to failure in relocation in ASN-PC service.
asnpc-pc-relocation(324)	The total number of sessions disconnected due to failure in paging controller relocation in ASN PC service.
auth_policy_mismatch(325)	The total number of sessions disconnected due to mismatch in authentication policy.
ike/ipsec-sa-lifetime-expired(326)	The total number of sessions disconnected due to IKE/IPsec security associate lifetime timer expiration.
asnpc-del-ms-entry-recd(327)	The total number of sessions disconnected as DELETE MS ENTRY message received by the ASN Paging Controller.
phspc-sleep-mode-timeout(328)	The total number of sessions disconnected due to sleep mode timeout by the PHS Paging Controller.
phspc-sleep-mode-exit(329)	The total number of sessions disconnected due to sleep mode exit by the PHS Paging Controller.
phspc-sleep-mode-entry-auth-failed(330)	The total number of sessions disconnected due to failed sleep mode entry authorization by the PHS Paging Controller.
phspc-ms-power-down-nwexit(331)	The total number of sessions disconnected due to ms power down network exit message received by the PHS Paging Controller.
phspc-x6-nwexit-recd(332)	The total number of PHS Paging Controller sessions disconnected due to network exit message received from X2 interface in PHS network.
invalid-nat-config(333)	The total number of sessions disconnected due to the following reasons: 1. SessMgr and ACSMgr are running in non-optimized mode. 2. An undefined NAT pool is configured for subscriber. NAT must be disabled if ACS is not running in optimized mode.
asngw-tid-entry-not-found(334)	The total number of sessions disconnected because the ASNGW TID entry was not found.
No-NAT-IP-Addr-for-subscriber(335)	The total number of sessions disconnected due to NAT IP address being unavailable during call setup for allocation to a subscriber.
excessive-phs-pd-flows-configured(336)	The total number of sessions disconnected due to configuration of excessive PHS pd flows.

Field	Description
phsgw-invalid-qos-configuration(337)	The total number of sessions disconnected due to invalid QoS configuration for subscriber in PHS network.
Interim-Update(338)	The total number of sessions disconnected due to Interim Update.
sgsn-inbound-attach-abort-radio-status-bad-lost(339)	The total number of SGSN sessions disconnected because the inbound attach requests aborted due to poor radio status or lost radio connections.
sgsn-inbound-irau-abort-radio-status-bad-lost(340)	The total number of SGSN sessions disconnected due to inbound IRAU requests aborting as the radio status was poor or the radio connection lost.
ike-keep-alive-failed(341)	The total number of sessions disconnected due to IKE keepalive failure.
sgsn-attach-abort-ms-suspend(342)	The total number of SGSN sessions disconnected due to attach requests aborting because MS was in suspend mode.
sgsn-inbound-irau-abort-ms-suspend(343)	The total number of SGSN sessions disconnected due to IRAU requests aborted when MS was in suspend mode.
duplicate-session-detected(344)	The total number of sessions disconnected due to detection of duplicate sessions for the same session id.
sgsn-xid-response-failure(345)	The total number of SGSN sessions disconnected due to XID response failure.
sgsn-nse-cleanup(346)	The total number of SGSN sessions disconnected due to record cleanup or reset on the network service entity (NSE).
sgsn-gtp-req-failure(347)	The total number of SGSN sessions disconnected due to failure of the GTPP request.
sgsn-imsi-mismatch(348)	The total number of SGSN sessions disconnected due to mismatches of the IMSIs.
sgsn-bvc-blocked(349)	The total number of SGSN sessions disconnected because the BSSGP Virtual Connection (BVC) was blocked.
sgsn-attach-on-inbound-irau(350)	The total number of SGSN sessions disconnected as the session was attached on inbound IRAU requests.
sgsn-attach-on-outbound-irau(351)	The total number of SGSN sessions disconnected while the session was attached on outbound IRAU requests.
sgsn-incorrect-state(352)	The total number of SGSN sessions disconnected due to incorrect state of network elements.
sgsn-t3350-expiry(353)	The total number of SGSN sessions disconnected due to expiry of the T-3350 timer.

Field	Description
sgsn-page-timer-expiry(354)	The total number of SGSN sessions disconnected due to expiry of the paging timer.
phsgw-tid-entry-not-found(355)	The total number of SGSN sessions disconnected due to local purging of PDP contexts.
sgsn-pdp-local-purge(357)	The total number of SGSN sessions disconnected due to local purging of PDP contexts.
sgsn-offload-phase2(360)	With Iu/Gb flex enabled, this is the total number of SGSN sessions disconnected when the subscribers has been forcefully cleared via phase2 offloading from one SGSN to another SGSN within the SGSN pool.
Remote-error-notification(362)	The total number of sessions disconnected due to remote error notification.
no-response(363)	The total number of sessions disconnected due to no response from any of the network entity.
PDG-Auth-failed(364)	The total number of sessions disconnected due to re-authorization failure at any stage.
mme-s1AP-send-failed(365)	The total number of sessions disconnected due to message sent on S1AP interface failed.
mme-egtpc-connection-failed(366)	The total number of sessions disconnected as connection between MME and eGTP service/node failed due to any reason.
mme-egtpc-create-session-failed(367)	The total number of sessions disconnected as session creation failed between MME and eGTP service/node.
mme-authentication-failure(368)	The total number of sessions disconnected as authentication procedure failed between MME and HSS.
mme-ue-detach(369)	The total number of sessions disconnected as UE detached explicitly.
mme-mme-detach(370)	The total number of sessions disconnected on serving MME due to detach procedure occurred between anchored MME and service MME.
mme-hss-detach(371)	The total number of sessions disconnected due to DETACH procedure started from HSS.
mme-pgw-detach(372)	The total number of sessions disconnected due to DETACH procedure started from P-GW.
mme-sub-validation-failure(373)	The total number of sessions disconnected as subscriber validation failed at MME or HSS during authentication procedure.
mme-hss-connection-failure(374)	The total number of sessions disconnected due to connection failure between MME and associated HSS during authentication procedure.

Field	Description
mme-hss-user-unknown(375)	The total number of sessions disconnected by MME service due to UNKNOWN USER response from HSS during authentication procedure.
dhcp-lease-mismatch-detected(376)	The total number of sessions disconnected due to mismatch in DHCP lease time mismatch.
nemo-link-layer-down(377)	The total number of disconnected sessions due to the NEMO (Network Mobility) link layer being down.
sgsn-offload-phase3(379)	With Iu/Gb flex enabled, this is the total number of SGSN sessions disconnected when the subscribers has been forcefully cleared via phase3 offloading from one SGSN to another SGSN within the SGSN pool.
mbms-bearer-service-disconnect(380)	The total number of sessions disconnected due to disconnect in MBMS bearer service.
disconnect-on-violation-odb(381)	The total number of sessions disconnected due to violation on Operator Determined Barring (ODB) of services.
disconn-on-violation-focs-odb(382)	The total number of sessions disconnected due to violation on Operator Determined Barring (ODB) of Free-of-Charge Service (FOCS).
CSCF-REG-Admin-disconnect(383)	The total number of CSCF sessions disconnected through CLI registration clearing by administrator.
CSCF-REG-User-disconnect(384)	The total number of CSCF sessions disconnected by UE with an explicit deregister message.
CSCF-REG-Inactivity-timeout(385)	The total number of CSCF sessions disconnected due to registration expiry.
CSCF-REG-Network-disconnect(386)	The total number of CSCF sessions disconnected due to network-initiated deregistration.
CSCF-Call-Admin-disconnect(387)	The total number of CSCF sessions disconnected through CLI call clearing by administrator.
CSCF-Call-User-disconnect(388)	The total number of CSCF sessions disconnected by UE using BYE message.
CSCF-CALL-Local-disconnect(389)	The total number of CSCF sessions disconnected locally due to some processing failure, task death, recovery failure, etc.
CSCF-CALL-No-Resource(390)	The total number of CSCF sessions disconnected because locally due to congestion caused by max calline/flow usage from high cpu/memory utilization in sessmgr.
CSCF-CALL-No-Response(391)	The total number of CSCF sessions disconnected due to response timeout (SIP response code 408).

Field	Description
CSCF-CALL-Inactivity-timeout(392)	The total number of CSCF sessions disconnected due to session timer timeout
CSCF-CALL-Media-Auth-Failure(393)	The total number of CSCF sessions disconnected due to media authorization failure.
CSCF-REG-No-Resource(394)	The total number of CSCF sessions disconnected because register message is rejected due to congestion caused by max calline/flow usage from high cpu/memory utilization in sessmgr.
ms-unexpected-idle-mode-entry(395)	The total number of sessions disconnected while MS unexpectedly started the IDLE mode procedure and enters the Idle mode.
Re-Auth-failed(396)	The total number of sessions disconnected during re-authentication when MS started activation after coming out of idle mode.
sgsn-pdp-nse-cleanup(397)	The total number of SGSN sessions disconnected because the NSE configured in the GPRS service is removed and there are PDP contexts associated with the subscribers attached in this NSE.
sgsn-mm-ctxt-gtp-no-resource(398)	The total number of SGSN sessions disconnected because an SGTP service could not be assigned to an MM context.
unknown-apn(399)	The total number of sessions disconnected due to invalid and/or unknown APN name received from AAA or subscriber template.
gtpc-path-failure(400)	The total number of sessions disconnected due to failure of GTP-C interface path between two nodes.
gtpu-path-failure(401)	The total number of sessions disconnected due to failure of GTP-U interface path between two nodes.
actv-rejected-by-ggsn(402)	The total number of sessions disconnected due as session activation procedure, started by an MS which was in idle mode, was rejected by GGSN.
sgsn-pdp-gprs-camel-release(403)	The total number of PDP activation failures due to release from CAMEL. *This counter is visible but not yet fully supported.*
sgsn-check-imei-failure(404)	The total number of of Attaches / RAUs rejected due to failure in the IMEI checking (i.e. due either to black listing or to grey listing and an SGSN operator policy is configured with deny-grey-list).
sgsn-sndcp-init-deact(405)	The total number of PDP contexts deactivated upon receiving a cleanup indication from the SNDCP layer.
sgsn-pdp-inactivity-timeout(406)	The total number of subscribers detached or PDP context(s) deactivated due to subscriber inactivity during a configured (in the SGSN operator policy) time.
No-IPV6-address-for-subscriber(410)	The total number of disconnects due to No-IPv6-address-for-subscriber.

Field	Description
prefix-registration-failure(411)	The total number of disconnects due to prefix-registration-failure.
disconnect-from-policy-server(412)	The total number of sessions disconnected due to disconnect from policy server.
s6b-auth-failed (413)	The total number of subscriber sessions disconnected due to failure of authentication over S6b interface with HSS. This support is added for interoperability of GGSN with P-GW and HA.
gtpc-err-ind(414)	The total number of sessions disconnected due to a GTP control plane error indication message.
gtpu-err-ind(415)	The total number of sessions disconnected due to a GTP user plane error indication message.
invalid-pdn-type(416)	The total number of sessions disconnected due to an invalid PDN-type error.
aaa-auth-req-failed(417)	The total number of sessions disconnected due to a AAA authentication request failure.
apn-denied-no-subscription (418)	The total number of subscriber sessions disconnected due to denial of APN as requested APN was not subscribed to subscriber.
sgw-context-replacement(419)	The total number of sessions disconnected due to an S-GW context replacement.
dup-static-ip-addr-req (420)	The total number of subscriber sessions disconnected due to new session request received with duplicate IP address at GGSN. This support is added for interoperability of GGSN with P-GW and HA.
apn-restrict-violation (421)	The total number of subscriber sessions disconnected due to violation of level of restriction to ensure controlled co-existence of the Primary PDP Contexts in APN.
invalid-wapn(422)	The total number of sessions disconnected due to invalid or no W-APN details received from the UE.
ttg-nsapi-allocation-failed(423)	The total number of TTG sessions disconnected due to an NSAPI (Network Service Access Point Identifier) allocation failure.
mandatory-gtp-ie-missing(424)	The total number of sessions disconnected due to the unavailability of a mandatory GTP Information-Element during PDP context creation.
aaa-unreachable(425)	The total number of sessions disconnected due to unreachable AAA server.

Field	Description
asngw-service-flow-deletion(426)	Sent in the Accounting-Stop message for the particular service flow when that service flow is deleted by the Network- or MS-initiated service flow detection procedure.
CT-PMIP-RRQ-NVSE-Value-Change(427)	he total number of disconnects resulting from a PMIP (Proxy-MIP) registration request (RRQ) returning an NVSE (Normal/Vendor organization Special Extension) value change [WiMAX].
tcp-read-failed (428)	The total number of disconnected IP-CAN sessions due to a TCP read failure.
tcp-write-failed (429)	The total number of disconnected IP-CAN sessions due to a TCP write failure.
ssl-handshake-failed (430)	The total number of disconnected SSL ssessions due to a handshake failure.
ssl-renegotiate-failed (431)	The total number of disconnected SSL ssessions due to a renegotiation failure.
ssl-bad-message (432)	The total number of disconnected SSL ssessions due to corrupted messages.
ssl-alert-received (433)	The total number of disconnected SSL ssessions due to an alert.
ssl-disconnect (434)	The total number of SSL disconnections.
ssl-migration (435)	The total number of SSL migrations.
sgsn-ard-failure(436)	The total number of session disconnects due to ARD (access restriction data) subscription restriction received from the HLR.
sgsn-camel-release(437)	The total number of session disconnects experienced by the SGSN when Detach/Attach Rejects were due to explicit "Release GPRS" received from the CAMEL component GSM-SCF or due to failures during CAMEL handling.
sgsn-egtpc-connection-failed(438)	Replaced by sgsn-egtpc-create-session-failed(439) in Release 14.0.
sgsn-egtpc-create-session-failed(439)	Supported in Release 14.0 The total number of session disconnects occurring when the S4-SGSN is not able to establish a PDP context when the SGW returned a failure cause in "Create Session Response" or the SGW did not respond at all to "Create Session Request". Counter
sgsn-hss-detach(440)	Replaced by sgsn-cancel-location-subs-withdrawn(230) in Release 14.0.
sgsn-hss-connection-failure(441)	Replaced by sgsn-glu-failure(236) in Release 14.0
sgsn-pgw-detach(442)	Not yet supported.

Field	Description
sgsn-s5-s8-no-support-for-apn(443)	Supported in Release 14.0. The total number of session disconnects resulting from the S4-SGSN's inability to establish a PDP context for an APN in the following scenario: **1.** An EPS subscription is used for a subscriber. **2.** The SGSN tries to find an S5 / S8 address of the PGW for the requested APN. **3.** The DNS response does not contain an S5/S8 address. **4.** The PDP activation is rejected.
sgsn-no-rab-for-gbr-bearer(444)	Not yet supported. In development for future use.
sgsn-sgw-selection-failure(445)	Supported in Release 14.0. The total number of session disconnects resulting from the S4-SGSN's inability to establish a PDP context in the following scenario: **1.** Either EPS or GPRS subscription is used. **2.** S4-SGSN chooses S4 interface for PDP activation because • The UE is EPC-capable. • EGTP service is configured. • Operator Policy does not override the core-nw-interface to Gn. **3.** The SGSN successfully resolves P-GW address (S5/S8 address) for the APN requested. **4.** The SGSN tries S-GW resolution. If the DNS response fails and no local S-GW is configured for the RAI, then the PDP activation is reected with this disconnect reason.
sgsn-pgw-selection-failure(446)	Supported in Release 14.0. The total number of sessions disconnected by the S4-enabled SGSN when the P-GW DNS resolution fails due to any cause other than the DNS response does not contain an S5/S8 address.
wimax-hotlining-status-change(447)	The total number of disconnects resulting from a status change in the Hotlining-Capabilities sub-attribute in the WiMAX-Capabilities attribute.
ggsn-no-rsp-from-sgsn(448)	The total number of sessions disconnected on GGSN node due to no response received from SGSN for a request.
diameter-protocol-error(449)	The total number of sessions disconnected on IPCF node due to an error in Diameter protocol (such as, CCR-I parse failure).

Field	Description
diameter-request-timeout(450)	The total number of sessions disconnected on IPCF node due to Diameter (RAR/ASR) request timeout on IPCF node.
operator-policy(451)	The total number of session disconnected on IPCF node due to parameters configured by operator for PCC policy.
spr-connection-error(452)	The total number of sessions disconnected on IPCF node due to an error in connection between SSC and IPCF node or non-availability of SSC.
mipha-dup-wimax-session(453)	The total number of WiMAX session disconnects resulting from duplicate Mobile IP Home Agent (MIPHA) logins.
invalid-version-attr(454)	This disconnect reason is set, if there is mismatch of WiMAX-Release version supported by ASNGW and that supported by AAA. This statistic is incremented when there is a mismatch of WiMAX-Release version supported by ASNGW and that supported by AAA. AAA sends WiMAX release in Radius packet. This statistic is cumulative for all ASNGW services configured on the system.
sgsn-zone-code-failure(455)	The total number of session disconnects experienced by the SGSN due to verification failure during the zone-code checking procedure.
invalid-qci(456)	The total number of session disconnects resulting from the receipt of invalid QoS class identifiers (QCIs). This error is returned if an invalid QCI is used in certain operations such as create bearer, which expects a QCI. A QCI is deemed invalid if it is not a standard QCI (1-9) or the QCI is not defined in the QCI table associated with the service.
no_rules(457)	This session disconnect counter increases for eGCDR when the call is terminated because of the PCRF deleting a rulebase through RAR.
sgsn-rnc-no-dual-pdp-init-pdp-deact(458)	Indicates the number of times the SGSN has deactivated a PDP because the MS/UE has roamed into an area where the RNC does not support dual PDP types. Deactivation would have been done with cause code "reactivation required".
mme-init-ctxt-setup-failure(459)	The total number of session disconnects resulting from context setup failures in the ENodeB during EMM/ECM procedures.
mme-driver-initiated(460)	The total number of session disconnects resulting from the default value for mme-sessions.
mme-s1ap-connection-down(461)	The total number of session disconnects resulting from S1AP connection failures.
mme-s1ap-reset-recd(462)	The total number of session disconnects resulting from partial or full resets received for the S1 connection.
mme-s6a-response-timeout(463)	The total number of session disconnects resulting from requests to the HSS that timed out (AIR or ULR).

Field	Description
mme-s13-response-timeout(464)	The total number of session disconnects resulting from EIR query time outs.
mme-Illegal-equipment(465)	The total number of session disconnects resulting from EIR query failures.
mme-unexpected-attach(466)	The total number of session disconnects resulting from older sessions getting disconnected due to the UE executing an ATTACH procedure.
mme-sgw-selection-failure(467)	The total number of session disconnects resulting from failed selections of S-GWs for the UE's current location.
mme-pgw-selection-failure(468)	The total number of session disconnects resulting from failed selections of P-GWs for default APNs.
mme-reselection-to-sgsn(469)	The total number of session disconnects resulting from a context request from an SGSN relocated call to 3G.
mme-relocation-to-sgsn(470)	The total number of session disconnects resulting from calls transitioned to an SGSN using handover signaling.
mme-reselection-to-mme(471)	The total number of session disconnects resulting from a context request from an MME relocated call to a different MME.
mme-relocation-to-mme(472)	The total number of session disconnects resulting from calls transitioned to an MME using handover signaling.
mme-tau-attach-collision(473)	The total number of session disconnects resulting from processing a TAU request with a foreign GUTI that cleared an existing session on the MME.
mme-old-sgsn-resolution-failure(474)	The total number of session disconnects resulting from calls setup using a PTMSI that failed due to failure in resolution of the old SGSN context.
mme-old-mme-resolution-failure(475)	The total number of session disconnects resulting from calls setup using a foreign GUTI that failed due to a failure in resolution of the old MME context.
mme-reloc-ho-notify-timeout (476)	The total number of session disconnects resulting from a handover based session origination failure due to an ho-notify timeout.
mme-reloc-ho-req-ack-timeout(477)	The total number of session disconnects resulting from a handover based session origination failure due to an ho-request-ack timeout.
mme-create-session-timeout(478)	The total number of session disconnects resulting from a create session request to the S-GW that timed out.
mme-create-session-failure(479)	The total number of session disconnects resulting from a create session request to the S-GW that returned a failure response.
mme-s11-path-failure(480)	The total number of session disconnects resulting from a call cleared due to an S11 path failure.

Field	Description
mme-policy-no-ue-irat(481)	The total number of session disconnects resulting from a call cleared due to policy restrictions on inter-rat handovers.
mme-x2-handover-failed(482)	The total number of session disconnects resulting from a call cleared due to failures in x2 handovers.
mme-attach-restrict(483)	The total number of session disconnects resulting from an operator policy based attach restriction.
mme-regional-zone-code(484)	In StarOS 15.0 and earlier releases: The total number of session disconnects resulting from the UE being in a zone code where the UE is not allowed to roam. This information is also available from the following counter: mme-zone-code-validation-failed(492).
mme-reloc-to-non-3GPP(484)	In StarOS 16.0 and later releases: The total number of session disconnects resulting from outbound EUTRAN to Non-3GPP handovers.
mme-no-response-from-ue(485)	The total number of session disconnects resulting from the maximum retransmission of a NAS message during session setup.
mme-sgw-relocation-failed(486)	The total number of session disconnects resulting from an S-GW relocation procedure failing.
mme-implicit-detach(487)	The total number of session disconnects resulting from the UE being implicitly detached due to inactivity.
sgsn-detach-notify(488)	Replaced by sgsn-isr-mme-init-detach(505) in Release 14.0.
policy-initiated-release(489) in StarOS 12.1 and earlier releases	
emergency-inactivity-timeout (489) in StarOS 12.2 and later releases	The total number of sessions disconnected due to emergency inactivity timeout. The emergency session inactivity timeout is set on an APN configured as an emergency APN for VoLTE-based E911 support.
gy-result-code-system-failure (490) in StarOS 12.1 and earlier releases	The total number of sessions disconnected due to failure result codes received from the Online Charging Server that resulted in system failure on the GTP side.
policy-initiated-release(490) in StarOS 12.2 and later releases	The total number of times that a call disconnect occurs due to a Gx-initiated bearer release. For example, this disconnect reason may be used if there are any errors in the manner of the policy or rule configurations.
emergency-inactivity-timeout (491) in StarOS 12.1 and earlier releases	The total number of sessions disconnected due to emergency inactivity timeout. The emergency session inactivity timeout is set on an APN configured as an emergency APN for VoLTE-based E911 support.

Field	Description
gy-result-code-system-failure (491) in StarOS 12.2 and later releases	The total number of sessions disconnected due to failure result codes received from the Online Charging Server that resulted in system failure on the GTP side.
mme-zone-code-validation-failed(492)	The total number of session disconnects resulting from the UE being in a zone code where the UE is not allowed to roam.
sgsn-pgw-init-deact(493)	Supported in Release 14.0. The total number of session disconnects resulting from an initial deactivation between the SGSN and the P-GW when the P-GW sends "Delete Bearer Request" to deactivate a PDP or a PDP bundle.
s6b-ip-validation-failed(494)	Not supported in releases 12.0 or 12.2 . Supported in release 14.0 and later. The total number of session disconnects resulting from an IP validation failure on the S6b (3GPP AAA) interface.
sgsn-failure-rsp-from-sgw(495)	The total number of session disconnects resulting from the SGSN receiving a failure response from the S-GW. This occurs in any of the following scenarios: • The UE has successfully attached and activated the PDP contexts through the S4 interface and then the UE does a RAU to a new RA. During this RAU, the SGSN will do S-GW selection for the new RA. If the SGSN selects a new S-GW for this RA and sends "Create Session Request" to the new S-GW to setup a tunnel. But the new S-GW does not respond or the responds with a failure cause. The SGSN deactivates the PDP with this disconnect cause. • In the case of a new-SGSN RAU without S-GW relocation, the new-SGSN sends "Modify Bearer Req" to inform the S-GW that the UE has moved to the new-SGSN but the SGSN does not receive any response from the S-GW. • During intra-SGSN RAU with a change in the PLMN but without a change in the S-GW. In this case, SGSN will send "Modify Bearer Req" to inform the S-GW of the change in PLMN ID but SGSN does not receive any response from the S-GW. • During intra-SGSN 3G-to-2G or 2G-to-3G inter-RAT RAU without an S-GW change. In this case, the SGSN sends "Modify Bearer Req" to inform the S-GW of the change in RAT type but the SGSN dpes not receive any response from the S-GW.
tcp-remote-close (496)	The total number of sessions disconnected due to a TCP FIN (finished sending) message received from the UE.
tcp-reset-received (497)	The total number of sessions disconnected due to a TCP RST (reset) message received from the UE.

Field	Description
tcp-socket-error (498)	The total number of sessions disconnected due to a socket error received from the trek stack at the access-side TCP socket connection between the UE and the TTG.
ptmsi-signature-mismatch(499)	The number of times the SGSN was unable to validate the P-TMSI signature, present in the Attach Request, against the PTMSI-SIGNATURE stored in SGSN. The SGSN sent an Attach Reject to MS if it did not match. This occurs when the GPRS service is configured to reject Attaches with mismatching P-TMSI-signature. This configuration is used to prevent collision of 2 Attach procedures from 2 subscribers with the same P-TMSI and then quickly enforces an IMSI Attach.
camel-invalid-configuration(500)	The number of times the SGSN has encountered an invalid Customized Applications for Mobile network Enhanced Logic (CAMEL) configuration. This condition typically occurs when a subscriber moves from 3G service to 2G service or vice versa and the CAMEL service is associated only in the source service but not in the target service. In such cases, RAU requests are rejected with disconnect reason "camel-invalid-configuration".
4Gto3G-context-replacement(501)	Supported in Release 14.0. The total number of times a PGW call has been cleared when a new call request came on GGSN and PGW already had a call with the same IMSI. ISR is enabled.
mme-isr-sgsn-init-detach(502)	Supported in Release 14.0. The total number of times an MME, with IRS enabled, deletes a subscriber to detach the UE after receiving an S3 Detach Notification from the SGSN with cause code "complete detach".

Field	Description
sgsn-isr-addl-ptmsi-rai(503)	The total number times the SGSN has disconnected a session because the SGSN has sent an additional P-TMSI Attach request during ISR. This cause is used to peg the clearing of stale contexts. This can occur in the following scenario: **1.** The UE is registered with both the MME and the SGSN and ISR is active. **2.** Due to one of the reasons mentioned in Annex J.6 of TS 23.401, ISR is deactivated at the UE but has not deactivated at either the SGSN or the MME which means the UE's last point of attachment at the time of ISR deactivation is the MME. **3.** Now the UE does a RAU to the SGSN. The UE will send old-RAI mapped from the GUTI (since the ISR is deactivated and the UE's last point of attachment was the MME) and also an additional RAI / P-TMSI which is the P-TMSI/RAI given by the SGSN at the time of ISR activation in step 1. This additional P-TMSI / RAI helps the SGSN to locate the stale UE context and clean it up. (The SGSN received a RAU with an old-RAI mapped from the GUTI so the SGSN needs to build a fresh UE context by fetching information from the MME - "Context Req/Rsp/Ack".)
sgsn-sgw-dbr-cause-isr-deact(504)	The number of times "Delete Bearer Requests" occurred between the SGSN and the S-GW due to ISR being deactivated. This occurs when the SGSN locally deactivate PDP contexts after receiving "Delete Bearer Requests" with cause "ISR Deactivation" from the S-GW.
sgsn-isr-mme-init-detach(505)	The number of times Init Detach occurred between the SGSN and the MME with ISR activated. This occurs when the SGSN receives "S3 Detach Notification" with cause "Complete Detach" from the MME.
mme-sgw-dbr-cause-isr-deact(506)	Supported in Release14.0. The number of times Delete Bearer Requests occurred between MME and SGW due to ISR being deactivated.
sgsn-ptmsi-crunch(507)	The total number of sessions disconnected by the SGSN when there is a shortage of P-TMSIs which can occur when the number of possible subscribers per SessMgr has increased (with a PSC3) but the number of local NRI has not been increased in the configuration.
3Gto4G-context-replacement(508)	Supported in Release14.0. The total number of times a GGSN call has been cleared when a new call request came on PGW and GGSN already had a call with the same IMSI. Idle mode Signaling Reduction (ISR) is enabled.
sgsn-actv-reject-on-dns-failure(509)	Never used. Removed in Release 14.0.

Field	Description
mme-no-eps-bearers-activated(509)	Supported in Release14.0. The number of times the MME has rejected a TAU Attach Request due to any of the following reasons: • EPS Context Status IE value = 0 (which implies no EPS bearers were active in UE). • The SGSN Context Response received by the MME did not have any PDP Contexts or the Response which included the PDP Contexts encountered basic decoding issues (like incorrectly encoded APN, etc.).
sgsn-cancel-loc-inital-attach(513)	Supported in Release14.0. The number of times a subscriber disconnects due to CLR with "initial attach procedure" as the cancellation type.
Local-fallback-timeout(514)	The total number of times the call gets disconnected due to the local policy timeout when Gx is not reachable.
sgsn-nrspca-actv-rej-by-sgsn(515)	The total number of times the network requested secondary PDP context activation (NRSPCA) procedure did not complete successfully for any reason other than the MS rejecting the procedure by sending a Request Secondary PDP Context Activation Reject message to the SGSN.
sgsn-nrspca-actv-rej-by-ms(516)	The total number of times the MS rejects the NRSPCA procedure by sending Request Secondary PDP Context Activation Reject message to the SGSN.
ims-authorization-config-delete(517)	The total number of times the sessions are disconnected due to IMS Authorization configuration being deleted.
sgsn-no-ptmsi-signature(518)	The total number of times the SGSN disconnects a subscriber (from an MME) because no PTMSI-signature was included in the RAU Request.
ePDG-dns-server-not-reachable(519)	The total number of disconnected sessions due to DNS server not reachable.
ePDG-dns-no-resource-records(520)	The total number of disconnected sessions when no valid record is fetched from DNS server.
ePDG-dns-no-service-params(521)	The total number of disconnected sessions when the fetched service parameters from DNS record does not match the configured protocol (GTP/PMIPv6).
pgw-sel-dns-server-nt-reachable(519) Release 15.0+	The number of sessions disconnected by the P-GW when its selected DNS server was not reachable.

Field	Description
pgw-sel-dns-no-resource-records(520) Release 15.0+	The number of sessions disconnected by the P-GW when its selected DNS server had no resource records.
pgw-sel-dns-no-service-params(521) Release 15.0+	The number of sessions disconnected by the P-GW when its selected DNS server had no service parameters.
ePDG-Auth-failed(522)	The total number of times ePDG authentication failed. **Note** Invalid-AAA-attr-in-auth-response is incremented and as of now ePDG-Auth-failed is not used.
ePDG-pgw-sel-failure-initial(523)	The total number of disconnected sessions due to PGW selection failure in initial state.
ePDG-pgw-sel-failure-handoff(524)	The total number of disconnected sessions due to PGW selection failure in handoff state.
sgsn-ho-sgw-reloc-collision(525)	The total number of Relocation Collisions encountered during an SGSN handover to S-GW.
ePDG-dbr-from-pgw(526)	The total number of disconnected sessions due to Delete Bearer Request GTP message coming from PGW.
ePDG-gtpc-abort-session(527)	The total number of disconnected sessions due to GTP control plane path failure.
ePDG-gtpu-abort-session(528)	The total number of disconnected sessions due to GTP user plane path failure.
ePDG-gtpu-error-ind(529)	The total number of disconnected sessions due to error indication message on GTP user plane.
ePDG-pgw-not-reachable(530)	The total number of disconnected sessions due to PGW being down.
ePDG-reject-from-pgw(531)	The total number of disconnected sessions due to PGW rejecting the create session request.
IPSG-session-replacement(532)	The total number of times existing IPSG sessions have been replaced by new sessions. IPSG session replacement must be enabled.
ePDG-release-due-to-handoff(533)	The total number of disconnected sessions when ePDG gets a Delete Bearer Request from PGW due to hand-off.
mme-foreign-plmn-guti-rejected(534)	The total number of sessions rejected where the session contained a foreign GUTI and where the MME is configured to reject such foreign GUTIs as defined in the Foreign PLMN GUTI Management Database (foreign-plmn-guti-mgmt-db) configured in the lte-policy mode and which has been associated with the MME service.
sgsn-dsd-allepswithdrawn(535)	

Field	Description
NAT-Pool-BusyOut-Or-Pend-Delete(536)	The number of sessions disconnected because the NAT pool was busied-out or in Pending Delete state.
Invalid-APN(537)	The number of sessions disconnected because an ePDG rejected the incoming new call due to an APN syntax error (invalid length).
srvcc-ps-to-cs-handover(538)	The number of sessions disconnected because bearers were deactivated as a part of an SRVCC PS-to-CS handover.
henbgw-mme-s1ap-reset-recd(539)	The number of sessions disconnected by the HeNBGW when an S1 Application Protocol (S1AP) RESET was received from the MME.
henbgw-henb-s1ap-reset-recd(540)	The number of sessions disconnected by the HeNBGW when an S1AP RESET was received from the HeNB.
henbgw-mme-sctp-conn-down(541)	The number of sessions disconnected by the HeNBGW when an SCTP Connection Down was received from the MME.
henbgw-henb-sctp-conn-down(542)	The number of sessions disconnected by the HeNBGW when an SCTP Connection Down was received from the HeNB.
henbgw-handoff-complete(543)	The number of sessions disconnected by the HeNBGW when a handoff was completed.
henbgw-handover-failed(544)	The number of sessions disconnected by the HeNBGW when a handoff failed.
henbgw-mme-error-indication(545)	The number of sessions disconnected by the HeNBGW when an MME error indication was received.
henbgw-henb-error-indication(546)	The number of sessions disconnected by the HeNBGW when an HeNB error indication was received.
henbgw-henb-initiated-release(547)	The number of sessions disconnected by the HeNBGW due to an HeNB initiated release.
henbgw-mme-initiated-release(548)	The number of sessions disconnected by the HeNBGW due to an MME initiated release.
henbgw-duplicate-session(549)	The number of sessions disconnected by the HeNBGW because of duplicate sessions.
Transport-mismatch-with-PGW(550)	The number of sessions disconnected by the ePDG due to a DNS server IPv4-IPv6 mismatch for the P-GW IP address.
icsr-ipsec-chkpt-failed(551)	The number of sessions disconnected due IPSec checkpoint failure in ICSR setup.
sgsn-dbr-cause-isr-deact-detach(552)	The number of times subscribers are detached from the SGSN as a result of Delete Bearer Request messages being received from the SGW which causes Idle-mode Signaling Reduction (ISR) deactivation for ISR-activated subscribers.

Field	Description
unexpected-scenario(553)	The number of times that an unexpected call processing scenario has been encountered. This scenario may have caused an assertion failure with an associated core dump.
icsr-delete-standby(554)	The number of times that a session was deleted on the standby ICSR chassis when a call clear trigger is received from the active chassis or the call is removed for re-establishment when a full checkpoint was received
ePDG-local-pgw-resolution-failed(555)	The number of times that local resolution of an ePDG session failed due to a configuration error. This scenario occurs if PGW resolution is enabled, the existing DNS/AAA server PGW resolution mechanism failed, and no disconnect reason has been already set from a another mechanism.
sgsn-iovui-negotiation-failure(556)	If 'reject' is the configured option for **random-value-in-iov-ui negotiation-failure-action** under GPRS service configuration, then the SGSN uses this disconnect-reason to track the number of calls cleared due to the default behavior, which rejects any call when random IOV-UI negotiation fails.
henbgw-gw2henb-inv-mmeues1apid(557)	The number of times an HeNB gateway to HeNB session disconnected due to an invalid UE S1 Application Protocol (S1AP) ID.
henbgw-gw2mme-inv-mmeues1apid(558)	The number of times an HeNB gateway to MME session disconnected due to an invalid UE S1AP ID.
henbgw-henb-sess-henb-conn-down(559)	The number of times an HeNB gateway to HeNB session disconnected because the HeNB connection went down.
henbgw-nw-path-unavailable(560)	The number of HeNB gateway session disconnects because a network path was unavailable.
pgw-transaction-timeout(561)	The number of session disconnects due to a P-GW transaction timeout.
samog-multi-dev-pgw-sel-failure(562)	The number of times a SaMOG multiple device session disconnect has occured due a P-GW selection failure.
samog-multi-dev-demux-failure(563)	The number of times a SaMOG multiple device session disconnect has occured due a demux failure.
mme-pgw-restarted(564)	The number of times a session disconnect has occured due to a P-GW Restart Notification (PRN).
samog-session-replacement(565)	The number of times a SaMOG session was replaced.
authorization-failed(566)	The number of times a SaMOG session was disconnected because authorization failed.
mm-apn-congestion-control(567)	The number of times an SGSN Attach or Inter SGSN RAU call was dropped due to APN congestion control.

Field	Description
samog-pgw-init-detach(568)	The number of times a SaMOG session was disconnected due to PGW initial detach failure.
samog-ggsn-init-detach(569)	The number of times a SaMOG session was disconnected due to GGSN initial detach failure.
samog-pgw-rejected(570)	The number of times a SaMOG session was disconnected due to PGW rejection.
samog-ggsn-rejected(571)	The number of times a SaMOG session was disconnected due to GGSN rejection.
samog-pgw-no-response(572)	The number of times a SaMOG session was disconnected due to no response from the PGW.
samog-ggsn-no-response(573)	The number of times a SaMOG session was disconnected due to no response from the GGSN.
samog-gtpc-path-failure(574)	The number of times a SaMOG session was disconnected due to GTPC path failure.
samog-gtpu-path-failure(575)	The number of times a SaMOG session was disconnected due to GTPU path failure.
samog-gtpu-err-ind(576)	The number of times a SaMOG session was disconnected due to a GTPU error indication.
samog-mandatory-ie-missing(577)	The number of times a SaMOG session was disconnected due to a missing mandatory information element.
samog-mandatory-ie-incorrect(578)	The number of times a SaMOG session was disconnected because of an incorrect mandatory information element.
samog-ip-alloc-failed(579)	The number of times a SaMOG session was disconnected because of an IP address allocation failure.
samog-default-gw-not-found(580)	The number of times a SaMOG session was disconnected because the default gateway was not found.
samog-dns-unreachable(581)	The number of times a SaMOG session was disconnected because the DNS server was unreachable.
samog-dns-no-resource-records(582)	The number of times a SaMOG session was disconnected because there were no DNS resource records.
samog-dns-no-service-params(583)	The number of times a SaMOG session was disconnected because of DNS no-service parameters.
samog-internal-error(584)	The number of times a SaMOG session was disconnected because of an internal error.

Field	Description
handoff-pcf-restriction(585)	This disconnect reason is incremented for the case when handoffs happen from restricted to unrestricted PCF, or conversely from unrestricted PCF to restricted PCF, or handoffs between restricted PCFs.
ue-ctxt-normal-del-ntsr-ddn(587)	The number of UE contexts that were created to handle Network Triggered Service Restoration (NTSR) DDNs and are destroyed when the UE re-attaches.
session-auto-delete(588)	This disconnect reason is used to indicate the percentage of the total number of GGSN, P-GW, S-GW, SAEGW or ePDG sessions that have been auto deleted.
mme-qos-pgw-upgrade-reject(589)	The number of sessions disconnected when a QoS upgrade by P-GW is rejected by the MME during initial attach.
path-failure-s5(590)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S5 GTPC path failure.
path-failure-s11(591)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S11 GTPC path failure.
path-failure-s4(592)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S4 GTPC path failure.
gtpu-path-failure-s5u(593)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S5u GTPU path failure.
gtpu-path-failure-s1u(594)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S1u GTPU path failure.
gtpu-path-failure-s4u(595)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S4u GTPU path failure.
gtpu-path-failure-s12(596)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions disconnected due to an S12 GTPU path failure.
gtpu-err-ind-s5u(597)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions that failed due to an S5u GTPU error indication.

Field	Description
gtpu-err-ind-s1u(598)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions that failed due to an S1u GTPU error indication.
gtpu-err-ind-s4u(599)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions that failed due to an S4u GTPU error indication.
gtpu-err-ind-s12(600)	Supported in release 18.0 and later releases. The number of S-GW/SAEGW sessions that failed due to an S12 GTPU error indication.
diameter-network-too-busy(601)	Supported in release 18 and later releases. The number of ePDG sessions disconnected due to a network too busy indication.
diameter-network-failure(602)	Supported in release 18 and later releases. A temporary network failure has prevented establishing a Diameter session.
diameter-roaming-not-allowed(603)	Supported in release 18 and later releases. Total number of times a session is disconnected when the user is not allowed to roam in the visited network.
diameter-rat-disallowed(604)	Supported in release 18 and later releases. Sent by the HSS to indicate the RAT type the UE is using is not allowed for the IMSI.
diameter-no-subscription(605)	Supported in release 18 and later releases. Sent by the 3GPP AAA Server to indicate that the requested APN is not included in the user's profile, and therefore is not authorized for that user.
pcc-data-mismatch(606)	Supported in release 18 and later releases. The number of times a session has been disconnected due to a Policy and Charging Control (PCC) Packet Control Function (PCF) mismatch.
mme-embms-call-setup-timeout(607)	Supported in release 18 and later releases. Triggered when an eMBMS call setup has timed out.
mme-embms-normal-disconnect(608)	Supported in release 18 and later releases. Triggered by a normal eMBMS call disconnect.
mme-embms-sctp-down(609)	Supported in release 18 and later releases. Triggered when an eMBMS call experiences a Stream Control Transmission Protocol (SCTP) failure.

Field	Description
disconnect-from-charging-server(610)	Supported in release 18 and later releases. The number of times a call is terminated due to a Gy server being down.
disconnect-irat-fail-hi-missing(611)	Supported in release 18 and later releases. The number of times a call is terminated due to HI=1 is not being received (Mandatory id) during a WiFi to LTE handoff.
apn-not-supported-in-plmn-rat(612)	Not yet supported. In development for future use. The requested APN is not supported in current RAT and PLMN combination (cause code 66).
ue-pcscf-reselect-not-supported(613)	Supported in release 18 and later releases. If the UE does not support P-CSCF Reselection (PCO based optional extension as per Rel 12, 3GPP 23.380 section 5.4.3), the P-GW initiates a DBReq with cause Reactivation Requested on receiving an MBReq with PCRI (P-CSCF Restoration Indication). The call is then torn down.
newer-session-detected(614)	The total number of times a session is disconnected when Diameter Experimental-Result-Code "DIAMETER_NEWER_SESSION_DETECTED (5199) is received in Assume Positive mode. On receiving this result code, the Diameter application does not retry to a secondary AAA server. This result code is used to maintain session uniqueness and detect stale message requests from ePDG/MME.
mme-guti_realloc_failed-detach(615)	MME will detach the UE after 10 consecutive unsuccessful GUTI Reallocation attempts with this disconnect reason.
mme-pcscf-rest-detach(616)	The MME detaches the subscribers due to HSS-based P-CSCF Restoration. The restoration method for P-CSCF Restoration in this scenario is PDN Deactivate. The MME performs a PDN disconnect procedure to deactivate the PDN with cause "reactivation requested". All subscriber PDNs are restored during P-CSCF Restoration.
Reject-ho-old-tun-path-failure(617) gx-vapn-selection-failed(618)	Supported in release 18 and later releases. A tunnel path failure occurred during an LTE/Wi-Fi handoff. The number of times a P-GW/GGSN/SAEGW session was disconnected due to validation failure of virtual APN received from PCRF. This disconnect reason is associated with Gx based Virtual APN Selection feature. **Note** This feature is license dependent. For more information, contact your Cisco account representative.

Field	Description
dup-static-ipv6-addr-req(619)	This disconnect reason is incremented when the existing PDN gets gracefully aborted due to a duplicate IPv6 address request received from new PDN. The existing call gets aborted only when the CLI "newcall duplicate-subscriber-requested-v6-address accept" is configured under GGSN/PGW service.
mip-path-failure(620)	This disconnect reason will be incremented when the peer is not reachable or when the peer restarts and sends new restart counter.
apn-congestion(621)	This disconnect reason will be incremened when an incoming call is identified as Low Access Priority Indicator (LAPI), and PGW is in Overload state and Backoff timer is configured and the call is rejected with cause "APN congestion".
ue-redirected(622)	Total number of sessions disconnected due to UE redirection.
ePDG-s2b-access-denied(623)	Total number of sessions disconnected on ePDG due to s2b cause codes mapped to private IKEv2 notify payload type "access denied".
ePDG-s2b-network-failure(624)	Total number of sessions disconnected on ePDG due to s2b cause codes mapped to private IKEv2 notify payload type "network failure".
ePDG-s2b-msg-failure(625)	Total number of sessions disconnected on ePDG due to s2b cause codes mapped to private IKEv2 notify payload type"message failure".
ePDG-s2b-rat-disallowed(626)	Total number of sessions disconnected on ePDG due to s2b cause code "RAT disallowed" which is mapped to private IKEv2 notify payload type "RAT Disallowed".
ePDG-roaming-mandatory(627)	Total the number of sessions disconnected due to DNS failure when roaming is mandatory.
Gtpv2-context-not-found(628)	Total the number of sessions disconnected due to GTP cause code "Context Not Found".
SaMOG-access-switch-timeout(629)	Increments when the access switch from PMIPv6 access-type to EoGRE access-type is not completed.
Decrypt-fail-count-exceeded(630)	Total number of sessions disconnected due to decryption failure count exceeded.
emergency-idle-timeout(631)	Total number of emergency sessions disconnected due to idle session timeout.
gtpu-path-failure-s11u(632)	Supported in release 21.3 and later releases. The number of times a SGW session has been disconnected due to GTPU echo failure on s11u interface.
gtpu-err-ind-s11u(633)	Supported in release 21.3 and later releases. The number of times a SGW session has been disconnected due to Error Indication on s11u interface.

Field	Description
mme-gtpu-path-failure-s11u (634)	The total number of disconnect reasons for the calls aborted due to GTPU path failure.
mme-gtpu-err-ind-s11u (635)	The total number of disconnect reasons for the calls aborted when there is an indication of GTPU error at the s11 interface.
ePDG-pcscf-restoration (636)	The total number of disconnect reasons returned due to the receipt of Delete Bearer request for the PCSCF reactivation.
samog-lbo-user-logout (637)	The total number of disconnect reasons incremented when the session of SaMOG service using S-GW service disconnects due to the duplicate IP address.
sx-req-re (638)	The total number of disconnect reasons incremented at the User Plane due to incorrect URR or PFCP rejection in CUPS.
sx-cntxt-not-found (639)	The total number of disconnect reason returned if the PFCP context is not found.
sx-mand-ie-missing (640)	The total number of disconnect reason set at the UPLANE because of the mandatory IE is missing.
sx-cond-ie-missing (641)	The total number of disconnect reason incremented when conditional IE is missing in PFCP or Uplane QER is missing or UE IP address not present.
sx-msg-invalid-length (642)	The total number of disconnect reason incremented when the message length is insufficient or invalid.
sx-mand-ie-incorrect (643)	The total number of disconnect reason incremented when the mandatory IE is incorrect in the sx interface.
sx-invld-fwd-policy (644)	The total number of disconnect reasons incremented if the forwarding policy is invalid.
sx-invld-fteid-alloc-opt (645)	The total number of disconnect reasons incremented when the fully qualified Tunnel ID allocation option is invalid
sx-no-establshd-sx-association (646)	The total number of disconnect reasons incremented when peer entry were not in the Associated state.
sx-no-response (647)	The total number of disconnect reasons returned if the Sx proclet fails or there is no response from the sx interface.
sx-no-resource (648)	The total number of disconnect reasons returned when resources were not available on the sx interface.
sx-fteid-ipaddr-type-mismatch (649)	The total number of disconnect reasons returned when a mismatch between FTEID IP Address type is received in Sx session create or modify response and remote GTP peer.
sx-invalid-response (650)	The total number of disconnect reasons returned during an Sx session establish or modify response received with an invalid response.

Field	Description
user-plane-info-not-available (651)	The total number of disconnect reasons when the User plane selection fails for GGSN, P-GW, or SAEGW In the case of S-GW, the selection fails if there is an internal failure while creating a transient transaction.
user-plane-info-mismatch (652)	The total number of disconnect reasons returned when user plane information mismatches.
IKEv2-request-rate-exceeded (653)	The total number of disconnect reasons returned when IKEv2 (Internet Key Exchange version 2) request rate is exceeded.
mme-decor-call-rerouted (654)	The total number of disconnect reasons incremented when the MME-DCN (dedicated core n/w) does not support UE usage type and a reroute process gets triggered.
mme-decor-call-rejected (655)	The total number of disconnect reasons incremented if the MMEGI of the rerouted message doesn't belong to the new MME and the MME rejects the call.
origin-state-id-change (656)	The total number of disconnect reasons returned when the call is cleared because of the Origin State ID change.
mme-ducon-path-update-failed (657)	The total number of disconnect reasons returned when the MME *du* connection path update fails
diam-no-non-3gpp-subscription (658)	The total number of disconnect reasons returned when there is no non-3gpp subscription.
diameter-user-unknown (659)	The total number of disconnect reasons returned when the Diameter user is unknown.
diameter-illegal-equipment (660)	The total number of disconnect reasons returned when the Diameter illegal equipment is used.
epdg-invalid-imei (661)	The total number of sessions disconnected due to Invalid IMEI received from the UE.
sx-path-failure (662)	The total number of disconnected reasons returned due to sx interface path failure.
sxfail-opr-revert-info (663)	The total number of disconnected reasons returned due to the Sx Modification Request failure. **Note** This reason for the Sx Modification request failure is because of failure in reverting information on User Plane, Control Plane, and User Plane are out of sync or Triggering PDN deletion.
sxfail-opr-get-usagereport (664)	The total number of disconnected reasons returned due to the Sx Modification Request failure.

Field	Description
sxfail-opr-create-rulebase-pdr (665)	The total number of disconnect reasons returned if the Sx Modification Request failed because of the failure in creating a Rulebase PDR.
sxfail-opr-remove-pdr (666)	The total number of disconnect reasons returned if the Sx Modification Request fails because of the failure in removing PDR on User Plane.
gtp-remote-data-teid-invalid (667)	The total number of disconnect reasons returned if the call is rejected because of the invalid TEID in GTP remote data.
smp-fp-tep-oper-failure (668)	The total number of disconnect reasons is set, if the Failure in Fast Path TEP entry operation is detected.
smp-fp-ambr-oper-failure (669)	The total number of disconnect reasons set if the Fast path Uplink or Downlink Policer configuration or Policer Bucket operations such as add, modify, or delete operation fails.
smp-fp-brr-stream-oper-failure (670)	The total number of disconnect reasons set for the failure of Bearer stream operations . For example, creating and updating in SessMgr Fastpath.
smp-fp-brr-strm-chrgng-op-fail (671)	The total number of disconnect reasons set for the failure of Bearer stream charging operations. For example,creating and updating in SessMgr Fastpath.
smp-fp-itc-bw-oper-failure (672)	The total number of disconnect reason set if the ACS detect session setup failure or Delete indication due to Gx/Gy server being down.
smp-fp-strm-chrg-oper-failure (673)	The total number of errors returned if Session deletion initiated with charging operation failure or sessMgr UP disconnected with Fastpath stream charging operation failure.
vpp-next-hop-failure (674)	The total number of the reasons returned if the next-hop row addition failed in the iCUPS platform.
graceful-cleanup-up-audit-fail (675)	The total number of the reasons returned if Sx Session reported graceful termination for User plane audit failure.
sx-max-trans-threshold-reached (676)	The total number of disconnect reasons returned if the call dropped with the reason transaction pending queue reached its maximum.
sx-db-ub-collision (677)	The total number of disconnect reasons is set if the system detects UBReq collision on deleting the bearer or if the call drops with the reason transaction pending queue reached its maximum.
sx-failure-ntsr (678)	The total number of disconnect reasons is set for the Sx path failure with NTSR (Network Triggered Service Restoration) enabled on the node.
graceful-term-up-self-protectn (679)	The total number of disconnect reasons is set if the Sx Session Reports UP Self Protection Termination is received.
sx-gtpu-sess-repl (680)	The total number of disconnect reasons set if the UPLANE abort session request is received.

Field	Description
mme-reselection-to-amf (681)	The total number of disconnect reasons set if the subscriber reselects AMF as part of the EPS to 5GS Idle Mobility Registration procedure.
mme-relocation-to-amf (682)	The total number of disconnect reasons is set if the subscriber relocates to AMF as part of the EPS to 5GS Handover procedure.
rbase-del-pending (683)	The total number of disconnect reasons if the rulebase is in maintenance mode.
late-overlapping-request (684)	The total number of reason codes returned if IMSA receives an experimental result response as a late overlapping request.
timed-out-request (685)	The total number of reason codes returned if IMSA receives an experimental result response as the time-out request.
Sgi-reachability-reject (686)	The total number of disconnect reasons if the call gets rejected because of the down APN status.
Sgi-reachability-clear (687)	The total number of disconnect reasons if the call gets cleared as the APN status is down.

show session progress



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 534: show session progress Command Output Descriptions

Field	Description
In-progress calls	The number of calls that are currently in progress (active, dormant, being set up, or being disconnected) and being processed by either the system (if no keywords were used), a specific PDSN service (if the **pdsn-service** keyword was used), or a specific PCF (if the **pcf** keyword was used).
In-progress active calls	The total number of active sessions.
In-progress dormant calls	The total number of dormant sessions. **NOTE:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
In-progress always-on calls	The number of calls that have always on enabled.
In-progress calls @ ARRIVED state	The total number of sessions that are at the onset of the registration process.

Field	Description
In-progress calls @ CSCF-CALL-ARRIVED state	The total number of Call Session Control Function (CSCF) sessions that are at the onset of the registration process.
In-progress calls @ CSCF-REGISTERING state	Total number of CSCF sessions which are in registration processing state.
In-progress calls @ CSCF-REGISTERED state	Total number of CSCF sessions which are in registered state.
In-progress calls @ LCP-NEG state	The total number of sessions that are in the Link Control Protocol (LCP) negotiation phase of the registration process.
In-progress calls @ LCP-UP state	The total number of sessions that have just completed the Link Control Protocol (LCP) negotiation phase of the registration process.
In-progress calls @ AUTHENTICATING state	The total number of sessions that are in the process of being authenticated.
In-progress calls @ BCMCS SERVICE AUTHENTICATING state	The total number of BCMCS sessions that are in the process of being authenticated.
In-progress calls @ AUTHENTICATED state	The total number of sessions that have completed the authentication phase with AAA but the session is not yet established.
In-progress calls @ PDG AUTHORIZING state	The total number of Packet Data Gateway (PDG) calls in the process of being authorized.
In-progress calls @ PDG AUTHORIZED state	The total number of PDG calls that have been authorized.
In-progress calls @ IMS AUTHORIZING state	The total number of IP Multimedia Subsystem (IMS) calls in the process of being authorized.
In-progress calls @ IMS AUTHORIZED state	The total number of IMS calls that have been authorized.
In-progress calls @ MBMS UE AUTHORIZING state	The total number of Multimedia Broadcast Multicast Services (MBMS) sessions currently in User Equipment (UE) authorization state.
In-progress calls @ MBMS BEARER AUTHORIZING state	The total number of MBMS sessions currently in bearer authorization state.
In-progress calls @ DHCP PENDING state	The total number of Dynamic Host Configuration Protocol (DHCP) calls that are currently in pending state.
In-progress calls @ L2TP-LAC CONNECTING state	The number of calls that have an L2TP tunnel in the process of being brought up.
In-progress calls @ MBMS BEARER CONNECTING state	The total number of MBMS calls in the bearer connecting state.

Field	Description
In-progress calls @ CSCF-CALL-CONNECTING state	The total number of CSCF calls in the call connecting state.
In-progress calls @ IPCP-UP state	The total number of sessions that have just completed the Internet Protocol Control Protocol (IPCP) phase of the registration process.
In-progress calls @ NON-ANCHOR CONNECTED state	Indicates the total number of WiMAX sessions being processed by this Session Manager instance that are currently connected in non-anchor mode.
In-progress calls @ SIMPLE IPv4 CONNECTED state	The total number of simple IPv4 data sessions that are currently connected.
In-progress calls @ SIMPLE IPv6 CONNECTED state	The total number of simple IPv6 data sessions that are currently connected.
In-progress calls @ SIMPLE-IPv4+IPv6 CONNECTED state	The total number of simple IPv4/IPv6 data sessions that are currently connected.
In-progress calls @ MOBILE-IPv4 CONNECTED state	The total number of Mobile IPv4 (MIP) data sessions that are currently connected.
In-progress calls @ MOBILE-IPv6 CONNECTED state	Total number of Proxy Mobile IPv6 (MIPv6) sessions currently established.
In-progress calls @ GTP CONNECTING state	Total number of GTPv2 sessions in connecting state which are awaiting Create Session Response message in reply to Create Session Request already sent.
In-progress calls @ GTP CONNECTED state	Total number of GTPv2 sessions currently established.
In-progress calls @ PROXY-MOBILE-IP CONNECTING state	Total number of Proxy Mobile IPv6 sessions in connecting state and are waiting for PBA in reply to PBU already sent.
In-progress calls @ PROXY-MOBILE-IP CONNECTED state	The total number of Proxy Mobile IP data sessions that are currently connected.
In-progress calls @ EPDG RE-AUTHORIZING state	the total number of Evolved Packet Data Gateway (ePDG) calls that are re-authorizing.
In-progress calls @ HA-IPSEC CONNECTED state	The number of calls that have negotiated IP Security.
In-progress calls @ L2TP-LAC CONNECTED state	The number of calls that are passing data through an L2TP tunnel.
In-progress calls @ HNBGW CONNECTED state	The number of UMTS-Femto calls connected to HNB-GW.
In-progress calls @ PDP-TYPE-PPP CONNECTED state	The total number of PDP contexts of type PPP (Point to Point Protocol) that are currently connected. This field applies to GGSN only.

Field	Description
In-progress calls @ IPSG CONNECTED state	The total number of IP Services Gateway (IPSG) sessions currently connected.
In-progress calls @ BCMCS CONNECTED state	The total number of BCMCS sessions currently connected.
In-progress calls @ PCC CONNECTED state	The total number of IP-Connectivity Access Network (IP-CAN) sessions currently in connected state.
In-progress calls @ MBMS UE CONNECTED state	The total number of MBMS sessions currently in UE connected state.
In-progress calls @ MBMS BEARER CONNECTED state	The total number of MBMS sessions currently in bearer connected state.
In-progress calls @ ASNPC CONNECTED state	Indicates the number of ASN Paging Controller calls that are currently connected.
In-progress calls @ CSCF-CALL-CONNECTING state	Total number of CSCF sessions which are in call connecting state (waiting for ACK).
In-progress calls @ CSCF-CALL-CONNECTED state	Total number of CSCF sessions which are in call connected state.
In-progress calls @ CSCF-CALL-DISCONNECTING state	Total number of CSCF sessions which are in call disconnecting state (such as, processing BYE, waiting for BYE response, etc.).
In-progress calls @ MME ATTACHED state	Indicates the number of MME subscriber session currently attached.
In-progress calls @ HENBGW CONNECTED state	The total number of Home evolved Node B Gateway (HENBGW) calls in the connected state.
In-progress calls @ CSCF-CALL-DISCONNECTING state	Total number of CSCF sessions which are disconnecting.
In-progress calls @ DISCONNECTING state	The total number of sessions that are in the process of disconnecting.

show session recovery status verbose

Table 535: show session recovery status verbose Output Descriptions

Field	Description
Last Status Update	The duration from the last time the Resource Manager did a health check on the session managers. This is informational info only, and does not reflect the last time a subscriber was checkpointed.

Field	Description
cpu	This indicates the card and slot number of the CPU listed.
state	Indicates the state of the specified CPU. This is either Active or Standby.
sessmgr	This lists the number of Session Managers in the active and standby state on the specified CPU.
aaamgr	Indicates the number of AAA managers in the active and standby state on the specified CPU.
demux active	Indicates the number of demux managers on the CPU.
status	This indicates the session recovery state for the specified CPU. This can be one of the following values: • Good (Demux) • Demux With Non-Demux • Non-Demux With Demux • Pair on Processing Cards • SESSMGR Not Ready • Missing AAAMGR • No Standby • Good • SESSMGR Not Ready • Too Few Standby • Good • Unknown

show session subsystem

This show command is used for monitoring the session related statistics per RAT type.

Field	Description
LTE-M Connection Statistics:	
Total Sessions	Indicates that the total number of active LTE-M sessions.
Total calls arrived	Indicates the total number of sessions received for the selected LTE-M RAT type.
Total calls Connected	Indicates that the total number of calls connected for the LTE-M RAT type.
Total calls disconnected	Indicates the total number of calls disconnected for the LTE-M RAT type.

show session subsystem full

This show command is used for monitoring the Data packets per RAT type and subscribers count per RAT type.

Field	Description
LTE-M Data Statistics	
Total Sessions	Shows the total number of active data packets.
Total calls arrived	Shows the total number of calls arrived.
Total calls connected	Shows the total number of calls connected.
Total calls disconnected	Shows the total number of calls disconnected.
LTE-M Connection Statistics:	
Total Sessions	Indicates that the total number of active LTE-M sessions
Total calls arrived	Indicates the total number of sessions received for the selected LTE-M RAT type.
Total calls Connected	Indicates that the total number of calls connected for the LTE-M RAT type.
Total calls disconnected	Indicates the total number of calls disconnected for the LTE-M RAT type.

show session subsystem verbose

The **show session subsystem verbose** command displays the following output for the selected LTE-M RAT type:

Field	Description
LTE-M Data Statistics:	
Packets to User	The number of Data packets received by the user
Octets to User	The number of Data octets received by the user.
Packets from User	The number of Data packets send from the user.
Octets from User	The number of Data octets sent from the user.
LTE-M Connection Statistics :	
Total Sessions	Indicates that the total number of active LTE-M sessions.
Total calls arrived	Indicates the total number of sessions received for the selected LTE-M RAT type.
Total calls Connected	Indicates that the total number of calls connected for the LTE-M RAT type.
Total calls disconnected	Indicates the total number of calls disconnected for the LTE-M RAT type.

show session subsystem debug-info

Table 536: show session subsystem debug-info Output Descriptions

Field	Description
USF	
No of packet drops on sessmgr	Indicates number of packet drops on Session Manager.
Peer Salvation Stats	
No of peer salvation requests received on sessmgr	Indicates the number of peer salvation requests received on the Session Manager.
No of peer salvaged on sessmgr	Indicates the number of peers salvaged on the Session Manager.
1 AAA Managers	
10 Total aaa requests	Indicates the number of AAA requests. The total number is 10.
2 Total aaa auth requests	Indicates the number of AAA authorization requests. The total number is 2.
0 Total aaa auth probes	ndicates the number of AAA authorization probes. The total number is 0.

show session subsystem facility a11mgr all

Important These statistics are from the perspective of the Session Manager (SessMgr) and A11 Manager (A11Mgr) task itself (not from the perspective of subscribers).

Table 537: show session subsystem facility a11mgr Command Output Descriptions

Field	Description
A11Mgr	The A11 Manager task instance number. Since multiple A11 Manager tasks can be operating simultaneously in the system, each one is assigned an instance number.
Total calls arrived	Indicates the total number of sessions received by this A11 Manager instance for processing.
Total calls rejected	Indicates the total number of sessions that were rejected by this A11 Manager instance.
Total calls demultiplexed	Indicates the total number of sessions that were successfully setup by this by this A11 Manager instance.
Total dereg reply sent	Indicates the total number of sessions that were successfully de-registered, or disconnected, by this by this A11 Manager instance.

Field	Description
Current active calls	Indicates the total number of active sessions currently being facilitated by this A11 Manager instance.
Total active services	The total number of PDSN services that are currently facilitating subscriber sessions.

show session subsystem facility aaamgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) and AAA Manager (AAAMgr) task itself (not from the subscriber perspective).

Table 538: show session subsystem facility aaamgr all Command Output Descriptions

Field	Description
AAA Manager	The AAA Manager task instance number. Since multiple AAA Manager tasks can be operating simultaneously in the system, each one is assigned an instance number.
Total aaa requests	The total number of AAA requests received by this AAAMgr instance for processing.
Current aaa requests	The number of AAA requests that this AAAMgr instance is currently processing.
Total aaa auth requests	The total number of AAA authentication requests that were received by this AAAMgr instance.
Current aaa auth requests	The number of AAA authentication requests that this AAAMgr instance is currently processing.
Total aaa auth probes	The total number of Authorization Probes that this AAAMgr instance has initiated.
Current aaa auth probes	The number of Authorization Probe requests that this AAAMgr instance is currently processing.
Total aaa auth keepalive	The total number of AAA authentication keepalive requests that were sent by this AAAMgr instance.
Current aaa auth keepalive	The number of AAA authentication keepalive requests that this AAAMgr instance is currently processing.
Total aaa acct requests	The total number of AAA accounting requests that were received by this AAAMgr instance.
Current aaa acct requests	The number of AAA accounting requests that this AAAMgr instance is currently processing.
Total aaa acct keepalive	The total number of AAA accounting keepalive requests that were sent by this AAAMgr instance.

Field	Description
Current aaa acct keepalive	The number of AAA accounting keepalive requests that this AAAMgr instance is currently processing.
Total aaa auth success	The total number of successful AAA authentications facilitated by this AAAMgr instance.
Total aaa no-auth null-username	The total number of AAA authentication requests dropped because of a null user name, or because there is no RADIUS null-username configured.
Total aaa auth failure	The total number of failed AAA authentications facilitated by this AAAMgr instance.
Total aaa auth purged	The total number of AAA authentication requests received by this AAAMgr instance that failed to get a response from the AAA server.
Total aaa auth cancelled	The total number of canceled AAA authentication requests facilitated by this AAAMgr instance.
Total auth keepalive success	The total number of successful authentication keepalives facilitated by this AAAMgr instance.
Total auth keepalive failure	The total number of failed authentication keepalives facilitated by this AAAMgr instance.
Total auth keepalive purged	The total number of authentication keepalive requests received by this AAAMgr instance that failed to get a response from the AAA server.
Total aaa auth DMU challenged	The total number of AAA authentication requests that were challenged for Dynamic Mobile Keying update.
aaa request (used/max)	The total number of AAA requests used and the maximum allowed for this AAAMgr instance.
Total Diameter auth requests	The total number of AAA authentication requests of the type Diameter authentication protocol facilitated by this AAAMgr instance.
Current Diameter auth requests	The number of AAA authentication requests of the type Diameter authentication protocol currently being processed by this AAAMgr instance.
Total Diameter auth requests retried	The total number of AAA authentication requests of the type Diameter authentication protocol that this AAAMgr instance retried. Retries occur when the AAAMgr instance does not receive a response from the AAA server to an initial request. The AAAMgr instance retries a request triggered by a timeout value configured under the AAA group.
Total Diameter auth requests dropped	The total number of AAA authentication requests of the type Diameter authentication protocol dropped by this AAAMgr instance due to the AAA server being unavailable or the system being out of memory.
Total radius auth requests	The total number of RADIUS authentication requests received by this AAAMgr instance.
Current radius auth requests	The number of RADIUS authentication requests currently being processed by this AAAMgr instance.
Total radius auth requests retried	The total number of RADIUS authentication requests processed by this AAAMgr instance that were retried.

Field	Description
Total radius auth responses dropped	The total number of RADIUS authentication responses dropped by the AAAMgr instance.
Total radius malformed auth responses	The total number of RADIUS authentication responses received with multiple rulebase attributes.
Total local auth requests	The total number of authentication requests received by this AAAMgr instance for locally configured subscribes.
Current local auth requests	The number of authentication requests currently being processed by this AAAMgr instance for locally configured subscribes.
Total pseudo auth requests	The total number of AAA requests for user profiles received by this AAAMgr instance.
Current pseudo auth requests	The number of current pending AAA requests for user profiles in this AAAMgr instance.
Total null-username auth requests (rejected)	The total number of AAA requests for un-attempted user profiles received by this AAAMgr instance.
Total aaa acct completed	The total number of AAA accounting requests received by this AAAMgr instance that were delivered successfully to the AAA server.
Total aaa acct purged	The total number of AAA accounting requests received by this AAAMgr instance that had to be purged because the storage limit of pending accounting requests had been exceeded.
Total acct keepalive success	The total number of successful accounting keepalives facilitated by this AAAMgr instance.
Total acct keepalive timeout	The total number of failed accounting keepalives facilitated by this AAAMgr instance.
Total acct keepalive purged	The total number of accounting keepalive requests received by this AAAMgr instance that failed to get a response from the AAA server.
Total aaa acct cancelled	The total number of AAA accounting requests received by this AAAMgr instance that were cancelled.
Total Diameter acct requests	The total number of AAA accounting requests of the type Diameter accounting protocol facilitated by this AAAMgr instance. This includes active and deleted requests.
Current Diameter acct requests	The number of AAA accounting requests of the type Diameter accounting protocol currently being processed by this AAAMgr instance.
Total Diameter acct requests retried	The total number of AAA accounting requests of the type Diameter accounting protocol that this AAAMgr instance retried. Retries occur when the AAAMgr instance does not receive a response from the AAA server to an initial request. The AAAMgr instance retries a request triggered by a timeout value configured under the AAA group.
Total diameter acct requests dropped	The total number of dropped AAA accounting requests of the type Diameter accounting protocol.
Total diameter acct responses dropped	The total number of dropped AAA accounting responses of the type Diameter accounting protocol.

Field	Description
Total diameter acct cancelled	The total number of cancelled AAA accounting requests of the type Diameter accounting protocol.
Total diameter acct purged	The total number of purged AAA accounting requests of the type Diameter accounting protocol.
Total radius acct requests	The total number of AAA accounting requests received by this AAAMgr instance for which the RADIUS protocol was used to deliver the accounting message to the AAA server.
Current radius acct requests	The number of AAA accounting requests currently being processed by this AAAMgr instance for which the RADIUS protocol is being used to deliver the accounting message to the AAA server.
Total radius acct cancelled	The total number of cancelled RADIUS accounting requests received by this AAAMgr instance.
Total radius acct purged	The total number of RADIUS accounting requests received by this AAAMgr instance that had to be purged because the storage limit of pending accounting requests had been exceeded.
Total radius acct requests retried	The total number of AAA accounting requests received by this AAAMgr instance for which the RADIUS protocol was used to deliver the accounting message to the AAA server that were retried.
Total radius acct responses dropped	The total number of RADIUS accounting responses dropped by the AAAMgr instance.
Total radius sec acct requests	The total number of AAA secondary accounting requests received by this AAAMgr instance for which the RADIUS protocol was used to deliver the accounting message to the AAA server.
Current radius sec acct requests	The number of AAA secondary accounting requests currently being processed by this AAAMgr instance for which the RADIUS protocol is being used to deliver the accounting message to the AAA server.
Total radius sec acct cancelled	The total number of cancelled RADIUS secondary accounting requests received by this AAAMgr instance.
Total radius sec acct purged	The total number of RADIUS secondary accounting requests received by this AAAMgr instance that had to be purged because the storage limit of pending accounting requests had been exceeded.
Total radius sec acct requests retried	The total number of AAA secondary accounting requests received by this AAAMgr instance for which the RADIUS protocol was used to deliver the accounting message to the AAA server that were retried.
Total gtpp acct requests	The total number of AAA accounting requests received by this AAAMgr instance for which the GTPP protocol was used to deliver the accounting message to the Charging Gateway Function (CGF).

Field	Description
Current gtpp acct requests	The current number of AAA accounting requests being processed by this AAAMgr instance for which the GTPP protocol is being used to deliver the accounting message to the Charging Gateway Function (CGF).
Total gtpp acct cancelled	The total number of accounting requests that were cancelled.
Total gtpp acct purged	The total number of accounting requests that were purged.
Total gtpp sec acct requests	The total number of secondary G-CDR requests being processed by this AAAMgr instance for which the GTPP protocol is being used to deliver the accounting message to the Charging Gateway Function (CGF). It counts total secondary G-CDRs generated by this AAAMgr instance.
Total gtpp sec acct purged	The total number of secondary G-CDR requests being processed and purged by this AAAMgr instance for which the GTPP protocol is being used to deliver the accounting message to the Charging Gateway Function (CGF). It counts total secondary G-CDRs purged by this AAAMgr instance.
Total null acct requests	The total number of AAA accounting requests received by this AAAMgr instance that were not required to be delivered to a AAA server.
Current null acct requests	The current number of AAA accounting requests being processed by this AAAMgr instance that are not required to be delivered to a AAA server.
Total aaa acct sessions	The total number of AAA accounting sessions facilitated by this AAAMgr instance.
Current aaa acct sessions	The number of AAA accounting sessions currently being facilitated by this AAAMgr instance.
Total aaa acct archived	The total number of AAA accounting requests received by this AAAMgr instance that initially failed to be delivered to a AAA server, and was subsequently archived for later transmission.
Current aaa acct archived	The current number of AAA accounting requests being processed by this AAAMgr instance that initially failed to be delivered to a AAA server and is currently archived for later transmission.
Current recovery archives	The number of AAA state records being maintained within the AAAMgr. They are used to generate accounting stops when a session manager fails or to recover the call in the Session Manager.
Current valid recovery records	The number of valid call recovery records that exist for current sessions.
Total aaa sockets opened	The total number of communication sockets opened by the AAAMgr instance for the purposes of communication with AAA servers.
Current aaa sockets open	The current number of communication sockets open by the AAAMgr instance for communication with AAA servers.
Total aaa requests pend socket open	The total number of AAA requests received by this AAAMgr instance that had to wait in queue while a socket to the AAA server was being opened.

Field	Description
Current aaa requests pend socket open	The number of AAA requests received by this AAAMgr instance that are currently waiting in queue while a socket to the AAA server is being opened.
Total radius requests pend server max-outstanding	The total number of RADIUS requests received by this AAAMgr instance that had to wait in queue because the limit of the number of outstanding RADIUS messages had been reached.
Current radius requests pend server max-outstanding	The number of RADIUS requests received by this AAAMgr instance that are currently waiting in queue because the limit of the number of outstanding RADIUS messages has been reached.
Total aaa radius coa requests	The total number of RADIUS Change Authorization Requests received from the RADIUS server.
Total aaa radius dm requests	The total number of RADIUS Disconnect Requests Received from the RADIUS server.
Total aaa radius coa acks	The total number of RADIUS Change Authorization Acknowledgement sent to the RADIUS server.
Total aaa radius dm acks	The total number of RADIUS Disconnect Acknowledgments sent to the RADIUS Server.
Total aaa radius coa naks	The total number of RADIUS Change Authorization Negative Acknowledgement sent to the RADIUS server.
Total aaa radius dm naks	The total number of RADIUS Disconnect Negative Acknowledgments sent to the RADIUS Server.
Total radius charg auth	The total number of authentication requests sent to the RADIUS charging server.
Total radius charg auth purg	The total number of RADIUS charging authentication requests purged.
Current radius charg auth	The total number of current authentication requests sent to the RADIUS charging server.
Total radius charg auth succ	The total number of successful authentication requests sent to the RADIUS charging server.
Total radius charg auth fail	The total number of access reject received from the RADIUS charging server.
Total radius charg auth cancel	The total number of accounting authorization request that were cancelled.
Total radius charg acct	The total number of accounting requests sent to the RADIUS charging server.
Current radius charg acct	The total number of current accounting requests sent to the RADIUS charging server
Total radius charg acct succ	The total number of accounting responses from the RADIUS charging server.
Total radius charg acct cancel	The total number of accounting requests that were cancelled.
Total gtpp charg	The total number of GTPP accounting requests sent to the server.
Current gtpp charg	The total number of current GTPP requests sent to the charging server.
Total gtpp charg success	The total number of successful GTPP accounting responses from the charging server.

Field	Description
Total gtpp charg failure	The total number of failed GTPP accounting requests from the charging server.
Total gtpp charg cancelled	The total number of cancelled GTPP accounting requests from the charging server.
Total gtpp charg purged	The total number of purged GTPP accounting requests.
Total radius charg acct purg	The total number of accounting requests purged.
Total gtpp sec charg	The total number of secondary eG-CDR charging requests being processed by this AAAMgr instance for which the GTPP protocol is being used to deliver the charging message to the Charging Gateway Function (CGF). It counts total secondary eG-CDRs generated by this AAAMgr instance.
Total gtpp sec charg purged	The total number of secondary eG-CDRs charging requests being processed and purged by this AAAMgr instance for which the GTPP protocol is being used to deliver the charging message to the Charging Gateway Function (CGF) . It counts total secondary eG-CDRs purged by this AAAMgr instance
Total prepaid online requests	The total number of prepaid online requests.
Current prepaid online requests	The number of prepaid online requests that this AAAMgr instance is currently processing.
Total prepaid online success	The total number of prepaid online requests succeed.
Current prepaid online failure	The number of failed prepaid online requests that this AAAMgr instance is currently processing.
Total prepaid online retried	The total number of prepaid online requests retried.
Total prepaid online cancelled	The total number of prepaid online requests cancelled.
Current prepaid online purged	The total prepaid online cancelled.
Total aaamgr purged requests	The total number of purged AAAMgr requests.
SGSN: Total mm records	Total number of Mobility Management (MM) records in database of this AAAMgr instance for SGSN service.
SGSN: Total pdp records	Total number of PDP context records in database of this AAAMgr instance for SGSN service.
SGSN: Total auth records	Total number of authentication records in database of this AAAMgr instance for SGSN service.
MME: Total extension records	Total number of extension records in database of this AAAMgr instance for MME service.
MME: Total apn records	Total number of APN records in database of this AAAMgr instance for MME service.
MME: Total apn extension records	Total number of extended APN records in database of this AAAMgr instance for MME service.
MME: Total auth records	Total number of authentication records in database of this AAAMgr instance for MME service.

Field	Description
MME: Total auth extension records	Total number of extended authentication records in database of this AAAMgr instance for MME service.
Current active subscriber traces	Total number of subscribers currently enabled with Subscriber Tracing function in database of this AAAMgr instance for MME service.

show session subsystem facility aaaproxy all



Important These statistics are from the perspective of the Session manager (SessMgr) and AAA Proxy Manager (AAAProxyMgr) task itself (not from the perspective of subscribers).

Table 539: show session subsystem facility aaaproxy all Command Output Descriptions

Field	Description
Total gtpp requests	The total number of GTPP requests sent.
Current gtpp requests	The total number of outstanding GTPP requests waiting for response from CGF/storage server.
Total GCDRs	The total number of G-CDRs sent.
Current GCDRs	The total number of outstanding G-CDRs waiting for response from CGF/storage server.
Total eGCDRs	The total number of eG-CDRs sent to CGF/storage server.
Current eGCDRs	The total number of outstanding eG-CDRs waiting for response from CGF/storage server.
Total PGW-GCDRs	The total number of PGW-CDRs sent to CGF/storage server.
Current PGW-GCDRs	The total number of outstanding PGW-CDRs waiting for response from CGF/storage server.
Total G-MB-CDRs	The total number of G-MB-CDRs sent.
Current G-MB-CDRs	The total number of outstanding G-MB_CDRs waiting for response from CGF/storage server.
Total SCDRs	The total number of S-CDRs sent.
Current SCDRs	The total number of outstanding S-CDRs waiting for response from CGF/storage server.
Total MCDRs	The total number of M-CDRs sent.
Current MCDRs	The total number of outstanding M-CDRs waiting for response from CGF/storage server.
Total S-SMO-CDRs	The total number of S-SMO-CDRs sent.

Field	Description
Current S-SMO-CDRs	The total number of outstanding S-SMO-CDRs waiting for response from CGF/storage server.
Total S-SMT-CDRs	The total number of S-SMT-CDRs sent.
Current S-SMT-CDRs	The total number of outstanding S-SMT-CDRs waiting for response from CGF/storage server.
Total LCS-MT-CDRs	The total number of LCS-MT-CDRs sent.
Current LCS-MT-CDRs	The total number of outstanding LCS-MT-CDRs waiting for response from CGF/storage server.
Total LCS-MO-CDRs	The total number of LCS-MO-CDRs sent.
Current LCS-MO-CDRs	The total number of outstanding LCS-MO-CDRs waiting for response from CGF/storage server.
Total SMBMSCDRs	The total number of outstanding SMBMS CDRs waiting for response from CGF/storage server.
Total SGW-CDRs	The total number of outstanding S-GW CDRs waiting for response from CGF/storage server.
Current SGW-GCDRs	The total number of SGW-CDRs sent to CGF/storage server.
Total ePDG-CDRs	The total number of outstanding ePDG CDRs waiting for response from CGF/storage server.
Current ePDG-GCDRs	The total number of ePDG-CDRs sent to CGF/storage server.
Total WLAN-CDRs	The total number of outstanding WLANGW CDRs waiting for response from CGF/storage server.
Total sockets opened	The total number of sockets opened.
Current sockets opened	The total number of sockets waiting to open.
Total files closed	The total number of files that have been already closed.
Current Open files	The number of files that are currently open and still in use.

show session subsystem facility asngwmgr all



Important These statistics are from the perspective of the Session manager (SessMgr) and ASNGW Manager (ASNGWMgr) task itself (not from the perspective of subscribers).

Table 540: show session subsystem facility asngwmgr all Command Output Descriptions

Field	Description
ASNGW Managers	Total number of active ASN GW Managers.
Total active services	Total number of active ASN GW services.
Anchor Session	Specifies the subsystem statistics for ASN GW service sessions in anchored mode.
Non-Anchor Session	Specifies the subsystem statistics for ASN GW service sessions in non-anchored mode.
Total calls arrived	Indicates the total number of sessions received by this ASN Gateway Manager instance for processing.
Total calls rejected	Indicates the total number of sessions that were rejected by this ASN Gateway Manager instance.
Total calls demultiplexed	Indicates the total number of sessions that were successfully setup by this by this ASN Gateway Manager instance.
Total dereg reply sent	Indicates the total number of sessions that were successfully de-registered, or disconnected, by this ASN Gateway Manager instance.
Total control pkts relayed	Indicates the total number of R6 control packets relayed via demux manager.
Current active calls	Indicates the total number of active sessions currently being facilitated by this ASN Gateway Manager instance.
Total active services	The total number of ASN Gateway services that are currently facilitating subscriber sessions.

show session subsystem facility asnpcmgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) and ASN-PC Manager (ASNPCMgr) task itself (not from the subscriber perspective).

Table 541: show session subsystem facility asngwmgr all Command Output Descriptions 0

Field	Description
ASNPC Managers	Total number of active ASN PC Manager instances.
Total active services	Total number of active ASN PC services.
Total calls arrived	Indicates the total number of sessions received by this ASN PC Manager instance for processing.
Total calls rejected	Indicates the total number of sessions that were rejected by this ASN PC Manager instance.

Field	Description
Total calls demultiplexed	Indicates the total number of sessions that were successfully setup by this by this ASN PC Manager instance.
Total calls released	Indicates the total number of sessions that were successfully de-registered, or disconnected, by this ASN PC Manager instance.
Total control pkts relayed	Indicates the total number of R6 control packets relayed via demux manager.
Current active calls	Indicates the total number of active sessions currently being facilitated by this ASN Gateway Manager instance.
context name	Indicates the name of the context where ASN PC service is configured.

show session subsystem facility egtpegmgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) and EGTP Egress Demux Manager (EGTPCegMgr) task itself (not from the subscriber perspective).

Table 542: show session subsystem facility egtpegmgr Command Output Descriptions

Field	Description
EGTPEGMgr	The EGTP Egress Demux Manager task instance number. Since multiple EGTP Manager tasks can be operating simultaneously in the system, each one is assigned an instance number.
Total messages arrived	Indicates the total number of messages received by this EGTP Manager instance for processing.
Total messages rejected	Indicates the total number of messages that were rejected by this EGTP Manager instance.
Total messages demultiplexed	Indicates the total number of messages that were successfully set up by this by this EGTP Manager instance.
Total Peer Nodes	Indicates the total number of peer nodes available for facilitating subscriber sessions.
Total Active Peer Nodes	The total number of peer nodes that are currently facilitating subscriber sessions.
Total active services	The total number of EGTP services that are currently facilitating subscriber sessions.
Total Path Failure Detected	The total number of path failure errors detected by both the Session Manager and EGTP Egress Demux Manager.
Informed by sessmgr	The total number of path failure errors detected by the Session Manager
Detected by demuxmgr	The total number of path failure errors detected by the EGTP Egress Demux Manager.
context name	The context to which this EGTP Egress Manager belongs.

show session subsystem facility egtpinmgr all

Important These statistics are from the perspective of the Session Manager (SessMgr) and EGTP Ingress Demux Manager (EGTPCinMgr) task itself (not from the subscriber perspective).

Table 543: show session subsystem facility egtpinmgr Command Output Descriptions

Field	Description
EGTPINMgr	The EGTP Ingress Demux Manager task instance number. Since multiple EGTP Manager tasks can be operating simultaneously in the system, each one is assigned an instance number.
Total calls arrived	Indicates the total number of sessions received by this EGTP Manager instance for processing.
Total calls rejected	Indicates the total number of sessions that were rejected by this EGTP Manager instance.
Total calls demultiplexed	Indicates the total number of sessions that were successfully setup by this by this EGTP Manager instance.
Total SGSNs	Indicates the total number of SGSNs available for facilitating subscriber sessions.
Total Active SGSNs	The total number of SGSNs that are currently facilitating subscriber sessions.
Total active services	The total number of EGTP services that are currently facilitating subscriber sessions.

show session subsystem facility famgr all

Important These statistics are from the perspective of the Session Manager (SessMgr) and FA Manager (FAMgr) task itself (not from the subscriber perspective).

Table 544: show session subsystem facility famgr Command Output Descriptions

Field	Description
FAMgr	The FA Manager task instance number. Since multiple FA Manager tasks can be operating simultaneously in the system, each one is assigned an instance number.
Total calls arrived	Indicates the total number of sessions received by this FA Manager instance for processing.
Total calls rejected	Indicates the total number of sessions that were rejected by this FA Manager instance.

Field	Description
Total calls demultiplexed	Indicates the total number of sessions that were successfully setup by this by this FA Manager instance.
Total dereg reply sent	Indicates the total number of sessions that were successfully de-registered, or disconnected, by this by this FA Manager instance.
Current active calls	Indicates the total number of active sessions currently being facilitated by this FA Manager instance.
Total active services	The total number of FA services that are currently facilitating subscriber sessions.

show session subsystem facility gtpcmgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) and GTPC Manager (GTPCMgr) task itself (not from the subscriber perspective).



Important This command is not supported release 14.0 onwards. Look for new command **show session subsystem facility egtpinmgr all** instead.

Table 545: show session subsystem facility gtpcmgr Command Output Descriptions

Field	Description
GTPCMgr	The GTPC Manager task instance number. Since multiple GTPC Manager tasks can be operating simultaneously in the system, each one is assigned an instance number.
Total calls arrived	Indicates the total number of sessions received by this GTPC Manager instance for processing.
Total calls rejected	Indicates the total number of sessions that were rejected by this GTPC Manager instance.
Total calls demultiplexed	Indicates the total number of sessions that were successfully setup by this by this GTPC Manager instance.
Total SGSNs	Indicates the total number of SGSNs available for facilitating subscriber sessions.
Total Active SGSNs	The total number of SGSNs that are currently facilitating subscriber sessions.
Current active calls	Indicates the total number of active sessions currently being facilitated by this GTPC Manager instance.
Total active services	The total number of GTPC services that are currently facilitating subscriber sessions.

show session subsystem facility hamgr all

Important These statistics are from the perspective of the Session Manager (SessMgr) and HA Manager (HAMgr) task itself (not from the subscriber perspective).

Table 546: show session subsystem facility hamgr all Command Output Descriptions

Field	Description
HAMgr	The HA Manager task instance number. Since multiple HA Manager tasks can be operating simultaneously in the system, each one is assigned an instance number.
Total calls arrived	Indicates the total number of sessions received by this HA Manager instance for processing.
Total calls rejected	Indicates the total number of sessions that were rejected by this HA Manager instance.
Total calls demultiplexed	Indicates the total number of sessions that were successfully setup by this by this HA Manager instance.
Total dereg reply sent	Indicates the total number of sessions that were successfully de-registered, or disconnected, by this by this HA Manager instance.
Current active calls	Indicates the total number of active sessions currently being facilitated by this HA Manager instance.
Total active services	The total number of HA services that are currently facilitating subscriber sessions.

show session subsystem facility ipsgmgr

Important These statistics are from the perspective of the IPSG Manager (IPSGMgr) task itself (not from the subscriber perspective).

Table 547: show session subsystem facility ipsgmgr Output Descriptions

Field	Description
IPSG Managers	The total number of IPSG Managers running on the chassis.
Total calls arrived	The total number of calls received and processed by the IPSG Managers.
Total calls rejected	The total number of calls rejected by the IPSG Managers.
Total calls demultiplexed	The total number of calls demultiplexed by the IPSG Managers.

Field	Description
Total dereg reply sent	The total number of deregestration replies sent by the IPSG Manager.
Current active calls	The total number of active sessions currently being facilitated by the IPSG Manager instances.
Total active services	The total number of IPSG services that are currently facilitating subscriber sessions.

show session subsystem facility mmedemux



Important These statistics are from the perspective of the MME Demux Manager (MMEDemuxr) task itself (not from the subscriber perspective).

Table 548: show session subsystem facility mmedemux Output Descriptions

Field	Description
MME Demux Managers	The total number of MME managers running on a chassis.
Total number of packets received	The total number of packets received and processed for EPS session by the MME Demux manager.
Total number of packets received (IPSec)	The total number of encrypted packets received and processed for EPS session by the MME Demux manager.
Total number of packets dropped	The total number of packets received but dropped by the MME Demux manager.
Total number of packets dropped (Total MME Unavail)	The total number incoming packets dropped by the MME Demux subsystem (at S1 interface, coming from eNodeB) while waiting for all MME Managers to be activated (status = UP). The MME waits to start processing traffic only after the expected number of MME Managers are UP after an MME restart.
Total number of packets dropped (Assurance Violation)	The total number of packets received but dropped due to not being encrypted.
Total number of octets received	The total number of packets received and processed for EPS session by the MME Demux manager.
Total number of octets received (IPSec)	The total number of encrypted octets received and processed for EPS session by the MME Demux manager.
Total number of octets dropped	The total number of octets received but dropped by the MME Demux manager.
Total number of octets dropped (Assurance Violation)	The total number of octets received but dropped due to not being encrypted.
Total Services	The total number of MME services managed by the MME Demux Manager.

Field	Description
Total Services (IPSec)	The total number of IPSec-enabled MME services managed by the MME Demux Manager.
Enodeb Associations	The total number of eNodeBs connected/associated with MME services managed by the MME Demux Manager.
Enodeb Associations (IPSec)	The total number of IPSec-enabled eNodeBs connected/associated with MME services managed by the MME Demux Manager.
Total SBC Associations Rejected	The total number of SBc Associations rejected by the MME Demux Manager.
Total number of S1 sctp packets dropped (rate-limit)	This counter displays the number of SCTP packets dropped due to the configured rate limit for incoming S1 SCTP connections in MME per chassis.

show session subsystem facility mmemgr all



Important These statistics are from the perspective of the MME Manager (MMEMgr) task itself (not from the subscriber perspective).

Table 549: show session subsystem facility mmemgr all Output Descriptions

Field	Description
MME Managers	Indicates the total number of MME managers running on a chassis.
SCTP Statistics	This group displays the statistics captured over the SCTP interface and processed by this MME manager.
Transmitted SCTP Data	This sub-group displays the statistics of the total data processed and transmitted over SCTP interface by this MME manager.
Init Chunks	Indicates the total SCTP packets with INIT transmitted over SCTP interface by this MME manager.
Init Ack Chunks	Indicates the total SCTP packets with INIT-ACK transmitted over SCTP interface by this MME manager.
Shutdown Chunks	Indicates the total SCTP packets with SHUTDOWN transmitted over SCTP interface by this MME manager.
Shutdown Ack Chunks	Indicates the total SCTP packets with SHUTDOWN-ACK transmitted over SCTP interface by this MME manager.
Cookie Chunks	Indicates the total SCTP packets with COOKIE transmitted over SCTP interface by this MME manager.

Field	Description
Cookie Ack Chunks	Indicates the total SCTP packets with COOKIE-ACK transmitted over SCTP interface by this MME manager.
Data Chunks	Indicates the total SCTP packets with DATA transmitted over SCTP interface by this MME manager.
Data Ack Chunks	Indicates the total SCTP packets with DATA-ACK transmitted over SCTP interface by this MME manager.
Shutdown Complete Chunks	Indicates the total SCTP packets with SHUTDOWN-COMPLETE transmitted over SCTP interface by this MME manager.
Heartbeat Chunks	Indicates the total SCTP packets with HEARTBEAT transmitted over SCTP interface by this MME manager.
HeartBeat Ack Chunks	Indicates the total SCTP packets with HEARTBEAT-ACK transmitted over SCTP interface by this MME manager.
Abort Chunks	Indicates the total SCTP packets with ABORT transmitted over SCTP interface by this MME manager.
Error Chunks	Indicates the total SCTP packets with ERROR transmitted over SCTP interface by this MME manager.
Received SCTP Data	This sub-group displays the statistics of the total data received over SCTP interface and processed by this MME manager.
Init Chunks	Indicates the total SCTP packets with INIT received over SCTP interface by this MME manager.
Init Ack Chunks	Indicates the total SCTP packets with INIT-ACK received over SCTP interface by this MME manager.
Shutdown Chunks	Indicates the total SCTP packets with SHUTDOWN received over SCTP interface by this MME manager.
Shutdown Ack Chunks	Indicates the total SCTP packets with SHUTDOWN-ACK received over SCTP interface by this MME manager.
Cookie Chunks	Indicates the total SCTP packets with COOKIE received over SCTP interface by this MME manager.
Cookie Ack Chunks	Indicates the total SCTP packets with COOKIE-ACK received over SCTP interface by this MME manager.
Data Chunks	Indicates the total SCTP packets with DATA received over SCTP interface by this MME manager.
Data Ack Chunks	Indicates the total SCTP packets with DATA-ACK received over SCTP interface by this MME manager.
Shutdown Complete Chunks	Indicates the total SCTP packets with SHUTDOWN-COMPLETE received over SCTP interface by this MME manager.

Field	Description
Heartbeat Chunks	Indicates the total SCTP packets with HEARTBEAT received over SCTP interface by this MME manager.
HeartBeat Ack Chunks	Indicates the total SCTP packets with HEARTBEAT-ACK received over SCTP interface by this MME manager.
Abort Chunks	Indicates the total SCTP packets with ABORT received over SCTP interface by this MME manager.
Error Chunks	Indicates the total SCTP packets with ERROR received over SCTP interface by this MME manager.
Retransmitted SCTP Data	This sub-group displays the statistics of the total data processed and retransmitted over SCTP interface by this MME manager.
Init Chunks	Indicates the total SCTP packets with INIT retransmitted over SCTP interface by this MME manager.
Shutdown Chunks	Indicates the total SCTP packets with SHUTDOWN retransmitted over SCTP interface by this MME manager.
Shutdown Ack Chunks	indicates the total SCTP packets with SHUTDOWN-ACK retransmitted over SCTP interface by this MME manager.
Cookie Chunks	Indicates the total SCTP packets with COOKIE retransmitted over SCTP interface by this MME manager.
Data Chunks	Indicates the total SCTP packets with DATA transmitted over SCTP interface by this MME manager.
Total Bytes Sent To Lower Layer	Indicates the total bytes processed and sent to lower layer over SCTP interface by this MME manager.
Total Bytes Received From Lower Layer	Indicates the total bytes received from lower layer over SCTP interface by this MME manager for processing.
Total Packets Sent To Lower Layer	Indicates the total packets processed and sent to lower layer over SCTP interface by this MME manager.
Total Packets Received From Lower Layer	Indicates the total packets received from lower layer over SCTP interface by this MME manager for processing.
S1AP Statistics	This group displays the statistics captured over S1-AP interface and processed by this MME manager received or transmitted from/to eNodeB.
Transmitted S1AP Data	This sub-group displays the statistics of the total data processed and transmitted over S1-AP interface by this MME manager to eNodeB.
S1 Setup Response	Indicates the total number of S1 SETUP RESPONSE messages for S1 setup procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
S1 Setup Failure	Indicates the total number of S1 SETUP FAILURE messages for S1 setup procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.

Field	Description
Reset	Indicates the total number of S1 RESET messages for S1 reset procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
Reset Acknowledge	Indicates the total number of S1 RESET-ACK messages for S1 reset procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
Overload Start	Indicates the total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
Overload Stop	Indicates the total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
MME Dir Information Transfer	Indicates the total number of MME DIRECT INFORMATION TRANSFER messages for MME Direct Information Transfer procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
Paging	Indicates the total number of PAGING messages for paging procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
EnodeB Configuration Update Acknowledge	Indicates the total number of ENB CONFIGURATION UPDATE ACK messages for eNodeB Configuration Update procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
EnodeB Configuration Update Failure	Indicates the total number of ENB CONFIGURATION UPDATE FAILURE messages for eNodeB Configuration Update procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
MME Configuration Update	Indicates the total number of MME CONFIGURATION UPDATE messages sent by this MME manager to the eNodeB for the purpose of updating the Transport Network Layer (TNL) association. The TNL association is required for the MME and eNodeB to interoperate correctly across the S1 interface.
S1AP Encode Failure	Indicates the total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1-AP interface by this MME manager to eNodeB.
Paging Dropped	Indicates the total number S1 paging requests to all eNodeBs which were dropped because the number of paging requests exceeded the S1 paging rate threshold as configured in the Global Config Mode command: **network-overload-protection mme-tx-msg-rate-control enb s1-paging**.
Received S1AP Data	This sub-group displays the statistics for the total amont of data received over the S1-AP interface by this MME manager from eNodeB.
S1 Setup Request	Indicates the total number of S1 SETUP REQUEST messages for S1 setup procedure received over S1-AP interface by this MME manager from eNodeB.
Reset	Indicates the total number of S1 RESET messages for S1 reset procedure received over S1-AP interface by this MME manager from eNodeB.

Field	Description
Reset Acknowledge	Indicates the total number of S1 RESET-ACK messages for S1 reset procedure received over S1-AP interface by this MME manager from eNodeB.
EnodeB Dir Information Transfer	Indicates the total number of ENB DIRECT INFORMATION TRANSFER messages for eNB Direct Information Transfer procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
EnodeB Configuration Update	Indicates the total number of ENB CONFIGURATION UPDATE messages for eNB Configuration Update procedure processed and transmitted over S1-AP interface by this MME manager to eNodeB.
S1AP Decode Failure	Indicates the total number of failure occurred during S1AP decoding procedure by eNodeB and S1AP DECODE FAILURE messages received over S1-AP interface by this MME manager from eNodeB.
S1AP Unexpected Event	Indicates the total number of failure occurred due to unexpected events during S1AP procedure at eNodeB and S1AP UNEXPECTED EVENT messages received over S1-AP interface by this MME manager from eNodeB.
Total Services	Indicates the total number of MME services managed by this MME Manager.
Total Services (IPSec)	Indicates the total number of IPSec-enabled MME services managed by this MME Manager.
Enodeb Associations	Indicates the total number of eNodeBs connected/associated with MME services managed by this MME Manager.
Enodeb Associations (IPSec)	Indicates the total number of IPSec-enabled eNodeBs connected/associated with MME services managed by this MME Manager.
S1AP Partial Reset to Sessmgr(Non-Vector)	Indicates the total number of Partial Reset messages received by each Session Manager.
Service Start Request	The total number of service start requests received by MMEMgr.
Service Modify Request	The total number of service modify requests received by MMEMgr.
Service Stop Request	The total number of service stop requests received by MMEMgr.
Paging Messages Sent	The total number of paging messages sent by MMEMgr.
Temporary EnodeB entries(For Trap Generation)	The total number of eNodeB entries cached for generating SNMP traps.
PLMN Validation Failure	The total number of PLMN validations failed at MMEMgr.
EnodeB Id Validation Failure	The total number of eNodeB id validations failed at MMEMgr.
usap(SCTP Endpoints) Allocated	The total number of SCTP user service access points allocated at MMEMgr.
Current Number of SCTP Flows	Current number of SCTP flows at MMEMgr.

Field	Description
Dropped Packets Reason	The following group of counters displays the number of packets dropped at the MME Manager due to various reasons.
Incorrect Length	The total number of dropped packets with reason: Received PDU length at MED layer is less than Length value found after decoding the IP Packet.
Oversized PDU	The total number of dropped packets with reason: Received PDU length at MED layer is more than DBUF size(10K bytes).
No Flow exists	The total number of dropped packets with reason: There is no SCTP flow existing for the flowId received from underlying layer.
Flow Inactive	The total number of dropped packets with reason: Flow entry is not Active when the message is received.
Invalid IP Ver	The total number of dropped packets with reason: Received PDU length at MED layer is less than Length value found after decoding the IP Packet.
Port Mismatch	The total number of dropped packets with reason: Received PDU length at MED layer is less than Length value found after decoding the IP Packet.
Invalid Protocol	The total number of dropped packets with reason: Received PDU length at MED layer is less than Length value found after decoding the IP Packet.
Total Services(SBc)	Total number of SBc services configured on this system.
SBc Statistics	
Transmitted SBc Data	This subgroup includes counters for data transmitted for all SBc services.
Total Transmitted	Total number of messages transmitted from the MME to all CBCs.
Transmit Errors	This subgroup includes counters for errors encountered while transmitting SBc messages towards CBC.
Transport Errors	Total number of failures, due to SCTP, while transmitting SBc messages towards CBC.
Encode Failures	Total number of failures in sending messages to CBC due to message encoding failures.
No buffers	Total number of failures in sending messages to CBC due to memory allocation failures.
Transport Buffer Failure	Total memory allocation failures during sending of SBc message over SCTP.
Encode Buffer Failure	Total memory allocation failures during encoding of IEs for SBc message.
Write Replace Warning Response	The total number of Write-Replace Warning Responses sent for all SBc services (Tracking Area Not Valid + MME Capacity Exceeded + Warn Bcast Not Operational + Message Accepted).
Tracking Area Not Valid	The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Tracking Area Not Valid.
MME Capacity Exceeded	The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause MME Capacity Exceeded.

Field	Description
Warn Bcast NotOperational	The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Warning Broadcast Not Operational.
Message Accepted	The total number of Write-Replace Warning Response messages sent from the MME to the CBC with cause Message Accepted.
Stop Warning Response	The total number of Stop Warning Responses sent for all SBc services (Tracking Area Not Valid + MME Capacity Exceeded + Warn Bcast Not Operational + Message Accepted).
Tracking Area Not Valid	The total number of Stop Warning Response messages sent from the MME to the CBC with cause Tracking Area Not Valid.
MME Capacity Exceeded	The total number of Stop Warning Response messages sent from the MME to the CBC with cause MME Capacity Exceeded.
Warn Bcast NotOperational	The total number of Stop Warning Response messages sent from the MME to the CBC with cause Warning Broadcast Not Operational.
Message Accepted	The total number of Stop Warning Response messages sent from the MME to the CBC with cause Message Accepted.
Error Indication	The total number of Error Indication messages sent from the MME to the CBC.
Received SBc Data	This subgroup includes counters for data received for all SBc services.
Total Received PDUs	The total number of messages received from all CBCs.
PDU Decode Success	The total number of successful PDU decodes.
Receive Errors	This subgroup includes counters for PDU receive errors.
No Sbc Association	The total number of received SBc messages dropped due to no matching association.
PDU Decode Failures	The total number of received SBc messages dropped due to PDU decode failure.
Write Replace Warning Request	The total number of Write Replace Warning Request messages received from the CBC.
TAI List Not Present	The total number of Write Replace Warning Request messages received from the CBC without a List-Of-TAIs IE.
Stop Warning Request	The total number of Stop Warning Request messages received from the CBC.
TAI List Not Present	The total number of Stop Warning Request messages received from the CBC without a List-Of-TAIs IE.
Error Indication	The total number of Error Indication messages received from the CBC.
IE Errors	The total number of CBC IE failures.
Protocol Error Statistics	This subgroup includes counters for Protocol Errors for all SBc services.
Unknown Procedures	The total number of messages encountered with Unknown Procedure codes.

Field	Description
Unknown IEs	The total number of messages encountered with Unknown IEs.
Unknown Messages	The total number of unrecognized messages encountered.
Missing Mandatory IEs	The total number of messages encountered with Missing Mandatory IE.
Transfer Syntax Error	The total number of messages encountered with a Transfer Syntax Error.
Semantic Error	The total number of messages encountered with a Semantic Error.
Message Not Compatible	The total number of messages encountered with error: Message Not Compatible.
Others	The total number of parser internal messages.
Abstract Syntax Errors	This subgroup includes counters for Abstract Syntax Errors for all SBc services.
Reject	The total number of messages encountered with Abstract Syntax Error with Criticality: Reject.
Ignore and notify	The total number of messages encountered with Abstract Syntax Error with Criticality: Ignore and Notify.
Ignore	The total number of messages encountered with Abstract Syntax Error with Criticality: Ignore.
Falsely Constr Message	The total number of messages encountered with Abstract Syntax Error: Falsely Constructed message.
SBc Association Statistics	This subgroup includes counters related to SBc Associations for all SBc services.
Total Active	The total number of SBc Associations currently Active.
Total Created	The total number of SBc Associations created.
Total Closed	The total number of SBc Associations closed.
CBC Transactions Created	The total number of CBC transactions created.
CBC Transaction Failed	The total number of CBC transactions failed.
CBC Transaction Timeout	The total number of CBC transactions timed out.
SCTP Flows	The current number of SCTP flows for SBc data at the MMEMgr.
CBC Not Found	The total number of errors due to CBC not found.
IMSIMGR Selection counters	Displays the IMSI Manager Selection Counters
IMSIMGR 1	Displays the number of requests at the IMSI Manager "1".
IMSIMGR 2	Displays the number of requests at the IMSI Manager "2".
IMSIMGR 3	Displays the number of requests at the IMSI Manager "3".
IMSIMGR 4	Displays the number of requests at the IMSI Manager "4".

Field	Description
Paging CS Priority	Displays the configured CS Priority value
Paging PS priority	Displays the configured PS Priority value
Congestion-Configuration:	
CPU Congestion	Indicates whether CPU congestion control is enabled or disabled - Enabled/Disabled.
Thresholds:	
CPU Utilization	Displays the configured CPU utilization value.
CPU Tolerance	Displays the configured CPU tolerance value.
Congestion-State	Indicates the congestion state - Busy/Not Busy.
Congestion History:	
Timestamp	Displays the timestamp.
CPU usage	Displays the CPU usage.

show session subsystem facility sessmgr all



Important These statistics are from the perspective of the Session Manager (SessMgr) task itself (not from the subscriber perspective).

Table 550: show session subsystem facility sessmgr all Output Descriptions

Field	Description
SessMgr	Displays the Session Manager task instance number. Since multiple Session Manager tasks can be operating simultaneously in the system, each one is assigned an instance number.
Total calls arrived	The total number of calls for which registration requests were received by this Session Manager instance.
Total calls rejected	The total number of calls that were rejected by this Session Manager instance.
Total calls connected	The total number of calls that are connected (including active, dormant, being set up, and being disconnected) by this Session Manager instance.
Total calls failed	The total number of calls processed by this Session Manager instance which have failed.
Total calls disconnected	The total number of calls that were disconnected by this Session Manager instance.
Total handoffs	The total number of calls that are handed off by this Session Manager instance.

Field	Description
Total renewals	The total number of call that were reprocessed by this Session Manager instance.
Total active-to-idle transitions	The total number of call sessions passed through active mode to idle mode.
Total idle-to-active transitions	The total number of call sessions passed through idle mode to active mode.
Total auth successes	The total number of successful authentications for calls being processed by this Session Manager instance.
Total auth failure	The total number of failed authentications for calls being processed by this Session Manager instance.
Current aaa active sessions	The total number of calls being processed by this Session Manager instance for which there are active AAA authentication and/or accounting sessions.
Current aaa deleting sessions	The total number of calls being processed by this Session Manager instance for which the AAA accounting is being terminated.
Current aaa acct pending	The total number of calls being processed by this Session Manager instance for which there are pending AAA authentication and/or accounting sessions.
aaa acct items (used/max)	The total number of AAA accounting items used and the maximum allowed by this Session Manager instance.
aaa buffer (used in MB/max in MB)	The AAA buffer space used and the maximum allowed in megabytes for this Session Manager instance.
Total aaa cancel auth	The total number of canceled AAA authentication requests for this Session Manager instance.
Total aaa acct purged	The total number of AAA accounting requests received by this Session Manager instance that had to be purged because the storage limit of pending accounting requests had been exceeded.
Total radius acct purged	The total number of RADIUS accounting requests received by this Session Manager instance that had to be purged because the storage limit of pending accounting requests had been exceeded.
Total LCP up	The total number of calls being processed by this Session Manager instance that have completed the Link Control Protocol (LCP) phase of the registration process.
Total IPCP up	The total number of calls being processed by this Session Manager instance that have completed the Internet Protocol Control Protocol (IPCP) phase of the registration process.
Total IPv6CP up	The total number of calls being processed by this Session Manager instance that have completed the Internet Protocol version 6 (IPv6) phase of the registration process.
Total source violation	The total number of source violations experienced for all calls being processed by this Session Manager instance.
Total keepalive failure	The total number of keep-alive failures experienced for all calls being processed by this Session Manager instance.

Field	Description
Empty fwd pkt sessions	The total number of calls that were processed by this session manager instance for which there were no data packets being sent to the subscriber.
Empty rev pkt sessions	The total number of calls that were processed by this session manager instance for which there were no data packets being received from the subscriber.
Total 3gpp2 prepaid sess	The total number of 3gpp2 prepaid sessions on the system.
Current 3gpp2 prepaid sess	The current number of active 3gpp2 prepaid sessions on the system.
Total 3gpp2 online auth requests	The total number of 3gpp2 sessions requesting authentication on the system.
Total 3gpp2 online auth success	The total number of authenticated 3gpp2 active sessions on the system.
Total 3gpp2 online auth failures	The total number of 3gpp2 sessions that had authentication failures.
Total 3gpp2 online prepaid errors	The total number of prepaid 3gpp2 sessions that incurred errors.
Total 3gpp2 prepaid initial auth errors	The total number of prepaid initial 3gpp2 sessions that had authentication errors.
Total Rfc3261 subscribers	Total number of subscribers registered in CSCF Rfc3261 service.
Total Proxy Cscf subscribers	Total number of subscribers registered in Proxy-CSCF service.
Total Serving Cscf subscribers	Total number of subscribers registered in Serving-CSCF service.
Total Proxy-Serving cscf subscribers	Total number of subscribers registered in Collapsed Proxy-Serving-CSCF service.
Total voice-push sessions	The total number of voice-push sessions.
Current voice-push sessions	The current number of active voice-push sessions.
Total voice-push-filt sessions	The total number of voice-push-filt sessions.
Current voice-push-filt sessions	The current number of voice-push-filt sessions.
Total non-voice-push sessions	The total number of non-voice-push session.
Current non-voice-push sessions	The current number of non-voice-push sessions
Total undetermined sessions	The total number of undetermined sessions.
Current undetermined sessions	The current number of undetermined sessions.
Intra-ASNGW HO attempted	The total number of inter-BS (Intra-ASN GW) handovers attempted by system.
Intra-ASNGW HO succeeded	The total number of inter-BS (Intra-ASN GW) handover attempts succeeded.
Inter-ASNGW HO attempted	The total number of inter-ASN GW handovers attempted by system.
Inter-ASNGW HO succeeded	The total number of inter-ASN GW handover attempts succeeded.
ASNPC IM Entry attempted	The total number of idle mode entry attempted by Paging Controller.

Field	Description
ASNPC IM Entry Succeeded	The total number of idle mode entry by Paging Controller succeeded.
ASNPC IM Exit attempted	The total number of idle mode exit attempted by Paging Controller.
ASNPC IM Exit Succeeded	The total number of idle mode exit by Paging Controller succeeded.
ASNPC LU attempted	The total number of location updates attempted by Paging Controller.
ASNPC LU Succeeded	The total number of location updates by Paging Controller succeeded.
ASNPC Paging Triggered	The total number of pagings triggered by Paging Controller.
ASN Ctrl packets received	The total number of control packets received for ASN GW service session.
ASN Ctrl packets runt received	The total number of control packets with run-time error discarded for ASN GW service session.
ASN Ctrl packets csum received	The total number of control packets with checksum error discarded for ASN GW service session.
ASN Ctrl packets no-flow discarded	The total number of control packets (without any flow) discarded for ASN GW service session.
ASNGW data pkts stored (during paging)	The total number of data packets stored during paging.
ASNGW data pkts flushed (during paging)	The total number of data packets flushed during paging.
CRP-RP handoff attempted	The total number of Closed RP to RP handoffs that were attempted.
CRP-RP handoff succeeded	The total number of Closed RP to RP handoffs that succeeded.
RP-CRP handoff attempted	The total number of RP to Closed RP handoffs that were attempted.
RP-CRP handoff succeeded	The total number of RP to Closed RP handoffs that succeeded.
Current active subscriber traces	Total number of subscribers currently enabled with Subscriber Tracing function in database of this SessMgr instance for MME service.
Current MME EGTP path failure queued for ecm-idle sessions	The current number of ECM Idle sessions queued for deactivation due to an EGTP path failure for this Session Manager instance (for MME services).
Current MME EGTP path failure queued for ecm-connected sessions	The current number of ECM Connected sessions queued for deactivation due to an EGTP path failure for this Session Manager instance (for MME services).
Maximum MME EGTP path failure queued for ecm-idle sessions	The maximum number of ECM Idle sessions queued for deactivation due to an EGTP path failure for this Session Manager instance (for MME services). This is the maximum value of the current ecm-idle sessions reached since the Session Manager started.
Maximum MME EGTP path failure queued for ecm-connected sessions	The maximum number of ECM Connected sessions queued for deactivation due to an EGTP path failure for this Session Manager instance (for MME services). This is the maximum value of the current ecm-connected sessions reached since the Session Manager started.

Field	Description
Data statistics	This table categorizes the number of Receive and Transmit packets into packet size ranges. These statistics are totals for all calls being processed by this Session Manager instance.
In-Progress Call Duration Statistics	This table categorizes the total number of calls being processed by this Session Manager according to various time durations ranging from less than (<) 1 minute to greater than (>) 24 hours.
Setup Time Statistics	This table categorizes the amount of time it took to set up calls according to various time durations ranging from less than (<) 100 ms to greater than (>) 18 seconds.
Total SGSN Fast Path statistics update	Total number of updates for statistical information from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions.
Total Gtpu Fast Path statistics update	Total number of updates for statistical information from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions.
Total SGSN Fast Path out-of-order statistics updates	Total number of updates for out of order packet statistics from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions.
Total Gtpu Fast Path out-of-order statistics updates	Total number of updates for out of order packet statistics from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions.
Total SGSN Fast Path statistics updates lost	Total number of packets lost for statistical updates from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions.
Total Gtpu Fast Path statistics updates lost	Total number of packets lost for statistical updates from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions.
Total SGSN Fast Path packets lost	Total number of lost packets of all types from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions.
Total Gtpu Fast Path packets lost	Total number of lost packets of all types from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions.
Total SGSN Fast Path bytes lost	Total number of lost bytes from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions.
Total Gtpu Fast Path bytes lost	Total number of lost bytes from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions.
Total SGSN Fast Path packets received	Total number of all type of packets received from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions.
Total Gtpu Fast Path packets received	Total number of all type of packets received from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions.

Field	Description
Total SGSN Fast Path bytes received	Total number of all type of bytes received from NPU in fast path support. The title of this counter is valid in release 12.2 and earlier versions.
Total Gtpu Fast Path bytes received	Total number of all type of bytes received from NPU in fast path support. The title of this counter is valid in release 14.0 and later versions.
In-progress calls	The number of calls that are currently in progress (active, dormant, being set up, or being disconnected) and being processed by either the system (if no keywords were used), a specific PDSN service (if the **pdsn-service** keyword was used), or a specific PCF (if the **pcf** keyword was used).
In-progress active calls	The total number of active sessions being processed by this Session Manager instance.
In-progress dormant calls	The total number of dormant sessions being processed by this Session Manager instance. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
In-progress always-on calls	The total number of always-on sessions being processed by this Session Manager instance.
In-progress calls @ MBMS UE AUTHORIZING state	The total number of MBMS sessions currently in UE authorization state.
In-progress calls @ MBMS BEARER AUTHORIZING state	The total number of MBMS sessions currently in bearer authorization state.
In-progress calls @ ARRIVED state	The total number of sessions being processed by this Session Manager instance that are at the onset of the registration process.
In-progress calls @ LCP-NEG state	The total number of sessions being processed by this Session Manager instance that are in the Link Control Protocol (LCP) negotiation phase of the registration process.
In-progress calls @ LCP-UP state	The total number of sessions being processed by this Session Manager instance that have just completed the Link Control Protocol (LCP) negotiation phase of the registration process.
In-progress calls @ AUTHENTICATING state	The total number of sessions being processed by this Session Manager instance that are in the process of being authenticated.
In-progress calls @ AUTHENTICATED state	The total number of sessions being processed by this Session Manager instance that have just completed the authentication phase of the registration process.
In-progress calls @ L2TP-LAC CONNECTING state	The number of calls that have an L2TP tunnel in the process of being brought up.
In-progress calls @ IPCP-UP state	The total number of sessions being processed by this Session Manager instance that have just completed the Internet Protocol Control Protocol (IPCP) phase of the registration process.
In-progress calls @ NON-ANCHOR CONNECTED state	The total number of WiMAX sessions being processed by this Session Manager instance that are currently being in connected state in non-anchor mode.

Field	Description
In-progress calls @ MOBILE-IPv6 CONNECTED state	Total number of Proxy Mobile IPv6 sessions currently established.
In-progress calls @ GTP CONNECTING state	Total number of GTPv2 sessions in connecting state which are awaiting Create Session Response message in reply to Create Session Request already sent.
In-progress calls @ GTP CONNECTED state	Total number of GTPv2 sessions currently established.
In-progress calls @ PROXY-MOBILE-IP CONNECTING state	Total number of Proxy Mobile IPv6 sessions in connecting state and are waiting for PBA in reply to PBU already sent.
In-progress calls @ SIMPLE-IP CONNECTED state	The total number of Simple IP data sessions being processed by this Session Manager instance that are currently being supported.
In-progress calls @ MOBILE-IP CONNECTED state	The total number of Mobile IP data sessions being processed by this Session Manager instance that are currently being supported.
In-progress calls @ PROXY-MOBILE-IP CONNECTED state	The total number of Proxy Mobile IP data sessions being processed by this Session Manager instance that are currently being supported.
In-progress calls @ EPDG RE-AUTHORIZING state	Total number of sessions for which RAR is received from AAA and are in phase of reauthorization.
In-progress calls @ L2TP-LAC CONNECTED state	The number of calls that are passing data through an L2TP tunnel.
In-progress calls @ PDP-TYPE-IP CONNECTED state	The total number of PDP contexts of type IP that are currently connected. This field applies to GGSN only.
In-progress calls @ PDP-TYPE-PPP CONNECTED state	The total number of PDP contexts of type PPP that are currently connected. This field applies to GGSN only.
In-progress calls @ BCMCS CONNECTED state	The total number of BCMCS sessions currently in connected state.
In-progress calls @ MBMS UE CONNECTED state	The total number of MBMS sessions currently in UE connected state.
In-progress calls @ MBMS BEARER CONNECTED state	The total number of MBMS sessions currently in bearer connected state.
In-progress calls @ ASNPC CONNECTED state	The number of ASN Paging Controller calls that are currently connected.
In-progress calls @ DISCONNECTING state	The total number of sessions being processed by this Session Manager instance that are in the process of disconnecting.
In-progress calls @ CSCF-REGISTERING state	Total number of CSCF sessions which are in registration processing state.

Field	Description
In-progress calls @ CSCF-REGISTERED state	Total number of cscf sessions which are in registered state.
In-progress calls @ CSCF-CALL-ARRIVED state	Total number of CSCF sessions which are processing the newly arrived CSCF calls (i.e., processing initial Invite, waiting for provisional response, waiting for final response, etc.).
In-progress calls @ CSCF-CALL-CONNECTING state	Total number of CSCF sessions which are in call connecting state (waiting for ACK).
In-progress calls @ CSCF-CALL-CONNECTED state	Total number of CSCF sessions which are in call connected state.
In-progress calls @ CSCF-CALL-DISCONNECTING state	Total number of CSCF sessions which are in call disconnecting state (i.e., processing BYE , waiting for BYE response, etc.).
In-progress calls @ MME ATTACHED state	Indicates the number of MME subscriber session currently attached.
User Data statistics	This section indicates the Data octets and Data packets received and send by a user.
Data octets from User	The number of Data octets send from the user.
Data octets to User	The number of Data octets received by the user.
Data packets from User	The number of Data packets send from the user.
Data packets to User	The number of Data packets received by the user.
Pilot packet statistics	
VPN name	Name of the VPN
Server name	Name of the server
Total NAT Alloc Pilot-Packets Sent	The total number of Pilot Packets sent per VPN/server for every IP/Port allocation for all NAT enabled calls.
Total NAT De-alloc Pilot-Packets Sent	The total number of Pilot Packets sent per VPN/server for every IP/Port deallocation for all NAT enabled calls.
Total Non NAT Alloc Pilot-Packets Sent	The total number of Pilot Packets sent per VPN/server for every IP/Port allocation for all non-NAT calls.
Total Non NAT De-alloc Pilot-Packets Sent	The total number of Pilot Packets sent per VPN/server for every IP/Port deallocation for all non-NAT calls.
Total Alloc Pilot-Packets Sent	The total number of Pilot Packets sent per VPN/server for every IP/Port allocation for all call types.
Total De-alloc Pilot-Packets Sent	The total number of Pilot Packets sent per VPN/server for every IP/Port deallocation for all call types.

Field	Description
RAT-Change-User-Info	The total number of Pilot Packets sent for every subscriber IP allocation on RAT type change.
RAT-Change-NAT-Info	The total number of Pilot Packets sent for every NAT port chunk allocation on RAT type change.
Geog Redundancy Compression Info	The Service Redundancy Protocol (SRP) compression algorithm used for payload messaging between Interchassis Session Recovery (ICSR) chassis in support of geographical redundancy.
Chkpoint Compress Supported	Indicates the current compression algorithm supported on this chassis: none (SRP not enabled), lz4 or zlib (default).
Chkpoint Compress Agreed	Indicates the negotiated compression algorithm agreed to by both the Active and Standby chassis: none (SRP not enabled), lz4 or zlib (default).
<lz4 or Zlib> Compression Statisics	Specifies the algorithm for which the following statistics apply.
CompSuccess	The total number of successful compression attempts.
DeCompSuccess	The total number of successful decompression attempts.
CompFailure	The total number of failed compression attempts.
DeCompFailure	The total number of failed decompression attempts.
init	Debug only
deinit	Debug only
CompInbyte	The total number of incoming (received) compressed bytes.
CompOutbytes	The total number of outgoing (sent) compressed bytes.
DeCompInbytes	The total number of incoming (received) decompressed bytes.
DeCompOutbyte	The total number of outgoing (sent) decompressed bytes.
Compr ratio	Debug only

show session summary

Table 551: show session summary Command Output Descriptions

Field	Description
4G LTE (EUTRAN)	The number of sessions using 4G LTE access technology (P-GW, S-GW). For example, NB-IoT= 2, LTE-M = 0

Field	Description
2G (GERAN)	The number of sessions using 2G GERAN access technology (GGSN, P-GW/S-GW, S4 SGSN).
3G (UTRAN)	The number of sessions using 3G UTRAN access technology (GGSN, P-GW/S-GW, S4 SGSN).
WiFi (WIRELSS LAN)	The number of sessions using WiFI access technology (P-GW, CGW).
eHRPD	The number of eHRPD (evolved High Rate Packet Data) sessions.
Others	The number of sessions using other access technologies.
Total sessions	The total number of sessions encompassing all access technologies.
Active	The total number of active sessions.
Dormant	The total number of dormant sessions.
pdsn-simple-ipv4	The number of PDSN (Packet Data Serving Node) Simple IPv4 sessions.
pdsn-simple-ipv6	The number of PDSN Simple 6 sessions.
pdsn-mobile-ip	The number of PDSN Mobile IPv4 sessions.
ha-mobile-ipv6	The number of PDSN Mobile IPv6 sessions.
hsgw-ipv6	The number of HSGW (HRPD Serving Gateway) IPv6 sessions.
hsgw-ipv4	The number of HSGW IPv4 sessions.
hsgw-ipv4-ipv6	The number of HSGW IPv4-IPv6 sessions.
pgw-pmip-ipv6	The number of P-GW (Packet Data Network-Gateway) PMIPv6 (Proxy Mobile IPv6) sessions
pgw-pmip-ipv4	The number of P-GW PMIP IPv4 sessions
pgw-pmip-ipv4-ipv6	The number of P-GW PMIP IPv4-IPv6 sessions
pgw-gtp-ipv6	The number of P-GW GTP (GPRS Tunneling Protocol) IPv6 sessions.
pgw-gtp-ipv4	The number of P-GW GTP IPv4 sessions.
pgw-gtp-ipv4-ipv6	The number of P-GW GTP IPv4-IPv6 sessions.
sgw-gtp-ipv6	The number of S-GW (Serving Gateway) GTP IPv6 sessions.
sgw-gtp-ipv4	The number of S-GW GTP IPv4 sessions.
sgw-gtp-ipv4-ipv6	The number of S-GW GTP IPv4-IPv6 sessions.
sgw-pmip-ipv6	The number of S-GW PMIPv6 sessions.
sgw-pmip-ipv4	The number of S-GW PMIP (IPv4) sessions.

Field	Description
sgw-pmip-ipv4-ipv6	The number of S-GW PMIP (IPv4-IPv6) sessions.
pgw-gtps2b-ipv4	The number of GTP S2b IPv4 sessions.
pgw-gtps2b-ipv6	The number of GTP S2b IPv6 sessions.
pgw-gtps2b-ipv4-ipv6	The number of GTP S2b IPv4-IPv6 sessions.
mme	The number of MME (Mobility Management Entity) sessions.
ipsg-rad-snoop	The number of IPSG (IP Services Gateway) RADIUS snoop sessions.
ipsg-rad-server	The number of IPSG RADIUS server sessions.
ha-mobile-ip	The number of HA (Home Agent) Mobile IP sessions.
ggsn-pdp-type-ppp	The number of GGSN (Gateway GPRS Serving Node) PDP (Packet Data Protocol) type PPP (Point-to-Point Protocol) sessions.
ggsn-pdp-type-ipv4	The number of GGSN PDP type IPv4 sessions.
lns-l2tp	The number of LNS (L2TP Network Server) L2TP (Layer 2 Tunneling Protocol) sessions.

show session trace statistics

Table 552: show session trace statistics Command Output Descriptions

Field	Description
Network Element Status	Specifies if session traces are enabled for the listed network elements.
Number of current trace sessions	The total number of session traces currently active.
Total trace sessions activated	The total number of session traces activated.
Total number of trace session activation failures	The total number of session activation failures.
Total number of trace recording sessions triggered	The total number of trace recording sessions triggered
Total number of messages traced	The total number of messages traced for the activated session traces.
Number of messages dropped	
No memory	The total number of messages dropped due to a no memory condition.
No trace recording session	The total number of messages dropped due to a failure to receive the start trigger.
Interface not traced	The total number of messages dropped due to the messages being received on interfaces not part of the trace interface list.

Field	Description
Total number of file generated	The total number of session trace files generated.
Number of Cell Traffic Trace files generated	The total number of Cell Traffic trace files generated.
Number of files deleted	
No space	The total number of files deleted due to a lack of space on the storage device.
TCE Timeout	The total number of files deleted due to a Trace Collection Entity timeout.
Number of Cell Traffic Trace files deleted	
No space	The total number of Cell Traffic Trace files deleted due to a lack of space on the storage device.
TCE Timeout	The total number of Cell Traffic Trace files deleted due to a Trace Collection Entity timeout.
Number of current TCE connections	The total number of trace collection entity connections currently configured.
Total number of TCE connections	The total number of trace collection entity connections configured.
Total number of files uploaded to all TCEs	The total number of files uploaded to all trace collection entities.

show session trace subscriber

The full command is as follows:

show session trace subscriber network-element <*type*> trace-ref <*id*>

Table 553: show session trace subscriber Command Output Descriptions

Field	Description
Trace reference	The trace reference ID for the trace displayed. The ID is the MCC (3 digits), followed by the MNC (3 digits), then the trace ID number (3 byte octet string).
Activation time	The date and time when the trace was initiated.
IMEI or IMSI	The subscriber identification. • **IMEI**: The International Mobile Equipment Identification number of the subscriber's UE. • **IMSI**: The International Mobile Subscriber Identification (IMSI) which is the 3-digit MCC (Mobile Country Code), 2 or 3-digit MNC (Mobile Network Code), and the MSIN (Mobile Subscriber Identification Number).
Actively Tracing	Specifies if the trace is currently active.

Field	Description
Trace Recording Session Reference	The current active trace recording session reference number.
Recording start time	The date and time when the session trace recording started.
Total number of trace recording sessions triggered	The total number of trace recording sessions initiated.
Total number of messages traced	The total number of messages traced for this trace reference.
Number of messages dropped	
No memory	The total number of messages dropped due to a no memory condition.
No trace recording session	The total number of messages dropped due to a failure to receive the start trigger.
Interface not traced	The total number of messages dropped due to the messages being received on interfaces not part of the trace interface list.
Total number of files created	The total number of trace recording files created.
Number of files deleted	
No space	The total number of files deleted due to a lack of space on the storage device.
Traced Interfaces	List of interfaces configured for the session trace.
Trace Triggers	Identifies the triggers used by this subscriber.

show session fp-flow-state-change statistics

Field	Description
Onload/Offload event logging	Displays the status of logging to show if it is currently enabled or disabled.
Start time	Displays the start time of the last logging. If the logging was never started, the start time shows "NA".
End time	Displays the time when logging was stopped. If logging was never started, the end time shows NA. If the logging is currently enabled, it shows "In progress".
Total events recorded	Displays the total number of logs generated.
Logging enabled for *number of events/ duration*	The number of events or duration in seconds.
Sessmgr Instance	The session manager instance for which the logging is enabled.



CHAPTER 129

show sgsn-operator-policy

This chapter describes the output of the **show sgsn-operator-policy** command.

- show sgsn-operator-policy full { all | name }, on page 1919

show sgsn-operator-policy full { all | name }

This command displays the configuration for a specifically named SGSN operator policy or for all of them.

Table 554: show sgsn-operator-policy full all Command Output Descriptions

Field	Description
GPRS Attach All	Indicates whether GRPS attaches are to be allowed.
GPRS Attach All Failure Code	Indicates configured failure code to be sent in reject message.
UMTS Attach All	Indicates whether UMTS attaches are to be allowed.
UMTS Attach All Failure Code	Indicates configured failure code to be sent in reject message.
GPRS RAU Intra All	Indicates whether RAU Intra are to be allowed.
GPRS RAU Intra All Failure Code	Indicates configured failure code to be sent in reject message.
UMTS RAU Intra All	Indicates whether RAU Intra are to be allowed.
UMTS RAU Intra All Failure Code	Indicates configured failure code to be sent in reject message.
GPRS RAU Inter All	Indicates whether RAU Inter are to be allowed.
GPRS RAU Inter All Failure Code	Indicates configured failure code to be sent in reject message.
UMTS RAU Inter All	Indicates whether RAU Inter are to be allowed.
UMTS RAU Inter All Failure Code	Indicates configured failure code to be sent in reject message.
Failure Code For Peer Sgsn Address Resolution Failure	Indicates configured failure code to be sent in reject message.
GPRS SMS MO All	Indicates whether

Field	Description
GPRS SMS MO All Failure Code	Indicates configured failure code to be sent in reject message.
UMTS SMS MO All	
UMTS SMS MO All Failure Code	Indicates configured failure code to be sent in reject message.
GPRS SMS MT All	
GPRS SMS MT All Failure Code	Indicates configured failure code to be sent in reject message.
UMTS SMS MT All	
UMTS SMS MT All Failure Code	Indicates configured failure code to be sent in reject message.
GPRS Primary PDP Context Activation All	
GPRS Secondary PDP Context Activation All	
GPRS PDP Context Activation All Failure Code	Indicates configured failure code to be sent in reject message.
UMTS Primary PDP Context Activation All	
UMTS Secondary PDP Context Activation All	
UMTS PDP Context Activation All Failure Code	Indicates configured failure code to be sent in reject message.
GPRS Nw Init Primary PDP Context Activation All	
GPRS Nw Init Primary PDP Ctxt Activation All Failure Code	Indicates configured failure code to be sent in reject message.
GPRS Nw Init Secondary PDP Ctxt Activation All	
GPRS Nw Init Secondary PDP Ctxt Activation All Failure Code	
UMTS Nw Init Primary PDP Context Activation All	
UMTS Nw Init Primary PDP Ctxt Activation All Failure Code	Indicates configured failure code to be sent in reject message.
UMTS Nw Init Secondary PDP Ctxt Activation All	

Field	Description
UMTS Nw Init Secondary PDP Ctxt Activation All Failure Code	Indicates configured failure code to be sent in reject message.
SRNS Intra All	
SRNS Intra All Failure Code	Indicates configured failure code to be sent in reject message.
SRNS Inter All	
SRNS Inter All Failure Code	Indicates configured failure code to be sent in reject message.
Authentication All-Events	Indicates if feature has been enabled or disabled.
Authentication Attach	Indicates if feature has been enabled or disabled.
Authentication Attach (Gprs only)	Indicates if feature has been enabled or disabled.
Authentication Attach (Combined)	Indicates if feature has been enabled or disabled.
Authentication Activate	Indicates if feature has been enabled or disabled.
Authentication Service Request	Indicates if feature has been enabled or disabled.
Authentication Service Request (Signaling)	Indicates if feature has been enabled or disabled.
Authentication Service Request (Data)	Indicates if feature has been enabled or disabled.
Authentication Service Request (Page Response)	Indicates if feature has been enabled or disabled.
Authentication RAU	Indicates if feature has been enabled or disabled.
Authentication RAU (Periodic)	Indicates if feature has been enabled or disabled.
Authentication RAU (Ra update)	Indicates if feature has been enabled or disabled.
Authentication RAU (Ra update with Local Ptmsi)	Indicates if feature has been enabled or disabled.
Authentication RAU (Ra update with Foreign Ptmsi)	Indicates if feature has been enabled or disabled.
Authentication RAU (Combined Update)	Indicates if feature has been enabled or disabled.
Authentication RAU (Imsi Combined Update)	Indicates if feature has been enabled or disabled.
Authentication Detach	Indicates if feature has been enabled or disabled.
Usage of Auth Vectors From Old Sgsn	Indicates if feature has been enabled or disabled.

Field	Description
Order of Preference for Integrity Algorithm is	
Order of Preference for Encryption Algorithm is	
PTMSI-signature allocation	
PTMSI-Realloc Attach	
PTMSI-Realloc Interval	
PTMSI-Realloc Frequency	
PTMSI-Realloc RAU	
PTMSI-Realloc RAU (Periodic)	
PTMSI-Realloc RAU (Periodic) Frequency value	
PTMSI-Realloc RAU (Ra-Update)	
PTMSI-Realloc RAU (Ra-Update) Frequency	
PTMSI-Realloc RAU (Combined-Update)	
PTMSI-Realloc RAU (Combined-Update) Frequency	
PTMSI-Realloc RAU (Combined-Update with IMSI attach)	
PTMSI-Realloc RAU (Combined-Update with IMSI) Frequency	
PTMSI-Realloc Service Request (Signalling)	
PTMSI-Realloc Service Request (Signalling) Freq	
PTMSI-Realloc Service Request (Data)	
PTMSI-Realloc Service Request (Data) Freq	
PTMSI-Realloc Service Request (Page Response)	Indicates if feature has been enabled or disabled.

Field	Description
PTMSI-Realloc Service Request (Page Response) Freq	Indicates frequency, if configured.
Inactivity detection for establishing pdp contexts	Indicates if feature has been enabled or disabled.
Inactivity detection for establishing pdp contexts - Timer	Indicates timeout value in milliseconds.
Inactivity detection for establishing pdp contexts - Action	Indicates action to be taken.
Monitor Re-attaches after Inactivity Detach	Indicates if feature has been enabled or disabled.
Charging Characteristics Prefer Local	Indicates if feature has been enabled or disabled.
Charging Characteristics Behavior	
Charging Characteristics Profile-Index	Indicates CC profile index.
Charging Characteristics Behavior No Records	Indicates configured CC behavior.
APN restriction	
Wildcard APN for IPv4	
Wildcard APN for IPv6	
Wildcard APN for PPP	
UMTS Gmm-Information	Indicates if feature has been enabled or disabled.
GPRS Gmm-Information	Indicates if feature has been enabled or disabled.
User Equipment Identity Retrieval	Indicates if feature has been enabled or disabled.
Nri bits length	
Nri bits value	
MAP UGL Message. Include Access Type Private Extension	
MAP UGL Message. Include IMEISV	
Reuse of authentication triplets	Indicates if feature has been enabled or disabled.
Re-Authentication	Indicates if feature has been enabled or disabled.
Direct Tunnel	

Field	Description
GTPU Fast Path	Indicates if feature has been enabled or disabled.
Sending Radio Access Technology (RAT) IE	Indicates if feature has been enabled or disabled.
Sending User Location Information (ULI) IE	Indicates if feature has been enabled or disabled.
Sending IMEISV IE	Indicates if feature has been enabled or disabled.
Sending MS Time Zone IE	Indicates if feature has been enabled or disabled.



CHAPTER 130

show sgsn-service

This chapter describes the output of the **show sgsn-service** command.

- sgsn-mode, on page 1925
- show sgsn-service all, on page 1925

sgsn-mode

Table 555: show sgsn-mode Command Output Descriptions

Field	Description
Extended Coverage Enhanced GPRS (EC-EGPRS/EC-GSM)	Specifies if Extended Coverage Class Support is enabled on the SGSN.

show sgsn-service all

Table 556: show sgsn-service all Command Output Descriptions

Field	Description
Service name	The SGSN service that is running in this session.
Context	The name of the context in which SGSN service is running.
Status	Status of the SGSN service.
Accounting Context Name	The name of the context in which accounting interface is configured for this SGSN service.
SGSN Number	The number of SGSN system in current network.
Network-sharing	Specifies whether network sharing is enabled or disabled.
Nri bits	Specifies whether network resource identifier (NRI) bit is configured or not in this SGSN service.

Field	Description
SGTP Context	The name of the context in which SGTP service is running.
SGTP Service	The SGTP service that is running the SGTP session in this SGSN service.
MAP Context	The name of the context in which mobile application part (MAP) service, configured in this SGSN service, is running.
MAP Service	The service that is running the MAP session in this SGSN service.
HSS Service	The name of the conigured home subscriber service (HSS) that is running the HSS session int this SGSN service.
IuPS Context	The name of the context in which UMTS Packet Switch Iu interface (IuPS) service is running.
IuPS Service	The service that is running the IuPS session.
SM-T3385 Timeout	The time-out duration in seconds for GPRS session management timer - T3385 on network side for PDP context activation.
SM-T3386 Timeout	The time-out duration in seconds for GPRS session management timer - T3386 on network side for PDP context modification.
SM-T3395 Timeout	The time-out duration in seconds for GPRS session management timer - T3395 on network side for PDP context deactivation.
SM-Max Activate Retries	Total number of retries for PDP context activation from GPRS session manager.
SM-Max Modify Retries	Total number of retries for PDP context modification from GPRS session manager.
SM-Max Deactivate Retries	Total number of retries for PDP context deactivation from GPRS session manager.
GMM-T3302 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3302 on MS side for GPRS attach procedure or RAU procedure.
GMM-T3322 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3322 on network side for GPRS detach request procedure.
GMM-T3350 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3350 on network side GPRS attach accept/RAU accept/REALLOC request procedure sent with P-TMSI and/or TMSI.
GMM-Mobil-Reachable Timeout	The time-out duration in seconds for GPRS mobility management timer - Mobile Reachable on network side.
GMM-Implicit-Detach Timeout	The time-out duration in seconds for GPRS mobility management timer - Implicit-Detach on network side.
GMM-Purge Timeout	The time-out duration in seconds for GPRS mobility management timer - Purge to hold the detach of MM context on network side.
GMM-T3313 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3313 on network side for paging procedure initiation.

Field	Description
GMM-Max Page Retries	Maximum number of retries for paging procedure from GPRS mobility manager.
GMM-T3312 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3313 on network side for RAU procedure initiation.
GMM-T3370 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3370 on network side for identity request procedure.
GMM-Max Identity Retries	Maximum number of retries for identity request procedure from GPRS mobility manager.
GMM-T3360 Timeout	The time-out duration in seconds for GPRS mobility management timer - T3360 on network side for Authentication and Cipher request procedure.
GMM-Max Auth Retries	Maximum number of retries for authentication request procedure from GPRS mobility manager.
GMM-Max PTMSI RELOC Retries	Maximum number of retries for Packet-Temporary Mobile Subscriber Identity (P-TMSI) relocation procedure from GPRS mobility manager.
GMM-Perform-Identity-After-Auth	Specifies whether "perform identity after authentication" procedure is enabled or not.
Max simultaneous pdp contexts per MS	Maximum number of simultaneous PDP context allowed on one MS.
SUPER CHARGER	Specifies whether "super charger" feature is enabled or not.
Accounting cdr-types	Specifies type of accounting CDRs configured in this SGSN service.
Charging Characteristics (CC) Profiles	This group provides the charging characteristics profiles configured in this SGSN service.
Profile	Specifies the charging characteristic profile configured in this SGSN service.
Bucket	Specifies the charging bucket configured for charging characteristic in this SGSN service.
Network Global MME ID Mgmt DB	Indicates if a network global MME ID management database ID is associated with this SGSN service. This ID is used for GUTI to RAI mapping of networks with LACs for UTRAN and GERAN coverage in the 32768 - 65535 range.
TAI Management Database	Indicates if a Tracking Area Identifier (TAI) Management database is associated with this SGSN service.
Inform RNC before UE during QOS Modification	Specifies if operator has enabled or disabled the SGSN functionality to inform RNC before UE during QoS modification.
Restrict Bitrate to 16 Mbps when UE 3GPP Compliance is Unknown	Indicates whether or not the option to restrict bitrate to "16" Mbps when the UEs 3GPP compliance is not known has been configured.
MCC/MNC Encoding in DNS for RAI FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RAI FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for RAI FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RAI FQDN in SNAPTR Query .

Field	Description
MCC/MNC Encoding in DNS for APN FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for APN FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for APN FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for APN FQDN in SNAPTR Query.
MCC/MNC Encoding in DNS for RNC FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RNC FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for RNC FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for RNC FQDN in SNAPTR Query.
MCC/MNC Encoding in DNS for MMEC FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for MMEC FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for MMEC FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for MMEC FQDN in SNAPTR Query.
MCC/MNC Encoding in DNS for TAI FQDN in A/AAAA Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for TAI FQDN in A/AAAA Query.
MCC/MNC Encoding in DNS for TAI FQDN in SNAPTR Query	Displays the configured MCC/MNC encoding as either Hexadecimal or Decimal for TAI FQDN in SNAPTR Query.
Check IMEI	Displays configuration indicating SGSN action if EIR routing is down: • Gf Timeout Action • Gf Failure Action Value options are 'Continue' or 'Reject'; Default for both is 'Reject'.
Accounting cdr-types	Indicates CDR types to be used. Options include: mcdr, scdr, sms, lcs, smbmscdr
Charging Characteristics(CC) Profiles	Indicates bucket configuration per profile.
Sgsn NRI Length	Indicates configured NRI length for the SGSN service. Default is 6.
NRI(s) that will be used in NON-POOLED area	Displays the list of NRIs used in the Non-Pooled area.
Sgsn NRI value	Displays the NRI value and also indicates the status of offloading for each NRI.
NRI(s) that will be used in POOLED area	Displays the list of NRIs used in the Pooled area.
NRI(s) that will be used in POOLED & NON-POOLED area	Displays the list of NRIs used in the Non-Pooled and Pooled areas.
Ignore ASI bit received from peer SGSN during RAU	Indicates if this function has been enabled or disabled.



CHAPTER 131

show sgs-service

This chapter describes the output of the **show sgs-service** command.

- show sgs-service all, on page 1929
- show sgs-service offload-status service-name, on page 1929
- show sgs-service statistics all, on page 1930
- show sgs-service vlr-status full, on page 1932

show sgs-service all

The output of this command is enhanced to display the following fields.

Table 557: show sgs-service all Command Output Descriptions

Field	Description
Non-Broadcast LAI	
MCC	Displays the configured MCC value.
MNC	Displays the configured MNC value.
LAC	Displays the configured LAC value.

show sgs-service offload-status service-name

Displays statistics for all VLRs flagged for offload for the specified SGs service.

Table 558: show sgs-service offload-status service-name Command Output Descriptions

Field	Description
VLR Name	The VLR name as configured in the SGs service.
VLR Offload	Displays if the VLR is configured/marked for offload.
Offload Marked Subscriber Count	The number of subscribers that have yet to be offloaded.

Field	Description
Total Attached Attached Subscribers	The total number of subscribers to be offloaded.

show sgs-service statistics all

Displays SGs service statistics for all SGs services configured on the system.

Table 559: show sgs-service statistics all Command Output Descriptions

Field	Description
SCTP Statistics	
Transmitted SCTP Data	
Init Chunks	The total number of initial chunks transmitted by this service.
Init Ack Chunks	The total number of initial ack chunks transmitted by this service.
Shutdown Chunks	The total number of shutdown chunks transmitted by this service.
Cookie Chunks	The total number of cookie chunks transmitted by this service.
Data Chunks	The total number of chunks transmitted by this service.
Data Ack Chunks	The total number of data ack chunks transmitted by this service.
Shutdown Complete Chunks	The total number of shutdown complete chunks transmitted by this service.
Heartbeat Chunks	The total number of heartbeat chunks transmitted by this service.
HeartBeat Ack Chunks	The total number of heartbeat ack chunks transmitted by this service.
Abort Chunks	The total number of abort chunks transmitted by this service.
Error Chunks	The total number of error chunks transmitted by this service.
Init Chunks	The total number of initial chunks received by this service.
Init Ack Chunks	The total number of initial ack chunks received by this service.
Shutdown Chunks	The total number of shutdown chunks received by this service.
Cookie Chunks	The total number of cookie chunks received by this service.
Data Chunks	The total number of chunks received by this service.
Data Ack Chunks	The total number of data ack chunks received by this service.
Shutdown Complete Chunks	The total number of shutdown complete chunks received by this service.
Heartbeat Chunks	The total number of heartbeat chunks received by this service.
HeartBeat Ack Chunks	The total number of heartbeat ack chunks received by this service.
Abort Chunks	The total number of abort chunks received by this service.
Error Chunks	The total number of error chunks received by this service.
Init Chunks	The total number of initial chunks retransmitted by this service.

Field	Description
Total Bytes Sent	The total number of SCTP bytes sent by this service.
Total Bytes Received	The total number of SCTP bytes received by this service.
Total Packets Sent	The total number of SCTP packets sent by this service.
Total Packets Received	The total number of SCTP packets received by this service.
SGS-AP Statistics	
SGS-AP Data	
Tx	The total number of messages transmitted by this service for the associated message type.
ReTx	The total number of messages retransmitted by this service for the associated message type.
Rx	The total number of messages received by this service for the associated message type.
Paging Request	The total number of paging request messages.
Paging Reject	The total number of paging reject messages.
Service Request	The total number of service request messages.
Downlink Unitdata	The total number of downlink unit data messages.
Uplink Unitdata	The total number of uplink unit data messages.
Location Update Request	The total number of Location Update Request messages.
Location Update Accept	The total number of Location Update Accept messages.
Location Update Reject	The total number of Location Update Reject messages.
Location Update Timeout	The total number of Location Update Request messages not received from HSS/MSC due to ts6-1 timeout. Note that only the Rx counter will increment. Tx and ReTx counters are not supported.
TMSI Reallocation Complete	The total number of TMSI reallocation complete messages.
Alert Request	The total number of alert request messages.
Alert Ack	The total number of alert ack messages.
Alert Reject	The total number of alert reject messages.
UE Activity Indication	The total number of UE activity indication messages.
EPS Detach Indication	The total number of EPS detach indication messages.
EPS Detach Ack	The total number of EPS detach ack messages.
IMSI Detach Indication	The total number of IMSI detach indication messages.
IMSI Detach Ack	The total number of IMSI detach ack messages.
Reset Indication	The total number of reset indication messages.

Field	Description
Reset Ack	The total number of reset ack messages.
MM Information Request	The total number of MM information request messages.
Release Request	The total number of release request messages.
Status	The total number of status messages.
UE Unreachable	The total number of UE unreachable messages.
Service Abort Request	The total number of SGsAP-SERVICE-ABORT-REQUEST messages.
Unknown MSG	The total number of unknown messages.

show sgs-service vlr-status full

Table 560: show sgs-service vlr-status Command Output Descriptions

Field	Description
MMEMGR	The MME manager instance where the SGs service is running.
MME Reset	A system-wide parameter which is set to "Yes" when the MME service (and SGS service) is up or after the MME restarts after a failure. This is a restoration indicator at MME service.
Service ID	The system generated identification number of the SGs service.
Peer ID	The system generated identification number of the VLR's SCTP connection.
VLR Name	The VLR name as configured in the SGs service.
SGS Service Name	The configured SGs service name.
VLR Offload	Displays if the VLR is configured/marked for offload state.
SGS Service Address	The IP address of the interface to which the SGs service is bound.
SGS Service Port	The port number of the interface to which the SGs service is bound.
VLR IP Address (es)	The VLR IP address as configured in the SGs service. If multi-homing is configured, both addresses will be shown. The path status for each is displayed as either UP or DOWN.
VLR Port	The VLR port number as configured in the SGs service.
Assoc State	The current state of the SCTP association, either UP or DOWN.
Assoc Uptime	The total amount of time (hours | minutes | seconds) the current SCTP association has been active (up). The format of Assoc UpTime is 0000d00h00m (where d= day, h=hour, m=minutes) when h > =24 hrs, otherwise it will be displayed as 00h00m00s.

Field	Description
Assoc State Up Count	The total number of times the SCTP association has come up.
VLR Failure Detach	Indicates if the **sgs vlr-failure** Exec Mode command is enabled (Yes) or disabled (No). Detach Count: The total number of subscribers that have already been detached as a result of the sgs vlr-failure command. Total: Indicates the total number of subscribers that have to be detached. **Note:** This field is **not** displayed when the **vlr-recover** Config Mode command is enabled.
SGs Service Configured VLR Failure	Indicates if the SGs service **vlr-recover** Config Mode command is enabled (Yes) or disabled (No). Detach Count: The total number of subscribers that have already been detached as a result of the SGs Service VLR Failure feature. Total: Indicates the total number of subscribers that have to be detached. **Note:** This field is only displayed when the SGs Service VLR Failure feature has been configured.
VLR Recover Detach	Indicates if the **sgs vlr-recover** Exec Mode command is enabled (Yes) or disabled (No). Detach Count: The total number of subscribers that have already been detached as a result of the sgs vlr-recover command. Total: Indicates the total number of subscribers that have to be detached.
SGS-AP Statistics	
Tx	The total number of messages transmitted by this service for the associated message type.
ReTx	The total number of messages retransmitted by this service for the associated message type.
Rx	The total number of messages received by this service for the associated message type.
Paging Request	The total number of paging request messages.
Paging Reject	The total number of paging reject messages.
Service Request	The total number of service request messages.
Downlink Unitdata	The total number of downlink unit data messages.
Uplink Unitdata	The total number of uplink unit data messages.
Location Update Request	The total number of Location Update Request messages.
Location Update Accept	The total number of Location Update Accept messages.
Location Update Reject	The total number of Location Update Reject messages.

Field	Description
Location Update Timeout	The total number of Location Update Request messages not received from HSS/MSC due to ts6-1 timeout. Note that only the Rx counter will increment. Tx and ReTx counters are not supported.
TMSI Reallocation Complete	The total number of TMSI reallocation complete messages.
Alert Request	The total number of alert request messages.
Alert Ack	The total number of alert ack messages.
Alert Reject	The total number of alert reject messages.
UE Activity Indication	The total number of UE activity indication messages.
EPS Detach Indication	The total number of EPS detach indication messages.
EPS Detach Ack	The total number of EPS detach ack messages.
IMSI Detach Indication	The total number of IMSI detach indication messages.
IMSI Detach Ack	The total number of IMSI detach ack messages.
Reset Indication	This statistic has been deprecated.
Reset Ack	This statistic has been deprecated.
MM Information Request	The total number of MM information request messages.
Release Request	The total number of release request messages.
Status	The total number of status messages.
UE Unreachable	The total number of UE unreachable messages.
Service Abort Request	The total number of SGsAP-SERVICE-ABORT-REQUEST messages.
Unknown MSG	The total number of unknown messages.
Flow debug stats for VLR address index : *Each of the following statistics is only displayed if the stat's value is non-zero. These stats are typically used for debugging.*	
NPU Flow created for Primary IPA	The total number of NPU Flow created for Primary IPA.
NPU Flow created for Secondary IPA	The total number of NPU Flow created for Secondary IPA.
Primary IPA flow add requests sent	The total number of Primary IPA flow add requests sent.
Secondary IPA flow add requests sent	The total number of Secondary IPA flow add requests sent.
Primary IPA flow add success received	The total number of Primary IPA flow add success received.
Secondary IPA flow add success received	The total number of Secondary IPA flow add success received.
Primary IPA flow add failed	The total number of Primary IPA flow add failed.

Field	Description
Secondary IPA flow add failed	The total number of Secondary IPA flow add failed.
Primary IPA flow alloc failed	The total number of Primary IPA flow alloc failed.
Secondary IPA flow alloc failed	The total number of Secondary IPA flow alloc failed .
Primary IPA flow insert failed	The total number of Primary IPA flow insert failed.
Secondary IPA flow insert failed	The total number of Secondary IPA flow insert failed.
Primary IPA flow delete requests sent	The total number of Primary IPA flow delete requests sent.
Secondary IPA flow delete requests sent	The total number of Secondary IPA flow delete requests sent.
Primary IPA flow delete success	The total number of Primary IPA flow delete success.
Secondary IPA flow delete success	The total number of Secondary IPA flow delete success .
Primary IPA flow delete failed	The total number of Primary IPA flow delete failed .
Secondary IPA flow delete failed	The total number of Secondary IPA flow delete failed.
Primary IPA flow delete no match	The total number of Primary IPA flow delete no match.
Secondary IPA flow delete no match	The total number of Secondary IPA flow delete no match.
Primary IPA invalid flowid	The total number of Primary IPA invalid flowid.
Secondary IPA invalid flowid	The total number of Secondary IPA invalid flowid.
Primary IPA invalid NPU response	The total number of Primary IPA invalid NPU response.
Secondary IPA invalid NPU response	The total number of Secondary IPA invalid NPU response.
Max per VLR associations reached	The total number of Max per VLR associations reached .
Invalid NPU response codes	The total number of Invalid NPU response codes .
Primary IPA flow resp code[%s] count	The total number of Primary IPA flow resp code[%s] count.
Secondary IPA flow resp code[%s] count	The total number of Secondary IPA flow resp code[%s] count.
Total VLRs	The total number of VLRs configured in the SGs service.



CHAPTER 132

show sgtp

This chapter describes the outputs of the **show sgtp** command.

- show sgtp-service ggsn-table, on page 1937
- show sgtp-service sgsn-table, on page 1938

show sgtp-service ggsn-table

Table 561: show sgtp-service ggsn-table Command Output Descriptions

Field	Description
GTP	Indicates the GTP version. Possible values are: • 0: GTP-v0 • 1: GTP-v1
Status	Indicates the status of the GTP session. Possible values are: • I: Inactive • A: Active
GTPC Echo	Indicates the status of the GTPC echo. Possible values are: • D: Disabled • E: Enabled
PLMN Type	Indicates the type of Public Land Mobile Network area. Possible values are: • H: Home networks • F: Foreign networks • U: Unknown networks

Field	Description
SGTPC Stats	Indicates the availability of the SGTPC statistics. Possible values are: • A: Available • U: Unavailable
Service ID	Indicates the SGTP service identifier.
GGSN Address	Indicates the IP address of GGSN service.
Restart Counter	Indicates the restart counter of SGTP service.
No. of restart	Indicates the total number of restarts happened for SGTP session.
Curr sessions	Total number of SGTP session currently running.
Max sessions	Indicates the maximum number of SGTP session allowed.

show sgtp-service sgsn-table

Table 562: show sgtp-service sgsn-table Command Output Descriptions

Field	Description
GTP	Indicates the GTP version. Possible values are: • 0: GTP-v0 • 1: GTP-v1
GTPC Echo	Indicates the status of the GTPC echo. Possible values are: • D: Disabled • E: Enabled
PLMN Type	Indicates the type of Public Land Mobile Network area. Possible values are: • H: Home networks • F: Foreign networks • U: Unknown networks
SGTPC Stats	Indicates the availability of the SGTPC statistics. Possible values are: • A: Available • U: Unavailable
Service ID	Indicates the SGTP service identifier.

Field	Description
SGSN Address	Indicates the IP address of SGSN service.



CHAPTER 133

show sgtpc

This chapter describes the outputs of the **show sgtpc** command.

- show sgtpc statistics, on page 1941

show sgtpc statistics

Table 563: show sgtpc statistics Command Output Descriptions

Field	Description
Tunnel Management Messages:	
Create PDP Context Request:	
Total Primary CPC Req	The total number of Create PDP Context requests received for the primary PDP context.
Total Secondary CPC Req	The total number of Create PDP Context requests received for the secondary PDP context.
Initial Primary CPC Req	The total number of initial Create PDP Context requests received for the primary PDP context.
Initial Secondary CPC Req	The total number of initial secondary Create PDP Context requests received for the secondary PDP context.
Retrans Primary CPC Req	The total number of Create PDP Context requests retransmitted for the primary PDP context.
Retrans Secondary CPC Req	The total number of Create PDP Context requests retransmitted for the secondary PDP context.
Create PDP Context Response:	
Total Accepted	The total number of Create PDP Context response messages accepted.
Total Denied	The total number of Create PDP Context response messages denied.

Field	Description
Total Primary CPC	The total number of Create PDP Context response messages transmitted for the primary PDP context.
Total Secondary CPC	The total number of Create PDP Context response messages transmitted for the secondary PDP context.
Decode Failure RX	The total number of Create PDP Context response messages received with decode failure.
Update PDP Context Request	
Total UPC Req TX	The total number of Update PDP Context request messages transmitted.
Total UPC Req RX	The total number of Update PDP Context request messages received.
Initial UPC Req TX	The total number of initial Update PDP Context request messages transmitted.
Initial UPC Req RX	The total number of initial Update PDP Context request messages received.
Retrans UPC Req TX	The total number of tunnel-retransmitted Update PDP Context request messages transmitted.
Retrans UPC Req RX	The total number of tunnel-retransmitted Update PDP Context request messages received.
Update PDP Context Response:	
Total UPC Rsp TX	The total number of Update PDP Context response messages transmitted.
Total UPC Rsp RX	The total number of Update PDP Context response messages received.
Denied TX	The total number of denied Update PDP Context response messages transmitted.
Denied RX	The total number of denied Update PDP Context response messages received.
Accepted TX	The total number of accepted Update PDP Context response messages transmitted.
Accepted RX	The total number of accepted Update PDP Context response messages received.
Initial UPC-Rsp TX	The total number of initial Update PDP Context response messages transmitted.
Initial UPC-Rsp RX	The total number of initial Update PDP Context response messages received.
Retrans UPC-Rsp TX	The total number of tunnel-retransmitted Update PDP Context response messages transmitted.

Field	Description
Decode Failure RX	
Delete PDP Context Request:	
Total DPC Req TX	The total number of Delete PDP Context request messages transmitted.
Total DPC Req RX	The total number of Delete PDP Context request messages received.
Initial DPC Req TX	The total number of initial Delete PDP Context request messages transmitted.
Initial DPC Req RX	The total number of initial Delete PDP Context request messages received.
Retrans DPC Req TX	The total number of tunnel-retransmitted Delete PDP Context request messages transmitted.
Delete PDP Context Response:	
Total DPC Rsp TX	The total number of Delete PDP Context response messages transmitted.
Total DPC Rsp RX	The total number of Delete PDP Context response messages received.
Denied TX	The total number of denied Delete PDP Context response messages transmitted.
Denied RX	The total number of denied Delete PDP Context response messages received.
Accepted TX	The total number of accepted Delete PDP Context response messages transmitted.
Accepted RX	The total number of accepted Delete PDP Context response messages received.
Initial DPC-Rsp TX	The total number of initial Delete PDP Context response messages transmitted.
Initial DPC-Rsp RX	The total number of initial Delete PDP Context response messages received.
Retrans DPC-Rsp TX	The total number of tunnel-retransmitted Delete PDP Context response messages transmitted.
Decode Failure RX	
PDU Notification Request:	
Total Primary PDU Not Req	The total number of PDU notification request messages received but not requested for the primary PDP context.
Total Secondary PDU Not Req	The total number of PDU notification request messages received but not requested for the secondary PDP context.

Field	Description
Initial Primary PDU Not Req	The total number of initial PDU notification request messages received but not requested for the primary PDP context.
Initial Secondary PDU Not Req	The total number of initial PDU notification request messages received but not requested for the secondary PDP context.
Retrans Primary PDU Not Req	The total number of tunnel-retransmitted PDU notification request messages received but not requested for the primary PDP context.
Retrans Secondary PDU Not Req	The total number of tunnel-retransmitted PDU notification request messages received but not requested for the secondary PDP context.
PDU Notification Response:	
Total Accepted	The total number of PDU notification response messages accepted.
Total Denied	The total number of PDU notification response messages denied.
Acc. Primary PDU Not Rsp	
Initial PDU Not Rsp	
Retrans Pri PDU Not Rsp	
Acc. Secondary PDU Not Rsp	
Initial PDU Not Rsp	
Retrans Secondary PDU Not Rsp	
PDU Notification Rej Request:	
Total PDU Not Rej Req	
Initial PDU Not Rej Req	
Retrans PDU Not Rej Req	
PDU Notification Rej Response:	
Total PDU Not Rej Rsp	
Denied	
Accepted	
Initial PDU Not Rej Rsp	
Initiate PDP Context Activation Request	This group of counters indicates the number of IPCA Requests received from GGSN.

Field	Description
Total IPCA Req	Total number of Initiate PDP Context Activation Request messages received from GGSN.
Initial IPCA Req	Total number of initial Initiate PDP Context Activation Request messages received from GGSN.
Retrans IPCA Req	Total number of retransmitted Initiate PDP Context Activation Request messages received from GGSN.
Initiate PDP Context Activation Response	This group of counters indicates the number of IPCA Responses sent to GGSN.
Total Accepted	Total number of Initiate PDP Context Activation Response messages with cause Accepted sent to GGSN.
Initial IPCA Rsp	Total number of initial Initiate PDP Context Activation Response messages with cause Accepted sent to GGSN.
Retrans IPCA Rsp	Total number of retransmitted Initiate PDP Context Activation Response messages with cause Accepted sent to GGSN. When SGSN receives a retransmitted IPCA Req after it has sent IPCA Rsp with cause Accepted, it responds by sending the same IPCA Rsp and increments this counter.
Total Denied	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause other than Accepted
Initial IPCA Rsp	Total number of initial Initiate PDP Context Activation Response messages with cause other than Accepted sent to GGSN.
Retrans IPCA Rsp	Total number of retransmitted Initiate PDP Context Activation Response messages sent to GGSN. When SGSN receives a retransmitted IPCA Req after it has sent IPCA Rsp with cause other than Accepted, it responds by sending the same IPCA Rsp and increments this counter.
Initiate PDP Context Activation Response Not Sent	This group of counters indicates the number of IPCA Responses not sent to GGSN. Normally, IPCA Response is sent for each received IPCA Request from GGSN. For the following two cases, IPCA Response is not sent to GGSN. (verbose mode only)
Retrans IPCA Req bef MS rsp	Total number of IPCA Response messages not sent due to reception of retransmitted IPCA Req during NRSPCA procedure and MS has not responded with Activate Secondary PDP Context Request. Such retransmitted requests are dropped/ignored.
Linked PDP deact coll	Total number of IPCA Response messages not sent due to linked PDP deactivation collision with NRSPCA procedure.

Field	Description
Initiate PDP Context Activation Denied	This group of counters indicates the number of IPCA Response messages with failure causes sent to GGSN. (verbose mode only)
No resources	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "no resources available (199)".
Service Not Supported	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "service not supported (200)".
System Failure	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "system failure (204)".
Mandatory IE incorrect	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "mandatory IE incorrect (201)".
Mandatory IE missing	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "mandatory IE missing (202)".
Optional IE incorrect	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "optional IE incorrect (203)".
Invalid message format	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "invalid message format (193)".
Context not found	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "Context not found (210)".
Semantic Error in TFT	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "semantic error in TFT operation (215)".
Syntactic Error in TFT	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "syntactic error in TFT operation (216)".
Semantic Error in Pkt Filter	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "semantic error in PKT filter (217)".
Syntactic Error in Pkt Filter	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "syntactic error in PKT filter (218)".

Field	Description
MS is not GPRS responding	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "MS is not GPRS responding (196)".
MS refuses	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "MS refuses (197)".
Invalid correlation-Id	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "invalid correlation Id (225)".
PDP Ctxt without TFT already Active	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "PDP Ctx without TFT already activated (221)".
BCM violation	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "Bearer Control Mode violation (227)".
MS GPRS Suspended	Total number of Initiate PDP Context Activation Response messages sent to GGSN with cause "GPRS Connection Suspended (207)".
Unknown cause	Total number of Initiate PDP Context Activation Response messages sent to GGSN with any other cause than mentioned above.
Mobility Management Messages:	
Identification Request:	
Total Ident-Req TX	The total number of identification request messages transmitted.
Total Ident-Req RX	The total number of identification request messages received.
Initial Ident-Req TX	The total number of initial identification request messages transmitted.
Initial Ident-Req RX	The total number of initial identification request messages received.
Retrans Ident-Req TX	
Identification Response:	
Total Ident-Rsp TX	The total number of identification response messages transmitted.
Denied TX	
Accepted TX	
Initial Ident-Rsp TX	

Field	Description
Retrans Ident-Rsp TX	
Total Ident-Rsp RX	The total number of identification response messages received.
Denied RX	
Accepted RX	
Initial Ident-Rsp RX	
Decode Failure RX	
SGSN Context Request:	
Total SGSN-Ctx-Req TX	The total number of SGSN Context Request messages sent on the Gn/Gp interface.
Total SGSN-Ctx-Req RX	The total number of SGSN Context Request messages received on the Gn/Gp interface.
Initial SGSN-Ctx-Req TX	The number of intial SGSN Context Request messages sent on the Gn/Gp interface.
Initial SGSN-Ctx-Req RX	The number of initial SGSN Context Request messages received on the Gn/Gp interface.
Retrans SGSN-Ctx-Req TX	The number of SGSN Context Request messages retransmitted on the Gn/Gp interface.
Retrans SGSN-Ctx-Req RX	The number of SGSN Context Request messages received on the Gn/Gp interface.
SGSN Context Response:	
Total SGSN-Ctx-Rsp TX	The total number of SGSN Context response messages transmitted on the Gn/Gp interface.
Denied TX	
Accepted TX	
Initial SGSN-Ctx-Rsp TX	
Retrans SGSN-Ctx-Rsp TX	
Total SGSN-Ctx-Rsp RX	The total number of SGSN Context response messages received on the Gn/Gp interface.
Denied RX	
Accepted RX	
Initial SGSN-Ctx-Rsp RX	
Retrans SGSN-Ctx-Rsp RX	

Field	Description
Decode Failure RX	
SGSN Context Ack:	
Total SGSN-Ctx-Ack TX	The total number of SGSN Context Acknowledgement response messages transmitted on the Gn/Gp interface.
Denied TX	
Accepted TX	
Initial SGSN-Ctx-Ack TX	
Retrans SGSN-Ctx-Ack TX	
Total SGSN-Ctx-Ack RX	The total number of SGSN Context Acknowledgement response messages received on the Gn/Gp interface.
Denied RX	
Accepted RX	
Initial SGSN-Ctx-Ack RX	
Retrans SGSN-Ctx-Ack RX	
Decode Failure RX	
Forward Relocation Request:	
Total Fwd-Rel-Req TX	The total number of Forward Relocation request messages transmitted.
Total Fwd-Rel-Req RX	The total number of Forward Relocation request messages received.
Initial Fwd-Rel-Req TX	The total number of initial Forward Relocation request messages transmitted.
Initial Fwd-Rel-Req RX	The total number of initial Forward Relocation request messages received.
Retrans Fwd-Rel-Req TX	
Retrans Fwd-Rel-Req RX	
Forward Relocation Response:	
Total Fwd-Rel-Rsp TX	The total number of Forward Relocation response messages transmitted.
Denied TX	
Accepted TX	
Initial Fwd-Rel-Rsp TX	

Field	Description
Retrans Fwd-Rel-Rsp TX	
Total Fwd-Rel-Rsp RX	The total number of Forward Relocation response messages received.
Denied RX	
Accepted RX	
Initial Fwd-Rel-Rsp RX	
Decode Failure RX	
Forward SRNS Context:	
Total Fwd-SRNS-Ctx TX	The total number of Forward Serving Radio Network Subsystem (SRNS) Context request messages transmitted.
Total Fwd-SRNS-Ctx RX	The total number of Forward Serving Radio Network Subsystem (SRNS) Context request messages received.
Initial Fwd-SRNS-Ctx TX	
Initial Fwd-SRNS-Ctx RX	
Retrans Fwd-SRNS-Ctx TX	
Retrans Fwd-SRNS-Ctx RX	
Forward SRNS Context Ack:	
Total SRNS-Ctx-Ack TX	The total number of Forward Serving Radio Network Subsystem (SRNS) Context Acknowledgement messages transmitted.
Denied TX	
Accepted TX	
Initial SRNS-Ctx-Ack TX	
Retrans SRNS-Ctx-Ack TX	
Total SRNS-Ctx-Ack RX	The total number of Forward Serving Radio Network Subsystem (SRNS) Context Acknowledgement messages received.
Denied RX	
Accepted RX	
Initial SRNS-Ctx-Ack RX	
Decode Failure RX	
Forward Relocation Complete:	

Field	Description
Total Fwd-Rel-Cmp TX	The total number of Forward Relocation Complete messages transmitted.
Total Fwd-Rel-Cmp RX	The total number of Forward Relocation Complete messages received.
Initial Fwd-Rel-Cmp TX	
Initial Fwd-Rel-Cmp RX	
Retrans Fwd-Rel-Cmp TX	
Retrans Fwd-Rel-Cmp RX	
Forward Relocation Complete Ack:	
Total Rel-Cmp-Ack TX	The total number of Relocation Complete Acknowledgement messages transmitted.
Denied TX	
Accepted TX	
Initial Rel-Cmp-Ack TX	
Retrans SRNS-Ctx-Ack TX	
Total Rel-Cmp-Ack RX	The total number of Relocation Complete Acknowledgement messages received.
Denied RX	
Accepted RX	
Initial Rel-Cmp-Ack RX	
Decode Failure RX	
Relocation Cancel Request:	
Total Rel-Can-Req TX	The total number of Relocation Cancel request messages transmitted.
Total Rel-Can-Req RX	The total number of Relocation Cancel request messages received.
Initial Rel-Can-Req TX	
Initial Rel-Can-Req RX	
Retrans Rel-Can-Req TX	
Retrans Rel-Can-Req RX	
Relocation Cancel Response:	

Field	Description
Total Rel-Can-Rsp TX	The total number of Relocation Cancel response messages transmitted.
Denied TX	
Accepted TX	
Initial Rel-Can-Rsp TX	
Retrans Rel-Can-Rsp TX	
Total Rel-Can-Rsp RX	The total number of Relocation Cancel response messages received.
Denied RX	
Accepted RX	
Initial Rel-Can-Rsp RX	
Decode Failure RX	
Path Management Messages:	
Echo Request:	
Total Echo-Req TX	The total number of Echo request messages transmitted.
Total Echo-Req RX	The total number of Echo request messages received.
Initial Echo-Req TX	The total number of initial Echo request messages transmitted.
Initial Echo-Req RX	The total number of initial Echo request messages received.
Retrans Echo-Req TX	The total number of Echo request messages retransmitted.
Echo Response:	
Total Echo-Rsp TX	The total number of Echo response messages transmitted.
Total Echo-Rsp RX	The total number of Echo response messages received.
Version Not Supported	The total number of Echo messages received and transmitted with GTP version not supported.
RX	The total number of Echo messages received with GTP version not supported.
TX	The total number of Echo messages transmitted with GTP version not supported.
Supported Ext. Headers Notif	The total number of Echo messages received and transmitted with supported extension headers notification.
RX	The total number of Echo messages received with supported extension headers notification.

Field	Description
TX	The total number of Echo messages transmitted with supported extension headers notification.
Location Management Messages:	
Send Routing Info Request:	
Total SRI-Req	The total number of Send Routing Information (SRI) request messages transmitted to the HLR(s).
Initial SRI-Req	The total number of initial Send Routing Information (SRI) request messages transmitted to the HLR(s).
Retrans SRI-Req	The total number of Send Routing Information (SRI) request messages retransmitted to the HLR(s).
Send Routing Info Response:	
Total SRI-Rsp	The total number of Send Routing Information (SRI) response messages transmitted to the HLR(s).
Denied	The total number of initial Send Routing Information (SRI) response messages transmitted to the HLR(s).
Accepted	The total number of Send Routing Information (SRI) response messages retransmitted to the HLR(s).
Initial SRI-Rsp	
Retrans SRI-Rsp	
Failure Report Request:	
Total Fail-Rpt-Req	The total number of fail report request messages transmitted.
Initial Fail-Rpt-Req	The total number of initial fail report request messages transmitted.
Retrans Fail-Rpt-Req	The total number of fail report request messages retransmitted.
Failure Report Response:	
Total Fail-Rpt-Rsp	The total number of fail report response messages transmitted.
Denied	
Accepted	
Initial Fail-Rpt-Rsp	The total number of initial fail report response messages transmitted.
Retrans Fail-Rpt-Rsp	The total number of fail report response messages retransmitted.
Note Ms Gprs Present Request:	
Total Note-Ms-Gprs-Req	The total number of Note MS GPRS Present request messages received from the HLR(s).

Field	Description
Initial Note-Ms-Gprs-Req	The total number of initial Note MS GPRS Present request messages received from the HLR(s).
Retrans Note-Ms-Gprs-Req	The total number of Note MS GPRS Present request messages retransmitted.
Note Ms Gprs Present Response:	
Total Note-Ms-Gprs-Rsp	The total number of Note MS GPRS Present response messages transmitted to the HLR(s).
Denied	The total number of "deny" Note MS GPRS Present response messages transmitted to the HLR(s).
Accepted	The total number of Note MS GPRS Present response messages transmitted to the HLR(s) containing a cause value of 128 (80H, Request accepted).
Initial Note-Ms-Gprs-Rsp	
Decode Failure	
MS Info Change Notification Request:	
Total MICN-Req	
Initial MICN-Req	
Retrans MICN-Req	
MS Info Change Notification Response:	
Total MICN-Rsp	
Denied	
Dropped	
Accepted	
MBMS Bearer Service specific Messages: This group lists statistics related to Multimedia Broadcast Multicast Service (MBMS) bearer messages.	
MBMS Session Start Request:	
Total Sess-Start-Req	The total number of MBMS Session Start request messages transmitted.
Initial Sess-Start-Req	The total number of initial MBMS Session Start request messages transmitted.
Retrans Sess-Start-Req	The total number of MBMS Session Start request messages retransmitted.
MBMS Session Start Response:	

Field	Description
Total Sess-Start-Rsp	The total number of MBMS Session Start response messages received.
Denied	The total number of MBMS Session Start response messages denied.
Accepted	The total number of MBMS Session Start response messages accepted.
Initial Sess-Start-Rsp	The total number of intial MBMS Session Start response messages received.
Retrans Sess-Start-Rsp	The total number of MBMS Session Start response messages retransmitted.
MBMS Session Stop Request:	
Total Sess-Stop-Req	The total number of MBMS Session Stop request messages transmitted.
Initial Sess-Stop-Req	The total number of MBMS Session Start request messages transmitted.
Retrans Sess-Stop-Req	The total number of MBMS Session Start request messages transmitted.
MBMS Session Stop Response:	
Total Sess-Stop-Rsp	The total number of MBMS Session Stop response messages transmitted.
Denied	The total number of MBMS Session Stop response messages denied.
Accepted	The total number of MBMS Session Stop response messages accepted.
Initial Sess-Stop-Rsp	The total number of initial MBMS Session Stop response messages transmitted.
Retrans Sess-Stop-Rsp	The total number of MBMS Session Stop response messages retransmitted.
MBMS Session Update Request:	
Total Sess-Update-Req	The total number of MBMS Session Update request messages transmitted.
Initial Sess-Update-Req	The total number of initial MBMS Session Update request messages transmitted.
Retrans Sess-Update-Req	The total number of MBMS Session Update request messages retransmitted.
MBMS Session Update Response:	
Total Sess-Update-Rsp	The total number of MBMS Session Update response messages transmitted.

Field	Description
Denied	The total number of MBMS Session Update response messages denied.
Accepted	The total number of MBMS Session Update response messages accepted.
Initial Sess-Update-Rsp	The total number of intial MBMS Session Update response messages transmitted.
Retrans Sess-Update-Rsp	The total number of MBMS Session Update response messages retransmitted.
MBMS Registration Request:	
Total Reg-Req TX	The total number of MBMS Registration request messages transmitted.
Initial Reg-Req TX	The total number of initial MBMS Registration request messages transmitted.
Retrans Reg-Req TX	The total number of MBMS Registration request messages retransmitted.
MBMS Registration Response:	
Total Reg-Rsp RX	The total number of MBMS Registration response messages received.
Denied RX	The total number of MBMS Registration response messages denied.
Accepted RX	The total number of MBMS Registration response messages accepted.
Initial Reg-Rsp RX	The total number of initial MBMS Registration response messages received.
Decode Failure RX	The total number of MBMS Registration response messages received with a decode failure.
MBMS De-Registration Request:	
Total De-Reg-Req TX	The total number of MBMS De-Registration request messages transmitted.
Total De-Reg-Req RX	The total number of MBMS De-Registration request messages received.
Initial De-Reg-Req TX	The total number of initial MBMS De-Registration request messages transmitted.
Initial De-Reg-Req RX	The total number of initial MBMS De-Registration request messages received.
Retrans De-Reg-Req TX	The total number of retransmitted MBMS De-Registration request messages transmitted.

Field	Description
Retrans De-Reg-Req RX	The total number of retransmitted MBMS De-Registration request messages received.
MBMS De-Registration Response:	
Total De-Reg-Rsp TX	
Total De-Reg-Rsp RX	
Denied TX	
Denied RX	
Accepted TX	
Accepted RX	
Initial De-Reg-Rsp TX	
Initial De-Reg-Rsp RX	
Retrans De-Reg-Rsp TX	
Decode Failure RX	
Path Failure Statistics:	
Number of Path Failures due to Echo Request Timeout	
Number of Deactivations due to Echo Request Timeout	
Number of Path Failures due to Non Echo Request Timeout	
Number of Deactivations due to Non Echo Request Time	
Number of Path Failures due to Restart Counter Change in Echo Response	
Number of Restart Counter Changes verified using Echo Response	
Number of Restart Counter Changes in Echo Response	
Number of Path Failures due to Restart Counter Change in Non Echo Response	
Number of Deactivations due to Restart Counter Change	

Field	Description
Number of Incorrect Path Failures detected by Session Manager	
MBMS UE specific Messages: This group lists statistics related to Multimedia Broadcast Multicast Service (MBMS) UE messages.	
MBMS Notification Request:	
Total MBMS-Not-Req RX	The total number of MBMS notification request messages received.
Initial MBMS-Not-Req RX	The total number of initial MBMS notification request messages received.
Retrans MBMS-Not-Req RX	The total number of retransmitted MBMS notification request messages received.
MBMS Notification Response:	
Total MBMS-Not-Rsp TX	The total number of MBMS notification response messages transmitted.
Denied TX	
Accepted TX	
Initial MBMS-Not-Rsp TX	The total number of initial MBMS notification response messages transmitted.
Retrans MBMS-Not-Rsp TX	The total number of retransmitted MBMS notification response messages transmitted.
MBMS Notification Reject Request:	
Total MBMS-Not-Rej-Req TX	
Initial MBMS-Not-Rej-Req TX	
Retrans MBMS-Not-Rej-Req TX	
MBMS Notification Reject Response:	
Total MBMS-Not-Rej-Rsp RX	
Denied RX	
Accepted RX	
Initial MBMS-Not-Rej-Rsp	
Decode Failure RX	
Create MBMS Context Request:	
Total CMC-Req TX	The total number of Create MBMS Context request messages transmitted.

Field	Description
Initial CMC-Req TX	The total number of initial Create MBMS Context request messages transmitted.
Retrans CMC-Req TX	The total number of retransmitted Create MBMS Context request messages transmitted.
Create MBMS Context Response:	
Total CMC-Rsp RX	
Denied RX	
Accepted RX	
Initial CMC-Rsp RX	
Decode Failure RX	
Update MBMS Context Request:	
Total UMC-Req TX	The total number of Update MBMS Context request messages transmitted.
Initial UMC-Req TX	The total number of initial Update MBMS Context request messages transmitted.
Retrans UMC-Req TX	The total number of retransmitted Update MBMS Context request messages transmitted.
Update MBMS Context Response:	
Total UMC-Rsp RX	
Denied RX	
Accepted RX	
Initial UMC-Rsp RX	
Decode Failure RX	
Delete MBMS Context Request:	
Total DMC-Req TX	
Total DMC-Req RX	
Initial DMC-Req TX	
Initial DMC-Req RX	
Retrans DMC-Req TX	
Retrans DMC-Req RX	
Delete MBMS Context Response:	

Field	Description
Total DMC-Rsp TX	
Total DMC-Rsp RX	
Denied TX	
Denied RX	
Accepted TX	
Accepted RX	
Initial DMC-Rsp TX	
Initial DMC-Rsp RX	
Decode Failure RX	
RAN info Relay Msg:	
Total messages received	The total number of RAN Information Relay (RIM) messages received.
Total messages sent	The total number of RAN Information Relay (RIM) messages transmitted.
Total messages dropped	The total number of RAN Information Relay (RIM) messages dropped.
due to DNS failure	The total number of RAN Information Relay (RIM) messages dropped due to a DNS failure.
due to RIM disabled in SGSN	The total number of RAN Information Relay (RIM) messages dropped due to lack of support by the SGSN.
due to Invalid Routing Addr	The total number of RAN Information Relay (RIM) messages dropped due to an invalid routing address.



CHAPTER 134

show sgtpu

This chapter describes the outputs of the **show sgtpu** command.

- show sgtpu statistics, on page 1961

show sgtpu statistics

Table 564: show sgtpu statistics Command Output Descriptions

Field	Description
GTPU Statistics:	
Total Packets Sent	
Packets sent to GGSN	Total number of packets for GTP-U messages sent to GGSN.
Packets sent to RNC	Total number of packets for GTP-U messages sent to RNC.
Packets sent to SGSN	Total number of packets for GTP-U messages sent to SGSN.
Total Bytes Sent	
Bytes sent to GGSN	Total number of bytes for GTP-U messages sent to GGSN at a given instance of time.
Bytes sent to RNC	Total number of bytes for GTP-U messages sent to the RNC at a given instance in time.
Bytes sent to SGSN	Total number of bytes for GTP-U messages sent to the SGSN at a given instance in time.
Total Packets Rcvd	
Total Packets from GGSN	Total number of packets for GTP-U messages received from GGSN.
Pkts queued	Total number of packets queued for GTP-U messages from GGSN.
Pkts forward from queue	**Description**: This proprietary statistic indicates the total number of packets that are forwarded from the GGSN queue. **Triggers**: Increments when a packet is forwarded from the GGSN queue. **Availability**: per SGTP service

Field	Description
Pkts dropped	Total number of packets dropped for GTP-U messages from GGSN.
Queue Full	Total number of packets dropped due to queued buffer limit full for GTP-U messages from GGSN.
Ctxt Preserved	Total number of GTP packets from GGSN dropped in preserved context.
Unknown session	Total number of GTP packets from GGSN dropped in unknown session.
Pkts when dp suspended	**Description**: This proprietary statistic indicates the total number of packets dropped because of DP session in suspended state. **Triggers**: Increments when a DP session has deactivation initiated or path failure is detected for the PDP context. **Availability**: per SGTP service
Sess Dealloc started	Total number of GTP packets from peer GGSN received during session deallocation procedure.
Paging Failure	Total number of GTP packets dropped due to paging failure when there was downlink data from GGSN.
Seq Num Not Pres(V0)	Total number of packets from GGSN dropped as GTP-Uv0 messages received with sequence number flag set to false.
Unknown version	Total number of GTP-U packets received from GGSN with unknown GTP version.
Invalid msg length	Total number of GTP packets from GGSN dropped as GTP-U messages received with invalid message length.
Traffic Policing	Total number of GTP-U packets received from GGSN under subscriber traffic policing support.
Iu Release	**Description**: Total number of downlink packets that were queued but dropped due to IU/RAB release. **Triggers**: Counter at the new SGSN increments when Iu/RAB gets released while inter-SGSN-RAU is in progress and downlink data is queued during RAU. **Availability**: per SGTP service
T3-tunnel Timer expiry	**Description**: Total number of downlink packets that were queued but dropped due to T3-tunnel timer expiry during inter-SGSN RAU procedure. **Triggers**: During inter-SGSN RAU at the old SGSN, neither Cancel Location or SGSN Context Ack are received when t3-tunnel timer is fired causing the RAU procedure to abort. If old RABs are not available, the data queued during the RAU will be dropped. **Availability**: per SGTP service

Field	Description
BVC Reset/Block Rcvd	**Description**: This proprietary statistic indicates the total number of packets that are dropped from the GGSN queue, because of BVC Block or BVC Reset messages received for the MM context. **Triggers**: Increments when a packet is dropped from the GGSN queue because of BVC Reset/BVC Block received for the MM context. **Availability**: per SGTP service
Total Bytes Rcvd	
Total Bytes from SGSN	Total number of bytes for GTP-U messages received from GGSN.
Bytes queued	Total number of bytes queued for GTP-U messages from GGSN.
Bytes forward from queue	**Description**: This proprietary statistic indicates the total number of bytes that are forwarded from the GGSN queue. **Triggers**: Increments when a byte is forwarded from the GGSN queue. **Availability**: per SGTP service
Bytes dropped	Total number of bytes dropped for GTP-U messages from GGSN.
Queue Full	Total number of bytes dropped due to queued buffer limit full for GTP-U messages from GGSN.
Ctxt Preserved	Total number of GTP bytes from GGSN dropped in preserved context.
Unknown session	Total number of GTP bytes from GGSN dropped in unknown session.
Pkts when dp suspended	**Description**: This proprietary statistic indicates the total number of bytes dropped because of DP session in suspended state. **Triggers**: Increments when a DP session has deactivation initiated or path failure is detected for the PDP context. **Availability**: per SGTP service
Sess Dealloc started	Total number of GTP bytes from peer GGSN received during session deallocation procedure.
Paging Failure	Total number of GTP bytes dropped due to paging failure when there was downlink data from GGSN.
Seq Num Not Pres(V0)	Total number of bytes from GGSN dropped as GTP-Uv0 messages received with sequence number flag set to false.
Unknown version	Total number of GTP-U bytes received from GGSN with unknown GTP version.
Invalid msg length	Total number of GTP bytes from GGSN dropped as GTP-U messages received with invalid message length.
Traffic Policing	Total number of GTP-U bytes received from GGSN under subscriber traffic policing support.

Field	Description
Iu Release	**Description**: Total number of downlink bytes that were queued but dropped due to IU/RAB release. **Triggers**: Counter at the new SGSN increments when Iu/RAB gets released while inter-SGSN-RAU is in progress and downlink data is queued during RAU. **Availability**: per SGTP service
T3-tunnel Timer expiry	**Description**: Total number of downlink bytes that were queued but dropped due to T3-tunnel timer expiry during inter-SGSN RAU procedure. **Triggers**: During inter-SGSN RAU at the old SGSN, neither Cancel Location or SGSN Context Ack are received when t3-tunnel timer is fired causing the RAU procedure to abort. If old RABs are not available, the data queued during the RAU will be dropped. **Availability**: per SGTP service
BVC Reset/Block Rcvd	**Description**: This proprietary statistic indicates the total number of bytes that are dropped from the GGSN queue, because of BVC Block or BVC Reset messages received for the MM context. **Triggers**: Increments when a byte is dropped from the GGSN queue because of BVC Reset/BVC Block received for the MM context. **Availability**: per SGTP service
Total Error Ind Sent	Indicates the total number of error indication messages sent to GGSN.
Sent to GGSN	**Description**: This proprietary counter indicates the total number of GTP-U (v1 and v0) messages sent to GGSN with error indication. **Triggers**: Increments when SGSN receives data packet from GGSN and no PDP context exists for this data packet on SGSN. In this case, SGSN sends error indications to GGSN. **Availability**: per GGSN
Sent to RNC	**Description**: This proprietary counter indicates the total number of GTP-U (v1 and v0) messages sent to RNC with error indication. **Triggers**: Increments when SGSN receives data packet from RNC and no PDP context exists for this data packet on SGSN. In this case, SGSN sends error indications to RNC. **Availability**: per RNC
Total Error Ind Rcvd	Indicates the total number of error indication messages received by SGSN.
Rcvd from GGSN	**Description**: This proprietary counter indicates the total number of GTP-U (v1 and v0) messages received by SGSN from GGSN with error indication. **Triggers**: Increments when SGSN receives error indication messages from GGSN. **Availability**: per GGSN

Field	Description
Rcvd from RNC	**Description**: This proprietary counter indicates the total number of GTP-U (v1 and v0) messages received by SGSN from RNC with error indication. **Triggers**: Increments when SGSN receives error indication messages from RNC. **Availability**: per RNC
Rcvd from GGSN through RNC	**Description**: This proprietary counter indicates the total number of error indication messages from GGSN. If direct tunnel is enabled, data flows between RNC and GGSN. When the RNC receives GTPU-PDU from the GGSN for which no RAB context exists, RNC discards GTPU-PDU and returns error indication to GGSN. In order to notify SGSN, GGSN sends UPC request with EI Flag to SGSN. **Triggers**: Increments when SGSN receives error indication messages from GGSN through RNC. **Availability**: per GGSN
Rcvd from RNC through GGSN	**Description**: This proprietary counter indicates the total number of error indication messages from RNC. If direct tunnel is enabled, data flows between RNC and GGSN. GGSN sends Error indication to RNC, and in order to notify SGSN, RNC sends RAB Release Request with the error cause 'GTP Resources Unavailable'. **Triggers**: Increments when SGSN receives error indication messages from GGSN through RNC. This is when SGSN receives (Error indication message) Update PDP Context request with EI (Error Indication) flag from GGSN. **Availability**: per RNC



CHAPTER 135

show sgw

This chapter describes the output of the **show sgw** command.

- show sgw-service all, on page 1967
- show sgw-service name, on page 1969
- show sgw-service statistics all verbose, on page 1969
- show sgw-service statistics all, on page 1984

show sgw-service all

Displays configuration information for all S-GW services configured on the system.

Table 565: show sgw-service all Command Output Descriptions

Field	Description
Service name	The name of the S-GW service.
Service-ID	The system generated identification number of the service.
Context	The context name where the service is located.
Accounting context	The context where the accounting configuration and or interfaces are configured.
Accounting mode	The accounting mode to be used for the S-GW service – GTTP (default), RADIUS/Diameter or none.
Status	The status of the service.
Egress Protocol	The egress protocol, such as "gtp-pmip"
Ingress EGTP service	The ingress eGTP service configured for this S-GW service.
Egress context	The egress context configured for this service.
Egress EGTP service	The egress eGTP service configured for this S-GW service.
Egress MAG service	The egress Mobile Access Gateway (MAG) service configured for this service.
IMS auth. service	The IMS authorization (IMSA) service used by this service for IMS subscribers.

Field	Description
Accounting policy	The name of the operator policy associated with accounting for this service.
Newcall policy	The newcall policy configured for this service.
S-GW Interface Excluded	Excludes the specified interface.
QCI-QOS mapping table	The QoS Class Index to QoS mapping table configured for use with this service.
GTPC Path Failure Handling	
S11-Interface	**local-purge**: The S-GW clears the affected bearer (or PDN if the path failure is received on a default bearer) locally without informing the peers. This is the default action for all interfaces. **signal-peer**: The S-GW initiates control signalling towards the peer MME and P-GW.
S5-Interface	
S1U-Interface	
S5U-Interface	
S4U-Interface	
S12-Interface	
GTPU Error Indication Handling	
S1U-Interface	**local-purge**: The S-GW clears the affected bearer (or PDN if the error indication is received on the default bearer) locally without informing the peers. **page-ue**: The S-GW moves the complete UE state to S1-Idle and starts paging for this UE. This is the default action for GTP-U error indication messages received on the S12 and S1-U interfaces.
S5U-Interface	
S12-Interface	
S4U-Interface	
Idle timeout	Indicates the time, in seconds configured for the SGW Session Idle Timer. Once configured, the Session Idle Timer will tear down those sessions that remain idle for longer than the configured time limit.
Idle timeout micro checkpoint periodicity	If configured, shows the ICSR micro checkpoint periodicity for idlesecs. This way the operators can configure this setting to a large value to suit their need to reduce the number of micro checkpoints on the srp link. If not configured, the default value Idle timeout of 10 seconds is used.
PLMN ID List	List of Public Land Mobile Network (PLMN) identifiers associated with the operator policy for this service. A PLMN ID consists of the Mobile Country Code (MCC) + Mobile network Code (MCC).
Subscriber Map Name	Name of the subscriber map associated with the operator policy for this service.
GTP-C Load Control Profile	Shows the name of the R12 Load Support profile, if configured.
GTP-C Overload Control Profile	Shows the name of the R12 Overload Support profile, if configured.

show sgw-service name

Displays configuration information for S-GW services configured on the system.

Table 566: show sgw-service name Command Output Descriptions

Field	Description
EGTP Ignore ULI IE with SAI/RAI/CGI in Change Notification Req for EUTRAN	Indicates that **egtp change-notification-req rat-type eutran ignore-uli-with-rai-sai-cgi** CLI is enabled ot disabled under S-GW services.

show sgw-service statistics all verbose

Table 567: show sgw-service statistics all Command Output Descriptions

Field	Description
Session Level Statistics	
Current	
UE	
Idle	The total number of UE sessions currently idle.
Idle-ISR	The total number of Idle-mode Signaling Reduction UE sessions currently idle.
Active	The total number of UE sessions currently active.
Active-ISR	The total number of Idle-mode Signaling Reduction UE sessions currently active.
PDN	The total number of current PDN sessions.
Home	The total number of current home PDN sessions.
Roaming	The total number of current roaming PDN sessions.
Visiting	The total number of current visiting PDN sessions.
Bearers	The total number of current Bearers.
Ind-Fwd-Tunnels	Indirect forward tunneling: The total number of current tunnels.
Ind-Fwd-Bearers	Indirect forward tunneling: The total number of current bearers.
Traffic Policing	
uplink pkts red	The total number of uplink packets marked red by the trTCM algorithm.
uplink bytes red	The total number of uplink bytes marked red by the trTCM algorithm.
uplink pkts yellow	The total number of uplink packets marked yellow by the trTCM algorithm.

Field	Description
uplink bytes yellow	The total number of uplink bytes marked yellow by the trTCM algorithm.
uplink pkts green	The total number of uplink packets marked green by the trTCM algorithm.
uplink bytes green	The total number of uplink bytes marked green by the trTCM algorithm.
uplink pkts dropped	The total number of uplink packets dropped due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
uplink bytes dropped	The total number of uplink bytes dropped due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
uplink pkts low ip prec	The total number of uplink packets that were transmitted after the IP precedence was lowered due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
uplink bytes low ip prec	The total number of uplink bytes that were transmitted after the IP precedence was lowered due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
uplink pkts transmitted	The total number of uplink packets that were transmitted even after exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
uplink bytes transmitted	The total number of uplink packets that were transmitted even after exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
downlink pkts red	The total number of downlink packets marked red by the trTCM algorithm.
downlink bytes red	The total number of downlink bytes marked red by the trTCM algorithm.
downlink pkts yellow	The total number of downlink packets marked yellow by the trTCM algorithm.
downlink bytes yellow	The total number of downlink bytes marked yellow by the trTCM algorithm.
downlink pkts green	The total number of downlink packets marked green by the trTCM algorithm.
downlink bytes green	The total number of downlink bytes marked green by the trTCM algorithm.
downlink pkts dropped	The total number of downlink packets dropped due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
downlink bytes dropped	The total number of downlink bytes dropped due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
downlink pkts low ip prec	The total number of downlink packets that were transmitted after the IP precedence was lowered due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
downlink bytes low ip prec	The total number of downlink bytes that were transmitted after the IP precedence was lowered due to exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).

Field	Description
downlink pkts transmitted	The total number of downlink packets that were transmitted even after exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
downlink bytes transmitted	The total number of downlink packets that were transmitted even after exceeding or violating the Peak Information Rate (PIR) or the Committed Information Rate (CIR).
Setup	
UE	The total number of UE session set up.
PDN	The total number of PDN sessions set up.
Bearers	The total number of bearers set up.
PDNs Setup Per PDN-type	
IPv4	The total number of PDN sessions set up using IPv4.
IPv6	The total number of PDN sessions set up using IPv6.
IPv4v6	The total number of PDN sessions set up using IPv4 in IPv6.
PDNs Setup Per Interface	
S11	The total number of PDN sessions set up on an S11 interface.
S4	The total number of PDN sessions set up on an S4 interface.
PDNs Setup Per S5 Proto	
GTP	The total number of PDN sessions set up using GTP tunneling.
PMIP	The total number of PDN sessions set up using PMIP tunneling.
PDNs Released	
IPv4	The total number of PDN sessions released using IPv4.
IPv6	The total number of PDN sessions released using IPv6.
IPv4v6	The total number of PDN sessions released using IPv4 in IPv6.
PDNs Released Reason	
MME Ini	The total number of PDN sessions released - initiated by the MME.
PGW Ini	The total number of PDN sessions released - initiated by the P-GW.
PCRF Ini	The total number of PDN sessions released - initiated by the PCRF.
S4 SGSN Ini	The total number of PDN sessions released - initiated by a Delete Session Request from an S4-SGSN.
Local	The total number of PDN sessions released - initiated locally.

Field	Description
S1 Error Ind	The total number of PDN sessions released due to an S1 interface error.
S5 Error Ind	The total number of PDN sessions released due to an S5 interface error.
Path Failure S11	The total number of PDN sessions released due to an S11 path failure.
Path Failure S1-U	The total number of PDN sessions released due to an S1-U path failure.
Path Failure S5	The total number of PDN sessions released due to an S5 path failure.
Path Failure S5-U	The total number of PDN sessions released due to an S5-U path failure.
Path Failure S4	The total number of PDN sessions released due to an S4 path failure.
Path Failure S4-U	The total number of PDN sessions released due to an S4-U path failure.
Path Failure S12	The total number of PDN sessions released due to an S12 path failure.
Other	The total number of PDN sessions released due to other reasons.
PDNs Rejected	
IPv4	The total number of PDN sessions rejected using IPv4.
IPv6	The total number of PDN sessions rejected using IPv6.
IPv4v6	The total number of PDN sessions rejected using IPv4 in IPv6.
PDNs Rejected Reason	
PGW Ini	The total number of PDN sessions rejected - initiated by the P-GW.
License	The total number of PDN sessions rejected due to license reasons.
Newcall	The total number of PDN sessions rejected due to newcall reasons.
Overload	The total number of PDN sessions rejected due to overload reasons.
Congestion	The total number of PDN sessions rejected due to congestion reasons.
Other	The total number of PDN sessions rejected due to other reasons.
ISR Statistics	
Total ISR Activations	
MME	The total number of ISR activations by an MME.
S4-SGSN	The total number of ISR activations by an S4-SGSN.
Total ISR Deactivations	
MME	The total number of ISR deactivations by an MME.
S4-SGSN	The total number of ISR deactivations by an S4-SGSN.

Field	Description
Call Clear	The total number of ISR deactivations by a call clear.
Bearer Level Statistics	
Total EPS Bearers Setup	
QCI 1 - 9	The total number of EPS bearers set up, with a QoS Class Index.
Non-Std QCI	The total number of EPS bearers set up, with a non-standard QoS Class Index.
Total EPS Bearers Released	
QCI 1 - 9	The total number of EPS bearers released, with a QoS Class Index.
Non-Std QCI	The total number of EPS bearers released, with a non-standard QoS Class Index.
Total EPS Bearers Modified	
QCI 1 - 9	The total number of EPS bearers modified, with a QoS Class Index.
Non-Std QCI	The total number of EPS bearers modified, with a non-standard QoS Class Index.
Dedicated Bearers Released Reason	
PGW Ini	The total number of dedicated bearers released - initiated by the P-GW.
PCRF Ini	The total number of dedicated bearers released - initiated by the PCRF.
S1 Error Ind	The total number of dedicated bearers released due to an S1 interface error.
S5 Error Ind	The total number of dedicated bearers released due to an S5 interface error.
S4-U Error Ind	The total number of dedicated bearers released due to an S4-U interface error.
S12 Error Ind	The total number of dedicated bearers released due to an S12 interface error.
Local	The total number of dedicated bearers released - initiated locally.
PDN Down	The total number of dedicated bearers released due to an inaccessible PDN.
Path Failure S1-U	The total number of dedicated bearers released due to an S1-U path failure.
Path Failure S5-U	The total number of dedicated bearers released due to an S5-U path failure.
Path Failure S4-U	The total number of dedicated bearers released due to an S4-U path failure.
Path Failure S12	The total number of dedicated bearers released due to an S12U path failure.
Other	The total number of dedicated bearers released due to other reasons.
Bearers by QoS characteristics	
Active: QCI n	The number of active QoS bearers with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.

Field	Description
Setup: QCI n	The number of QoS bearers setup with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Released: QCI n	The number of released QoS bearers with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Modified: QCI n	The number of modified QoS bearers with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Dedicated Bearers Released by Reason	
PGW Ini: QCI n	The number of bearers with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70 that were released due to a P-GW initiated action.
PCRF Ini:	The number of bearers released due to a PCRF initiated action.
Non-Std QCI	The number of bearers released with a non-standard QCI value.
S1 Error Ind: QCI n	The number of bearers released with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70 due to an S1 error indication.
Non-Std QCI	The number of bearers with a non-standard QCI value released due to an S1 error indication.
S5 Error Ind: QCI n	The number of bearers released due to an S5 error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Non Std QCI	The number of bearers released due to an S5 error indication that had a a non-standard QCI value.
S4 Error Ind: QCI n	The number of bearers released due to an S4 error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Non-Std QCI	The number of bearers released due to an S4 error indication that had a a non-standard QCI value.
S12 Error Ind: QCI n	The number of bearers released due to an S12 error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Non-std QCI	The number of bearers with a non-standard QCI value released due to an S12 error indication.
Local: QCI n	The number of bearers released due to an local error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Non-std QCI	The number of bearers with a non-standard QCI value released due to a local error indication.
PDN Down: QCI	The number of bearers released due to a PDN down error indication that had a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Non-std QCI	The number of bearers with a non-standard QCI value released due to a PDN down error indication.

Field	Description
Path Failure S1-U: QCI n	The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S1-U path failure.
Non-std QCI	The total number of PDN sessions with a non-standard QCI value that were released due to an S1-U path failure.
Path Failure S5-U: QCI n	The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S5-U path failure.
Non-std QCI	The total number of PDN sessions with a non-standard QCI value that were released due to an S5-U path failure.
Path Failure S5: QCI n	The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S5 path failure.
Non-std QCI	The total number of PDN sessions with a non-standard QCI value that were released due to an S5 path failure.
Path Failure S11: QCI n	The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S11 path failure.
Non-std QCI	The total number of PDN sessions with a non-standard QCI value released due to an S11 path failure.
Path Failure S4-U: QCI n	The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S4-U path failure.
Non-std QCI	The total number of PDN sessions with a non-standard QCI value released due to an S4-U path failure.
Path Failure S12: QCI n	The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an S12 path failure.
Non-std QCI	The total number of PDN sessions with a non-standard QCI value released due to an S12 path failure.
Inactivity Timeout: QCI n	The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due to an inactivity timeout.
Non-std QCI	The total number of PDN sessions with a non-standard QCI value released due to an inactivity timeout.
Other: QCI n	The total number of PDN sessions with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, 70 released due other reasons not specified above.
Non-std QCI	The total number of PDN sessions with a non-standard QCI value released due to other reasons not specified above.
Data Statistics Per Interface	
S1U Total Data Statistics	
Uplink	

Field	Description
Total Pkts	The total number of uplink packets over the S1-U interface.
Total Bytes	The total number of uplink bytes over the S1-U interface.
Dropped Pkts	The total number of dropped uplink packets over the S1-U interface.
Dropped Bytes	The total number of dropped uplink bytes over the S1-U interface.
Pkts QCI n	The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of uplink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of uplink bytes with a QCI value of 1 through 9 or a QCI value of 65, 66, 69, or 70.
Bytes Non-Std QCI	The total number of uplink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped uplink packets with a QoS Class Index.
Dropped Pkts Non-Std QCI	The total number of dropped uplink packets with a non-standard QoS Class Index.
Dropped Bytes QCI n	The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped uplink bytes with a non-standard QoS Class Index.
Non-Std QCI	The total number of uplink bytes dropped with a non-standard QoS Class Index.
Downlink	
Pkts	The total number of downlink packets over the S1-U interface.
Bytes	The total number of downlink bytes over the S1-U interface.
Dropped Pkts	The total number of dropped downlink packets over the S1-U interface.
Dropped Bytes	The total number of dropped downlink bytes over the S1-U interface.
Pkts QCI n	The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of downlink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Bytes Non-Std QCI	The total number of downlink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Pkts Non-Std QCI	The total number of dropped downlink packets with a non-standard QoS Class Index.

Field	Description
Dropped Bytes QCI n	The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped downlink bytes with a non-standard QoS Class Index.
S4-U Total Data Statistics	
Uplink	
Pkts	The total number of uplink packets over the S4-U interface.
Bytes	The total number of uplink bytes over the S4-U interface.
Dropped Pkts	The total number of dropped uplink packets over the S4-U interface.
Dropped Bytes	The total number of dropped uplink bytes over the S4-U interface.
Pkts QCI n	The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of uplink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Bytes Non-Std QCI	The total number of uplink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Pkts Non-Std QCI	The total number of dropped uplink packets with a non-standard QoS Class Index.
Dropped Bytes QCI n	The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped uplink bytes with a non-standard QoS Class Index.
Non-Std QCI	The total number of uplink bytes dropped with a non-standard QoS Class Index.
Downlink	
Pkts	The total number of downlink packets over the S4-U interface.
Bytes	The total number of downlink bytes over the S4-U interface.
Dropped Pkts	The total number of dropped downlink packets over the S4-U interface.
Dropped Bytes	The total number of dropped downlink bytes over the S4-U interface.
Pkts QCI n	The total number of downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of downlink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.

Field	Description
Bytes Non-Std QCI	The total number of downlink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Pkts Non-Std QCI	The total number of dropped downlink packets with a non-standard QoS Class Index.
Dropped Bytes QCI n	The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped downlink bytes with a non-standard QoS Class Index.
S12 Total Data Statistics	
Uplink	
Pkts	The total number of uplink packets over the S12 interface.
Bytes	The total number of uplink bytes over the S12 interface.
Dropped Pkts	The total number of dropped uplink packets over the S12 interface.
Dropped Bytes	The total number of dropped uplink bytes over the S12 interface.
Pkts QCI n	The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of uplink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Bytes Non-Std QCI	The total number of uplink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Pkts Non-Std QCI	The total number of dropped uplink packets with a non-standard QoS Class Index.
Dropped Bytes QCI n	The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped uplink bytes with a non-standard QoS Class Index.
Non-Std QCI	The total number of uplink bytes dropped with a non-standard QoS Class Index.
Downlink	
Pkts	The total number of downlink packets over the S12 interface.
Bytes	The total number of downlink bytes over the S12 interface.
Dropped Pkts	The total number of dropped downlink packets over the S12 interface.
Dropped Bytes	The total number of dropped downlink bytes over the S12 interface.

Field	Description
Pkts QCI n	The total number of downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of downlink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Bytes Non-Std QCI	The total number of downlink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Pkts Non-Std QCI	The total number of dropped downlink packets with a non-standard QoS Class Index.
Dropped Bytes QCI n	The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped downlink bytes with a non-standard QoS Class Index.
S5-U Total Data Statistics	
Uplink	
Pkts	The total number of uplink packets over the S5-U interface.
Bytes	The total number of uplink bytes over the S5-U interface.
Dropped Pkts	The total number of dropped uplink packets over the S5-U interface.
Dropped Bytes	The total number of dropped uplink bytes over the S5-U interface.
Pkts QCI n	The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of uplink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Bytes Non-Std QCI	The total number of uplink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Pkts Non-Std QCI	The total number of dropped uplink packets with a non-standard QoS Class Index.
Dropped Bytes QCI n	The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped uplink bytes with a non-standard QoS Class Index.
Non-Std QCI	The total number of uplink bytes dropped with a non-standard QoS Class Index.
Downlink	

Field	Description
Pkts	The total number of downlink packets over the S5-U interface.
Bytes	The total number of downlink bytes over the S5-U interface.
Dropped Pkts	The total number of dropped downlink packets over the S5-U interface.
Dropped Bytes	The total number of dropped downlink bytes over the S5-U interface.
Pkts QCI n	The total number of downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of downlink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Bytes Non-Std QCI	The total number of downlink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Pkts Non-Std QCI	The total number of dropped downlink packets with a non-standard QoS Class Index.
Dropped Bytes QCI n	The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped downlink bytes with a non-standard QoS Class Index.
S8-U Total Data Statistics	
Uplink	
Pkts	The total number of uplink packets over the S8-U interface.
Bytes	The total number of uplink bytes over the S8-U interface.
Dropped Pkts	The total number of dropped uplink packets over the S8 interface.
Dropped Bytes	The total number of dropped uplink bytes over the S8-U interface.
Pkts QCI n	The total number of uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of uplink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Bytes Non-Std QCI	The total number of uplink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped uplink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Pkts Non-Std QCI	The total number of dropped uplink packets with a non-standard QoS Class Index.

Field	Description
Dropped Bytes QCI n	The total number of dropped uplink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped uplink bytes with a non-standard QoS Class Index.
Non-Std QCI	The total number of uplink bytes dropped with a non-standard QoS Class Index.
Downlink	
Pkts	The total number of downlink packets over the S8 interface.
Bytes	The total number of downlink bytes over the S8 interface.
Dropped Pkts	The total number of dropped downlink packets over the S8 interface.
Dropped Bytes	The total number of dropped downlink bytes over the S8 interface.
Pkts QCI n	The total number of downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Pkts Non-Std QCI	The total number of downlink packets with a non-standard QoS Class Index.
Bytes QCI n	The total number of downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Bytes Non-Std QCI	The total number of downlink bytes with a non-standard QoS Class Index.
Dropped Pkts QCI n	The total number of dropped downlink packets with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Pkts Non-Std QCI	The total number of dropped downlink packets with a non-standard QoS Class Index.
Dropped Bytes QCI n	The total number of dropped downlink bytes with a QCI value of 1 through 9 or 65, 66, 69, or 70.
Dropped Bytes Non-Std QCI	The total number of dropped downlink bytes with a non-standard QoS Class Index.
Inter-SGW Handover Statistics	
PDNs Incoming	
X2 Based	The total number of incoming X2-based PDNs.
Idle-mode TAU	The total number of incoming PDNs Incoming - Idle-mode TAU
S1 Based	The total number of incoming S1-based PDNs.
PDNs Outgoing	The total number of outgoing PDNs.
Intra-SGW Handover Statistics	
Intra-MME	Intra-MME
Inter-MME	Inter-MME

Field	Description
Intra-SGSN	Intra-SGSN
Inter-SGSN	Inter-SGSN
MME-to-SGSN	MME-to-SGSN
SGSN-to-MME	SGSN-to-MME
Paging Statistics	
Requests	The total number of paging requests.
Success	The total number of paging successes.
Rejects	The total number of paging rejects.
Failures	The total number of paging failures.
Active-Idle Ue Transitions	The total number of Active-Idle UE transitions
Idle-Active Ue Transitions	The total number of Idle-Active UE transitions
Paging Related Data Statistics	
Packets Buffered	The total number of buffered paging packets.
Bytes Buffered	The total number of buffered paging bytes.
Packets Discarded	The total number of discarded paging packets.
Bytes Discarded	The total number of discarded paging bytes.
Idle Mode ACL Statistics	
Packets Discarded	The total number of discarded paging packets due to ACL idle mode.
Bytes Discarded	The total number of discarded paging bytes due to ACL idle mode.
Indirect Forwarding Statistics	
Tunnels Setup	The total number of indirect forwarding tunnels setup.
Tunnels Failed	The total number of failed indirect forwarding tunnels.
Tunnels Released	The total number of indirect forwarding tunnels released.
Bearers Setup	The total number of indirect forwarding bearers setup.
Bearers Released	The total number of indirect forwarding bearers released.
DL Packets Forwarded	The total number of indirect forwarding download packets forwarded.
DL Bytes Forwarded	The total number of indirect forwarding download bytes forwarded.
Source Violations	

Field	Description
Packets Dropped	The total number of packets dropped due to source violations.
Bytes Dropped	The total number of bytes dropped due to source violations.
PDN PLMN Statistics	
Home PDNs	
PDNs active	The total number of home PDNs active.
PDNs setup	The total number of home PDNs setup.
PDNs released	The total number of home PDNs released.
Roaming PDNs	
PDNs active	The total number of roaming PDNs active.
PDNs setup	The total number of roaming PDNs setup.
PDNs released	The total number of roaming PDNs released.
Visiting PDNs	
PDNs active	The total number of visiting PDNs active.
PDNs setup	The total number of visiting PDNs setup.
PDNs released	The total number of visiting PDNs released.
Miscellaneous	
Uplink Data Before MBReq	Uplink data before MBreq
CBReq Rcvd Before CSRsp	CBReq Rcvd before CSRsp
802.1p priority marking statistics	
Uplink: Priority 0-7	The total number of packets sent in the uplink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later.
Downlink: Priority 0-7	The total number of packets sent in the downlink direction marked with a specific (0-7) 802.1p priority. Deprecated in releases 16.0 and later.
Priority marking statistics	
Uplink: Priority 0-7	The total number of packets sent in the uplink direction marked with an internal QoS priority.
Downlink: Priority 0-7	The total number of packets sent in the downlink direction marked with an internal QoS priority.
Local Call Cleanup Cause Statistics	
Bearer Not in Same State	Total number of EGTPC Assert removals due to the bearer not being in the same state.

Field	Description
Bearer Not In Correct State	Total number of EGTPC Assert removals due to the bearer not being in the correct state.
Duplicate Data TEID	Total number of EGTPC Assert removals due to duplicate data tunnel endpoint identifiers.
Remote Addr Not Compatible	Total number of EGTPC Assert removals due to an incompatible remote address.
Bad Peer	Total number of EGTPC Assert removals due to bad peers.
Bearer Context Missing	Total number of EGTPC Assert removals due to the bearer being missing.
eMPS PDN	
Current Active	
Cumulative Activated	
Cumulative De-activated	
DCNR PDN Statistics	
Active	The total number of current active SGW DCNR PDNs.
Setup	The total number of SGW PDNs that are setup as DCNR PDN.
Released	The total number of SGW DCNR PDNs released.

show sgw-service statistics all

Identifies the real usage of 5G Data DCNR sessions for S-GW.

Table 568: show sgw-service statistics all Command Output Descriptions

Field	Description
DCNR Secondary RAT Data PDN Statistics	

Field	Description
Active	The total number of currently active S-GW DCNR Secondary RAT-Data PDN Sessions. Count is incremented when DCNR bit is set for a PDN session, and a Secondary RAT Data received first time for that session **Note** Irrespective of how many Secondary RAT Data Usage Reports are received for a DCNR PDN, it shall be counted as one. As intention is to count number of real usages of 5G Data DCNR PDNs session, not the Secondary RAT Data Usage Reports. Counter is decremented when the identified DCNR Secondary RAT Data session gets released. **Note** DCNR Secondary RAT Data statistics will be decremented only when the session gets released. There might be also a scenario where DCNR session receives Secondary RAT Data once or twice only and if it is not reported in the subsequent messages from MME / SGW, as per current proposed solution, DCNR Secondary RAT Data statistics will not be decremented till the session is released.
Setup	The total number of cumulative S-GW DCNR Secondary RAT-Data PDN Sessions setup. Count is incremented when DCNR bit is set for a PDN session, and a Secondary RAT Data received first time for that session **Note** Irrespective of how many Secondary RAT Data Usage Reports are received for a DCNR PDN, it shall be counted as one. As intention is to count number of real usages of 5G Data DCNR PDNs session, not the Secondary RAT Data Usage Reports.
Released	The total number of cumulative S-GW DCNR Secondary RAT Data PDNs sessions released. Counter is incremented when the DCNR Secondary RAT Data PDN Session release. It is a cumulative counter, so it will not be decremented



CHAPTER 136

show sls-service

This chapter includes the **show sls-service** command output tables.

- show sls-service all, on page 1987
- show sls-service statistics, on page 1989

show sls-service all

Table 569: show sls-service all Command Output Descriptions

Field	Description
Service name	The configured SLs service name.
Service id	The system generated identification number of the SLs service.
Context	The name of the context in which SLs service is configured.
Status	Status of this SLs service.
Bind	Indicates whether the service is bound to an interface.: Done or None.
SLs-MME IP Address	The IP address(es) configured for this SLs service.
SCTP Port	The source port number for SCTP communications.
T-3x01 (Low Delay)	The number of seconds configured for the T-3x01 (Low Delay) timer, which defines the number of seconds the MME waits for a "low delay" response from the E-SMLC.
T-3x01 (Delay Tolerant)	The number of seconds configured for the T-3x01 (Delay Tolerant) timer, which defines the number of seconds the MME waits for a "delay tolerant" response from the E-SMLC.
T-3x02	The number of seconds configured for the T-3x02 timer. The T-3x02 timer is started on the MME when the MME sends a RESET REQUEST to the E-SMLC. Once the T3x02 timer expires, the MME can resend the RESET REQUEST to the E-SMLC.

Field	Description
Max Re-Transmission	The configured maximum number of times the MME will resend a RESET REQUEST to the ESMLC.
SCTP Param Template Associated	Displays the name of the SCTP Parameter Template associated with the service. **Note:** If no SCTP Parameter Template has been associated with this SLs Service, this output field and all the following SCTP fields are not shown.
SCTP Alpha	Displays the SCTP Retransmission Timeout (RTO) alpha value as configured in the SCTP Parameter Template.
SCTP Beta	Displays the SCTP Retransmission Timeout (RTO) beta value as configured in the SCTP Parameter Template.
SCTP Checksum Type	Displays the SCTP checksum type as configured in the SCTP Parameter Template.
SCTP Valid Cookie Lifetime	Displays the SCTP cookie lifetime value as configured in the SCTP Parameter Template.
SCTP Max Assoc Retrans	Displays the maximum number of retransmissions for SCTP associations value as configured in the SCTP Parameter Template.
SCTP Max Number of In Streams	Displays the maximum number of incoming streams for SCTP value as configured in the SCTP Parameter Template.
SCTP Init Retransmissions	Displays the maximum number of retransmissions for SCTP initiations value as configured in the SCTP Parameter Template.
SCTP Max MTU	Displays the maximum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template.
SCTP Max Number of Out Streams	Displays the maximum number of outgoing streams for SCTP value as configured in the SCTP Parameter Template.
SCTP Path Retransmissions	Displays the maximum number of retransmissions for SCTP paths value as configured in the SCTP Parameter Template.
SCTP Min MTU	Displays the minimum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template.
SCTP RTO Initial	Displays the initial time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template.
SCTP RTO Max	Displays the maximum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template.
SCTP RTO Min	Displays the minimum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template
SCTP Sack Frequency	Displays the frequency for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template.

Field	Description
SCTP Sack Period	Displays the period of time for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template.
SCTP Start MTU	Displays the initial Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template.
SCTP Heartbeat Status	Displays the SCTP heartbeat status as configured in the SCTP Parameter Template.
SCTP HeartBeat Timer	Displays the SCTP heartbeat timer value as configured in the SCTP Parameter Template.
SCTP Bundle Status	Displays the SCTP data chunk bundle status as configured in the SCTP Parameter Template.
SCTP Bundle Timer	Displays the SCTP data chunk bundle timer value as configured in the SCTP Parameter Template.
SCTP Alternate Accept Flag	Displays the SCTP additional lifetime accept flag status as configured in the SCTP Parameter Template.

show sls-service statistics

Table 570: show sls-service statistics Command Output Descriptions

Field	Description
SLS-AP Statistics	
Sent Messages:	
Location Request	The total number of SLs Application Protocol - Location Request messages transmitted.
Location Abort	The total number of SLs Application Protocol - Location Abort messages transmitted.
Connection Info	The total number of SLs Application Protocol - Connection oriented information messages transmitted.
Connectionless Info	The total number of SLs Application Protocol - Non Connection oriented information messages transmitted.
Reset Req	The total number of SLs Application Protocol - Reset messages transmitted.
Reset Ack	The total number of SLs Application Protocol - Reset acknowledgements transmitted.
Received Messages:	

Field	Description
Location Response	The total number of SLs Application Protocol - Location Responses received.
Connection Info	The total number of SLs Application Protocol - Connection oriented information messages received.
Connectionless Info	The total number of SLs Application Protocol - Non Connection oriented information messages received.
Reset Req	The total number of SLs Application Protocol - Reset messages received.
Reset Ack	The total number of SLs Application Protocol - Reset Acknowledgements received.
SCTP Statistics	
Transmitted SCTP Data	This sub-group displays the statistics of the total data processed and transmitted over Stream Control Transmission Protocol (SCTP) interface by the SLs service.
Init Chunks	The total SCTP packets with INIT transmitted by the SLs service.
Init Ack Chunks	The total SCTP packets with INIT-ACK transmitted by the SLs service.
Shutdown Chunks	The total SCTP packets with SHUTDOWN transmitted by the SLs service.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK transmitted by the SLs service.
Cookie Chunks	The total SCTP packets with COOKIE transmitted by the SLs service.
Cookie Ack Chunks	The total SCTP packets with COOKIE-ACK transmitted by the SLs service.
Data Chunks	The total SCTP packets with DATA transmitted by the SLs service.
Data Ack Chunks	The total SCTP packets with DATA-ACK transmitted by the SLs service.
Shutdown Complete Chunks	The total SCTP packets with SHUTDOWN-COMPLETE transmitted by the SLs service.
Heartbeat Chunks	The total SCTP packets with HEARTBEAT transmitted by the SLs service.
HeartBeat Ack Chunks	The total SCTP packets with HEARTBEAT-ACK transmitted by the SLs service.
Abort Chunks	The total SCTP packets with ABORT transmitted by the SLs service.
Error Chunks	The total SCTP packets with ERROR transmitted by the SLs service.
Received SCTP Data	This sub-group displays the statistics of the total data received and processed by the SLs service.

Field	Description
Init Chunks	The total SCTP packets with INIT received by the SLs service.
Init Ack Chunks	The total SCTP packets with INIT-ACK received by the SLs service.
Shutdown Chunks	The total SCTP packets with SHUTDOWN received by the SLs service.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK received by the SLs service.
Cookie Chunks	The total SCTP packets with COOKIE received by the SLs service.
Cookie Ack Chunks	The total SCTP packets with COOKIE-ACK received by the SLs service.
Data Chunks	The total SCTP packets with DATA received by the SLs service.
Data Ack Chunks	The total SCTP packets with DATA-ACK received by the SLs service.
Shutdown Complete Chunks	The total SCTP packets with SHUTDOWN-COMPLETE received by the SLs service.
Heartbeat Chunks	The total SCTP packets with HEARTBEAT received by the SLs service.
HeartBeat Ack Chunks	The total SCTP packets with HEARTBEAT-ACK received by the SLs service.
Abort Chunks	The total SCTP packets with ABORT received by the SLs service.
Error Chunks	The total SCTP packets with ERROR received by the SLs service.
Retransmitted SCTP Data	This sub-group displays the statistics of the total data processed and retransmitted by the SLs service.
Init Chunks	The total SCTP packets with INIT retransmitted by the SLs service.
Shutdown Chunks	The total SCTP packets with SHUTDOWN retransmitted by the SLs service.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK retransmitted by the SLs service.
Cookie Chunks	The total SCTP packets with COOKIE retransmitted by the SLs service.
Data Chunks	The total SCTP packets with DATA transmitted by the SLs service.
Total Bytes Sent	The total number of SCTP bytes transmitted by the SLs service to the eSMLC.
Total Bytes Received	The total number of SCTP bytes received by the SLs service from the eSMLC.
Total Packets Sent	The total number of SCTP packets transmitted by the SLs service to the eSMLC.

Field	Description
Total Packets Received	The total number of SCTP packets received by the SLs service from the eSMLC.



CHAPTER 137

show sms statistics

This chapter includes the **show sms statistics** command output tables.

- show sms statistics gprs only verbose, on page 1993
- show sms statistics mme-only verbose, on page 2004
- show sms statistics name, on page 2010
- show sms statistics sgsn-only verbose, on page 2015
- show sms statistics verbose , on page 2026

show sms statistics gprs only verbose

Table 571: show subscribers sms statistics gprs only verbose Command Output Descriptions

Field	Description
Session Statistics	Session statistics includes parameters related to SMS session between the MS and network. It includes parameters such as: • MO SMS (in progress) • MT SMS (in progress) • MT SMS (in queue) • SMMA (in progress) • MO SMS (Attempted) • MT SMS (Attempted) • SMMA (Attempted) • MO SMS (successful) • MT SMS (successful) • SMMA (successful)
MO SMS (In Progress)	Total number SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being received by network.

Field	Description
MT SMS (In Progress)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being delivered by network.
MT SMS (In Queue)	Total number of SMS messages that are mobile Terminated i.e. being sent to UE or MS and are in queue for being delivered by the network.
SMMA (In Progress)	Total number of SMMA messages in progress for the reception by the network.An SMMA message is used by the MS to indicate the network about availability of the memory in MS, to receive one or more short messages.
MO SMS (Attempted)	Total number of SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being attempted to be received by the network.
MO SMS (Successful)	Total number of SMS messages that are Mobile Originated (MO) i.e. being sent to the network by UE or MS and are successfully received by the network.
MT SMS (Attempted)	Total number of SMS messages that are Mobile Terminated i.e. being sent to a UE or MS and are being attempted to be delivered by the network.
MT SMS (Successful)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are successfully delivered by the network.
SMMA (Attempted)	Total number of SMMA messages that the network has attempted to receive. An SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages.
SMMA (Successful)	Total number of SMMA messages that are successfully received by the network. An SMMA message is used by the MS to indicate the network about the availability of the memory in MS to receive one or more short messages.
Message Statistics	Specifies received and transmitted data, acknowledgement and error messages between the MS and network for RP as well as CP layers along with the message drop counters. Message statistics includes, parameters related to: • CP layer messages • RP layer messages • Message drop counters

Field	Description
CP Layer Messages	Short Message Service Control Protocol (SM –CP) is used for communication by the SMC entities from MS and network. Following are components of CP layer messages: • **CP Data**: This message is sent between an MS and MSC in both directions. It contains the user data to be relayed between CM – users and associated parameters such as protocol discriminator, transaction identifier, message type and CP user data. • **CP Ack**: This message is sent between MS and MSC in both directions and is used to acknowledge the reception of a CP-Data message. It contains protocol discriminator, transaction identifier and message type. • **CP Error**: This message is sent between an MS and MSC in both directions and is used to convey the error information. It contains protocol discriminator, transaction identifier, message type and CP cause.
CP Data (Tx)	Total number of transmitted CP data messages.
CP Ack (Tx)	Total number of transmitted CP acknowledgement messages.
CP Error (Tx)	Total number of transmitted CP error messages.
CP Data (Rx)	Total number of received CP data messages.
CP Ack (Rx)	Total number of received CP acknowledgement messages.
CP Error (Rx)	Total number of received CP error messages.
CP Error Cause Stats	The CP error message conveys error information that is sent between MS and network in **both** directions. The message contains protocol discriminator, transaction identifier, message type and CP cause. CP error cause statistics includes: • Network failure • Congestion • Inlaid sematic • Invalid mandatory information • Invalid message type • Invalid protocol state • Invalid IE • Protocol error • Unidentified cause
Network Failure (Tx)	Total number of errors caused due to network failure while transmitting the message.
Congestion (Tx)	Total number of errors caused due to congestion while transmitting the message.
Inlaid Sematic (Tx)	Total number of errors caused due to invalid sematic while transmitting the message.

Field	Description
Invalid Mandatory Info (Tx)	Total number of errors caused due to invalid mandatory information while transmitting the message.
Invalid Message Type(Tx)	Total number of errors caused due to invalid schematic while transmitting the message.
Invalid Protocol State(Tx)	Total number of errors caused due to invalid protocol state while transmitting the message.
Invalid IE (Tx)	Total number of errors caused due to invalid Information Element (IE) while transmitting the message.
Protocol Error (Tx)	Total number of errors caused due to protocol error or mismatched protocols while transmitting the message.
Undefined Cause (Tx)	Total number of errors caused due to unknown or undefined causes while transmitting the message.
Network Failure (Rx)	Total number of errors caused due to network media failure while receiving the message.
Congestion (Rx)	Total number of errors caused due to congestion while receiving the message.
Inlaid Sematic (Rx)	Total number of errors caused due to invalid message sematic while receiving the message.
Invalid Mandatory Info (Rx)	Total number of errors caused due to invalid mandatory information while receiving the message.
Invalid Message Type(Rx)	Total number of errors caused due to invalid message type while receiving the message.
Invalid Protocol State(Rx)	Total number of errors caused due to invalid protocol state while receiving the message.
Invalid IE (Rx)	Total number of errors caused due to invalid Information Element (IE) while receiving the message.
Protocol Error (Rx)	Total number of errors caused due to protocol error while receiving the message the message.
Undefined Cause (Rx)	Total number of errors caused due to unknown or un-defined cause while receiving the message.
Memory Capacity Exceeded (Rx)	Total number of errors caused due to lack of storage capacity in the MS while receiving the message.
Invalid Reference Number (Tx)	Total number of errors caused due to wrong or non-existent reference number while transmitting the message.
Invalid Semantic (Tx)	Total number of errors caused due to wrong or non-existent semantic information while transmitting the message.
Invalid Mandatory Info (Tx)	Total number of errors caused due to non-semantic mandatory information while transmitting the message.
Invalid Message Type (Tx)	Total number of errors caused due to non-existent or non-implemented message type while transmitting the message.

Field	Description
Invalid Protocol State (Tx)	Total number of errors caused due to wrong or non-implemented protocol state used while transmitting the message.
Invalid IE (Tx)	Total number of errors caused due to wrong or un-implemented Information Element (IE) used while transmitting the message.
Protocol Error (Tx)	Total number of errors caused due to wrong or non-implemented protocol used while transmitting the message.
Invalid Reference Number (Rx)	total number of errors caused due to wrong or non-existent reference number while receiving the message.
Invalid Semantic (Rx)	Total number of errors caused due to wrong or non-existent semantic information while receiving the message.
Invalid Mandatory Info (Rx)	Total number of errors caused due to invalid mandatory information while receiving the message.
Invalid Message Type (Rx)	Total number of errors caused due to non-existent or non-implemented message type while receiving the message.
Invalid Protocol State (Rx)	Total number of errors caused due to wrong or non-implemented protocol state used while receiving the message.
Invalid IE (Rx)	Total number of errors caused due to wrong or un-implemented Information Element (IE) used while receiving the message.
Protocol Error (Rx)	Total number of errors caused due to wrong or non-implemented protocol used while receiving the message.
Undefined Error(Rx)	Total number of errors caused due to unknown or un-defined cause while receiving the message.
Message Drop Counters	Message drop counter for CP layer comprises number of CP layer messages that were dropped by the MS or network. The message drop counters are categorized as: • CP Data • CP Ack • CP Error
CP Data	Total number of CP data messages that were dropped.
Retransmission Drops	Total number of CP data re-transmission messages that were dropped.

Field	Description
Unknown TID Drops	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol message is composed of • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) This specifies total number of messages dropped due to unknown TID.
CP Ack	Total number of CP acknowledgement messages that were dropped.
CP Error	Total number of CP error messages that were dropped.
CP Error Drop for Invalid TId Received	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol message is composed of • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) This specifies total number of CP error messages that were dropped due to reception of wrong or non-existent Transaction Identifier.
RP Layer Messages	Short Message Relay Protocol (SM-RP), that is used for communication between the SMR entities from MS and network. Following are the components of RP layer messages: • **RP Data**: This message is sent between MS and the MSC in both directions. It contains message type, message reference, originator address, destination address along with the user data. • **RP Ack**: This message sent between the MS and MSC in both directions. This message is used to relay the acknowledgement of received RP- data or RP-SMMA messages. It contains message type, message reference and user data. • **RP –Error** : This message is sent between the MS and the MSC in both directions and is used to relay the cause of erroneous short message or notification transfer attempt. It contains message type, message reference, and cause and user data.
RP Data (Tx)	Total number of transmitted RP data messages.
RP AcK (Tx)	Total number of transmitted RP acknowledge messages.
RP Error (Tx)	Total number of transmitted RP error messages.

Field	Description
RP Data (Rx)	Total number of received RP data messages.
RP AcK (Rx)	Total number of received RP acknowledgement messages.
RP Error (Rx)	Total number of received RP error messages.
RP SMMA (Rx)	Total number of received RP SMMA messages.
RP Error Cause Statistics	The RP error message conveys the information that is sent between MS and the MSC in both directions. An RP error message comprises message type, message reference, and cause and user data. RP error cause statistics includes: • Unsigned number • Operator determined barring • Call barred • Reserved • SM transfer rejected • Destination out of order • Unidentified subscriber • Facility rejected • Unknown subscriber • Network out of order • Temporary failure • Congestion • Not subscribed • Not implemented • Interworking error • Resource unavailable
Unassigned Number (Tx)	Total number of errors caused due to un-signed or un-known number while transmitting the message from MS to network.
Operator Determined Barring (Tx)	Total number of errors caused due to operator determined barring while transmitting the message from MS to network.
Call Barred (Tx)	Total number of errors caused due to calls barred while transmitting the message from MS to network.
Reserved (Tx)	Total number or errors caused due to calls reserved while transmitting the message from MS to network.

Field	Description
SM Transfer Rejected (Tx)	Total number of errors caused to Short Message (SM) transfer rejection while transmitting the message from MS to network.
Destination Out of Order (Tx)	Total number of errors caused due to destination out of order while transmitting the message from MS to network.
Unidentified Subscriber (Tx)	Total number of errors caused due to unidentified subscriber while transmitting the message form MS to network.
Facility Rejected (Tx)	Total number of errors caused due to rejection of the facility while transmitting the message from MS to network.
Unknown Subscriber (Tx)	Total number of errors caused due to un-known subscriber while transmitting the message from MS to network.
Network Out of Order (Tx)	Total number of errors caused due to un-arability of the network while transmitting the message from MS to network.
Temporary Failure (Tx)	Total number of errors caused due to temporary failure of the network while transmitting the message from MS to network.
Congestion (Tx)	Total number of errors caused due to congestion in the network while transmitting the message from MS to network.
Not Subscribed (Tx)	Total number of errors caused due to the status as not subscribed while transmitting the message from MS to network.
Not Implemented (Tx)	Total number of errors caused due to non-implementation while transmitting the message from MS to network.
Interworking Error (Tx)	Network interworking is required when for the service execution, a packet domain PLMN works with any other network.The interworking takes place mostly using Gi and Gp interfaces. Total number of errors caused due to interworking errors while transmitting the message from MS to network.
Resource Un-available (Tx)	Total number of errors caused due to un availability of the resource while transmitting the message from MS to network.
Message Drop Counters	Number of RP layer messages that were dropped by the MS or network. The message drop counters are categorized as: • RP Data • RP Ack • RP Error • RP Decode Failure
RP Data	Total number of RP data messages that were dropped.
RP Ack	Total number of RP acknowledgement messages that were dropped.

Field	Description
RP Error	Total number of RP error messages that were dropped.
RP Decode Failures	Total number of RP decode failure messages that were dropped.
General Statistics	General statistical parameters related to SMS. Along with GMM interaction statistics parameters, It includes: • Concatenated MO SMS • CP Timer Expiry • TR1N Timer • TR2N Timer • CP Data Retransmissions • RP Msg Encode Fail • CP Data Tx Fail • CP Data Inv TID • Max Retransmissions Reached • SMSC Addr Restricted • MO SMSC Addr Restricted • MT SMSC Addr Restricted • CP-DATA No Cp Ack Rx
Concatenated MO SMS	Concatenated MO SMS specifies that the SMC has received the data (CP-Data) as well as associated acknowledgement (CP-Ack) messages. This parameter indicates the number of SMCs in such state.
TR1N timer	Specifies current status of TR1N timer. TR1N is a timer for Point to Point Short SMS Service (POPSMS). The timer is associated with the wait for RP acknowledgement message. Refer 3GPP TS 4.011 and 0.12 for more information.
TR2N Timer	Specifies current status of TR2N timer. TR2N timer is a timer for Point to Point Short Message Service (PPSMS). The timer is associated with wait to send for RP acknowledgment message. Refer 3GPP 4.0.11 and 0.12 for more information.
CP Data Retransmissions	Total number of Control Protocol data (CP-Data) messages that were re-transmitted between MS and network.
RP Message Encode Fail	Total number of messages with failed Short Message Rely Protocol (SM RP) encoding.

Field	Description
CP Data Inv TID	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol (CP) message is composed of • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) This specifies total number of errors due to invalid transaction identifier.
Max Retransmissions Reached	Total number of messages that have completed the maximum allowed retransmission attempts.
SMSC Addr Restricted	Total number of restricted Short Message Service Center (SMSC) addresses.
MO SMSC Addr Restricted	Total number of SMSC address restricted for the Mobile Originated (MO) messages, i.e. the messages that are being sent from MS to network.
MT SMSC Addr Restr.	Total number of SMSC address restricted for the Mobile Terminated(MT) messages, i.e. the messages that are being sent from network to MS.
GMM Interaction Stats	GMM interaction statistics comprises GPRS Mobility Management (GMM) entities in the network. IT can be used to track the subscriber location within the current or other PLMN. It includes: • Page Request Sent • Page Response Successful • Page Response Fail • Release Indication
Page Request Sent	The paging function is used by the network to retrieve the current cell information from an MS that is in the power saving mode. This is the total number of page requests sent by the network.
Page Response Successful.	Total number of success full responses, received by the network for the paging requests that were sent to the mobile stations in power saving mode.
Page Response Fail	Total number of response failures, received by the network for the paging requests that were sent to mobile stations in power saving mode.
Release Indication	GMM allows packet service continuity when the MS moves from one GPRS Location Area (LA) to another. MS as well as the network can use the IMSI detach procedure to remove the Mobility Management (MM) context when it is not required. These are the number of release indications transmitted between MS and network.

Field	Description
Release Indication Waiting (MO)	These are number of release indications waiting to be delivered for MO messages such as: • MO CP Ack • MO CP Data • MO CP ERR
MO CP Ack Delivery	Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol acknowledgement messages that are being delivered.
MO CP Data Delivery	Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol data messages that are being delivered.
MO CP ERR Delivery	Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol error messages that are being delivered.
Release Indication Waiting (MT)	These are total number of release indications waiting to be delivered for MT messages such as: • MT GMM Connection • MT CP Data • MT CP Ack • MT CP ERR
MT GMM Connection	Total number of release indications waiting to be transferred between the network and MS for mobile terminated GPRS mobility management connections.
MT CP Data Delivery	Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol data messages that are being delivered.
MT CP Ack Delivery	Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol acknowledgement messages that are being delivered.
MT CP Err Delivery	Total number of release indications waiting to be transferred between the network and MS for mobile terminated control protocol error messages that are being delivered.
MT- SMS Failures	Mobile terminated SM S failure statistics specifies total number of SMS messages that failed to reach designated MS. The failure reasons can be: • IMSI record not found • Busy subscriber • Detached subscriber • MT queue full

Field	Description
IMSI Record not Found	Total number of SMS messages that failed to reach the MS due to unavailability of International Mobile Subscriber Identity record.
Busy Subscriber	Total number of SMS messages that failed to reach the MS due to busy status of the subscriber.
Detached Subscriber	Total number of SMS messages that failed to reach MS because the intended subscriber was detached.
MT Queue Full	Total number of SMS messages that failed to reach MS because the MT message queue was full.

show sms statistics mme-only verbose

Table 572: show sms statistics mme-only verbose Command Output Descriptions

Field	Description
Session Statistics:	
MO SMS (In Progress)	The total number of mobile originated (MO) SMS messages that are waiting in the MME to be delivered.
MT SMS (In Progress)	The total number of mobile terminated (MT) SMS messages that are waiting in the MME to be delivered.
MT SMS (In Queue)	The total number of mobile terminated SMS messages in the queue.
SMMA (In Progress)	The total number of procedures for retrieval of available SMS memory in progress.
MO-SMS Attempted	The total number of mobile originated SMS messages that are attempted to be delivered by the network.
MO-SMS Successful	The total number of mobile originated SMS messages that are successfully delivered by the network.
MT-SMS Attempted	The total number of mobile terminated SMS messages that are attempted to be delivered by the network.
MT-SMS Successful	The total number of mobile terminated SMS messages that are successfully delivered by the network.
SMMA Attempted	The total number of procedures for retrieval of available SMS memory attempted.
SMMA Successful	The total number of procedures for retrieval of available SMS memory successful.
Message Statistics:	
CP Layer Messages:	
CP Data (Tx)	The total number of protocol data units sent during connection setup.

Field	Description
CP Data (Rx)	The total number of protocol data units received during connection setup.
CP Ack (Tx)	The total number of Ack messages sent during connection setup.
CP Ack (Rx)	The total number of Ack messages received during connection setup.
CP Error (Tx)	The total number of protocol errors during connection setup in Tx message.
CP Error (Rx)	The total number of protocol errors during connection setup in Rx message.
CP Error Cause Stats:	
Network Failure (Tx)	The total number of protocol errors during connection setup due to network failure in Tx message.
Congestion (Tx)	The total number of protocol errors during connection setup due to congestion in Tx message.
Invalid TID (Tx)	The total number of protocol errors during connection setup due to invalid transaction ID (TID) in Tx message.
Invalid Semantic (Tx)	The total number of protocol errors during connection setup due to invalid semantics in Tx message.
Invalid Mand Info (Tx)	The total number of protocol errors during connection setup as mandatory information in Tx message is invalid.
Invalid Msg Type (Tx)	The total number of protocol errors during connection setup due to invalid Tx message type.
Invalid Prot State (Tx)	The total number of protocol errors during connection setup as protocol state in Tx message is invalid.
Invalid IE (Tx)	The total number of protocol errors during connection setup as information element in Tx message is invalid.
Protocol Error (Tx)	The total number of protocol errors during connection setup as protocol error in Tx message.
Undefined Cause (Tx)	The total number of protocol errors during connection setup due to unspecified error in Tx message.
Network Failure (Rx)	The total number of protocol errors during connection setup due to network failure in Rx message.
Congestion (Rx)	The total number of protocol errors during connection setup due to congestion in Rx message.
Invalid TID (Rx)	The total number of protocol errors during connection setup due to invalid transaction ID (TID) in Rx message.
Invalid Semantic (Rx)	The total number of protocol errors during connection setup due to invalid semantics in Rx message.

Field	Description
Invalid Mand Info (Rx)	The total number of protocol errors during connection setup as mandatory information in Rx message is invalid.
Invalid Msg Type (Rx)	The total number of protocol errors during connection setup due to invalid Rx message type.
Invalid Prot State (Rx)	The total number of protocol errors during connection setup as protocol state in Rx message is invalid.
Invalid IE (Rx)	The total number of protocol errors during connection setup as information element in Rx message is invalid.
Protocol Error (Rx)	The total number of protocol errors during connection setup as protocol error in Rx message.
Undefined Cause (Rx)	The total number of protocol errors during connection setup due to unspecified error in Rx message.
Message Drop Counters:	
CP Data	The total number of CP data packets dropped during connection setup.
Retransmission Drops	The total number of data packets dropped during retransmission.
Unknown TID Drops	The total number of data packets dropped during connection setup due to unknown transaction ID (TID).
Invalid TID Drops	The total number of data packets dropped during connection setup due to invalid transaction ID (TID) received.
CP Ack	The total number of CP acknowledgement messages dropped during connection setup.
CP-ACK Drop for Invalid TID Rcvd	The total number of CP-Ack messages dropped during connection setup due to invalid transaction ID (TID) received.
CP Error	The total number of CP data packets dropped during connection setup due to error in connection.
CP-ERR Drop for Invalid TID Rcvd	The total number of CP-ERR messages dropped during connection setup due to invalid transaction ID (TID) received.
RP Layer Messages:	
RP Data (Tx)	The total number of protocol data units sent during message relay.
RP Ack (Tx)	The total number of Ack messages sent during message relay.
RP Error (Tx)	The total number of protocol errors during message relay in Tx message.
RP Data (Rx)	The total number of protocol data units received during message relay.
RP Ack (Rx)	The total number of Ack messages received during message relay.
RP Error (Rx)	The total number of protocol errors during message relay in Rx message.

Field	Description
RP SMMA (Rx)	The total number of RP SMMA messages received.
RP Error Cause Stats:	
Unassigned Number (Tx)	The total number of protocol errors sent during message relay due to unassigned protocol number.
Opr. Determined Barring (Tx)	The total number of protocol errors sent during message relay due to operator determined barring.
Call Barred (Tx)	The total number of protocol errors sent during message relay due to call barring.
Reserved (Tx)	The total number of protocol errors sent during message relay due to reserved resources.
SM Transfer Rejected (Tx)	The total number of protocol errors sent during message relay due to session manager transfer rejection.
Destination Out of Order (Tx)	The total number of protocol errors sent during message relay due to out of order on destination.
Unidentified Subscriber (Tx)	The total number of protocol errors sent during message relay due to unidentified subscriber.
Facility Rejected (Tx)	The total number of protocol errors sent during message relay due to facility rejection.
Unknown Subscriber (Tx)	The total number of protocol errors sent during message relay due to unknown subscriber.
Network Out of Order (Tx)	The total number of protocol errors sent during message relay due to out-of-order network.
Temporary Failure (Tx)	The total number of protocol errors sent during message relay due to temporary failure in network.
Congestion (Tx)	The total number of protocol errors sent during message relay due to congestion in network.
Not Subscribed (Tx)	The total number of protocol errors sent during message relay as this service is not subscribed by subscriber.
Not Implemented (Tx)	The total number of protocol errors sent during message relay as this service is not yet implemented.
Interworking Error (Tx)	The total number of protocol errors sent during message relay due to interworking error between two networks or technology.
Resource Un-available (Tx)	The total number of protocol errors sent during message relay as resources are not available.
Memory Capacity Exceeded (Rx)	The total number of protocol errors received during message relay as capacity is exceeded.
Invalid Reference Number (Tx)	The total number of protocol errors during message relay as invalid reference in Tx message.
Invalid Semantic (Tx)	The total number of protocol errors during message relay due to invalid semantics in Tx message.

Field	Description
Invalid Mandatory Info (Tx)	The total number of protocol errors during message relay as mandatory information in Tx message is invalid.
Invalid Message Type (Tx)	The total number of protocol errors during message relay due to invalid Tx message type.
Invalid Protocol State (Tx)	The total number of protocol errors during message relay as protocol state in Tx message is invalid.
Invalid IE (Tx)	The total number of protocol errors during message relay as information element in Tx message is invalid.
Protocol Error (Tx)	The total number of RP ERROR messages sent with the cause Protocol Error in the message header.
Undefined Error (Tx)	The total number of protocol errors during message relay due to unspecified error in Tx message.
Invalid Reference Number (Rx)	The total number of protocol errors during message relay as invalid reference in Rx message.
Invalid Semantic (Rx)	The total number of protocol errors during message relay due to invalid semantics in Rx message.
Invalid Mandatory Info (Rx)	The total number of protocol errors during message relay as mandatory information in Rx message is invalid.
Invalid Message Type (Rx)	The total number of protocol errors during message relay due to invalid Rx message type.
Invalid Protocol State (Rx)	The total number of protocol errors during message relay as protocol state in Rx message is invalid.
Invalid IE (Rx)	The total number of protocol errors during message relay as information element in Rx message is invalid.
Protocol Error (Rx)	The total number of RP ERROR messages received with the cause Protocol Error in the message header.
Undefined Error (Rx)	The total number of protocol errors during message relay due to unspecified error in Rx message.
Message Drop Counters:	
RP Data	The total number of RP data packets dropped during message relay.
RP Ack	The total number of RP acknowledgement messages dropped during message relay.
RP Error	The total number of RP data packets dropped during message relay due to error in connection.
RP Decode Failures	The total number of messages dropped during message relay due to invalid transaction ID (TID) received.

Field	Description
General Statistics:	
Concatenated MO SMS	The total number of concatenated mobile originated SMS messages.
CP Timer Expiry	The total number of events when timer expired during connection setup.
TR1N timer	The total number of events when TR1N timer expired during mobile terminated SMS is in wait state for RP-ACK.
TR2N Timer	The total number of events when TR2N timer expired during mobile terminated SMS is in wait state to send RP-ACK.
CP Data Retrans	The total number of protocol data units retransmitted during connection setup.
RP Msg Encode Fail	The total number of message encoding failures during message relay.
CP Data Tx Fail	The total number of protocol data units with Tx messages failed during connection setup.
CP Data Inv TID	The total number of protocol data units with invalid transaction ID (TID) during connection setup.
Max Returns Reached	The total number of events when retransmission limit is exhausted during connection setup.
SMSC Addr Restricted	The total number of SMSC addresses restricted.
MO SMSC Addr Restr	The total number of mobile originated SMSC addresses restricted.
MT SMSC Addr Restr.	The total number of mobile terminated SMSC addresses restricted.
CP-DATA No Cp Ack Rx	The total number of mobile terminated messages failed as no acknowledgement is received during connection setup.
Release Indication Waiting MO CP-ACK Delivery	The total number of release indications waiting to be transferred between network and MS for mobile originated control protocol acknowledgement messages that are being delivered.
Release Indication Waiting MO CP-DATA Delivery	The total number of release indications waiting to be transferred between network and MS for mobile originated control protocol data messages that are being delivered.
Release Indication Waiting MO CP-ERR Delivery	The total number of release indications waiting to be transferred between network and MS for mobile originated control protocol error messages that are being delivered.
Release Indication Waiting MT CP-DATA Delivery	The total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol data messages that are being delivered.
Release Indication Waiting MT CP-Ack Delivery	The total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol acknowledgement messages that are being delivered.
Release Indication Waiting MT CP-Err Delivery	The total number of release indications waiting to be transferred between the network and MS for mobile terminated control protocol error messages that are being delivered.
MT-SMS Failures:	

Field	Description
IMSI Record not Found	The total number of mobile terminated messages failed as IMSI record is not available.
Busy Subscriber	The total number of mobile terminated messages failed due to busy subscriber.
Detached Subscriber	The total number of mobile terminated messages failed due to detached subscriber.
MT Queue Full	The total number of mobile terminated messages failed as messaged queue was full.

show sms statistics name

Table 573: show subscribers sms statistics name Command Output Descriptions

Field	Description
Session statistics	Session statistics includes parameters related to SMS session between the MS and network. It includes parameters such as: • MO SMS (in progress) • MT SMS (in progress) • SMMA (in progress) • MO SMS (Attempted) • MT SMS (Attempted) • SMMA (Attempted) • MO SMS (successful) • MT SMS (successful) • SMMA (successful)
MO SMS (In progress)	Total number SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being received by network.
MT SMS (In Progress)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being delivered by network.
SMMA (In Progress)	Total number of SMMA messages in progress for the reception by the network. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages.
MO SMS (Attempted)	Total number of SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being attempted to be received by the network.
MT SMS (Attempted)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being attempted to be delivered by the network.

Field	Description
SMMA (Attempted)	Total number of SMMA messages that the network has attempted to receive.The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages.
MO SMS (Successful)	Total number of SMS messages that are Mobile Originated (MO) i.e. being sent to the network by UE or MS and are successfully received by the network.
MT SMS (Successful)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are successfully delivered by the network.
SMMA (Successful)	Total of SMMA messages that are successfully received by the network. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages.
Message Statistics	Message statistics comprises, received and transmitted data, acknowledgement and error messages between the MS and network for RP as well as CP layers along with the message drop counters. Message statistics includes, parameters related to: • CP layer messages • RP layer messages • Message drop counters
CP Layer Messages	Short Message Service Control Protocol (SM –CP) is used for communication by the SMC entities from MS and network. Following are components of CP layer messages: • **CP Data**: This message is sent between an MS and MSC in both directions. It contains the user data to be relayed between CM – users and associated parameters such as protocol discriminator, transaction identifier, message type and CP user data. • **CP Ack**: This message is sent between MS and MSC in both directions and is used to acknowledge the reception of a CP-Data message. It contains protocol discriminator, transaction identifier and message type. • **CP Error**: This message is sent between an MS and MSC in both directions and is used to convey the error information. It contains protocol discriminator, transaction identifier, message type and CP cause.
CP Data (Tx)	Total number of transmitted CP data messages.
CP Ack (Tx)	Total number of transmitted CP acknowledgement messages.
CP Error (Tx)	Total number of transmitted CP error messages.
CP Data (Rx)	Total number of received CP data messages.
CP Ack (Rx)	Total number of received CP acknowledgement messages.
CP Error (Rx)	Total number of received CP error messages.

Field	Description
Message Drop Counters	Message drop counter for CP layer comprises number of CP layer messages that were dropped by the MS or network. The message drop counters are categorized as: • CP Data • Retransmission Drops • Unknown TId Drops • CP Ack • CP Error
CP Data	Total number of CP data messages that were dropped.
Retransmission Drops	Total number of CP data re-transmission messages that were dropped.
Unknown TId Drops	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol message is composed of: • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) This specifies total number of messages dropped due to unknown TID.
CP Ack	Total number of CP acknowledgement messages that were dropped.
CP Error	Total number of CP error messages that were dropped.
RP Layer Messages	Short Message Relay Protocol (SM-RP), that is used for communication between the SMR entities from MS and network. Following are the components of RP layer messages: • **RP Data**: This message is sent between MS and the MSC in both directions. It contains message type, message reference, originator address, destination address along with the user data. • **RP Ack**: This message sent between the MS and MSC in both directions. This message is used to relay the acknowledgement of received RP- data or RP-SMMA messages. It contains message type, message reference and user data. • **RP –Error** : This message is sent between the MS and the MSC in both directions and is used to relay the cause of erroneous short message or notification transfer attempt. It contains message type, message reference, and cause and user data.
RP Data (Tx)	Total number of transmitted RP data messages.
RP Ack (Tx)	Total number of transmitted RP acknowledge messages.
RP Error (Tx)	Total number of transmitted RP error messages.

Field	Description
RP Data (Rx)	Total number of received RP data messages.
RP Ack (Rx)	Total number of received RP acknowledgement messages.
RP Error (Rx)	Total number of received RP error messages.
RP SMMA (Rx)	Total number of received RP SMMA messages.
Message Drop Counters	Number of RP layer messages that were dropped by the MS or network. The message drop counters are categorized as: • RP Data • RP Ack • RP Error • RP Decode Failure
RP Data	Total number of RP data messages that were dropped.
RP Ack	Total number of RP acknowledgement messages that were dropped.
RP Error	Total number of RP error messages that were dropped.
RP Decode Failures	Total number of RP decode failure messages that were dropped.
General Statistics	General statistical parameters related to SMS. Along with GMM interaction statistics parameters, It includes: • Concatenated MO SMS • CP Timer Expiry • TR1N Timer • TR2N Timer • CP Data Retransmissions. • RP Msg Encode Fail • CP Data Tx Fail • CP Data Inv TID • Max Retransmissions Reached • SMSC Addr Restricted
Concatenated MO SMS	Concatenated MO SMS indicates that the SMC has received the data (CP-Data) as well as associated acknowledgement (CP-Ack) messages.This parameter indicates the number of SMCs in such state.

Field	Description
TR1N Timer	Specifies current status of TR1N timer. TR1N is a timer for Point to Point Short SMS Service (POPSMS). It is associated with the wait for RP acknowledgement message. Refer 3GPP TS 4.011 and 0.12 for more information.
TR2N Timer	Specifies current status of TR2N timer. TR2N timer is a timer for Point to Point Short Message Service (PPSMS). The timer is associated with wait to send for RP acknowledgement message. Refer 3GPP 4.0.11 and 0.12 for more information.
CP Data Retransmissions	Total number of Control Protocol data (CP-Data) messages that were re-transmitted between MS and network.
RP Message Encode Fail	Total number of messages with failed Short Message Rely Protocol (SM RP) encoding.
CP Data Tx Fail	Total number of errors due to transmission failure for the CP-data messages.
CP Data Inv TID	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol message is composed of • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) his specifies total number messages with invalid transaction identifier.
Max Retransmissions Reached	Total number of messages that have completed the maximum allowed retransmission attempts.
SMSC Addr Restricted	Total number of restricted Short Message Service Center (SMSC) addresses.
GMM Interaction Stats	GMM interaction statistics comprises GPRS Mobility Management (GMM) entitles in the network. It includes: • Page Request Sent • Page Response Successful • Page Response Fail • Release Indication
Page Request Sent	The paging function is used by the network to retrieve the current cell information from an MS that is in the power saving mode. This is the total number of page requests sent by the network.

Field	Description
Page Response Successful	Total number of success full responses, received by the network for the paging requests that were sent to the mobile stations in power saving mode.
Page Response Fail	Total number of response failures, received by the network for the paging requests that were sent to mobile stations in power saving mode.
Release Indication	GMM allows packet service continuity when the MS moves from one GPRS Location Area (LA) to another. MS as well as the network can use the IMSI detach procedure to remove the Mobility Management (MM) context when it is not required. This specifies number of release indications transmitted between MS and network.

show sms statistics sgsn-only verbose

Table 574: show sms statistics sgsn-only verbose Command Output Descriptions

Field	Description
Session Statistics:	Session statistics includes parameters related to SMS session between the MS and network. It includes parameters such as: • MO SMS (In Progress) • MT SMS (In Progress) • MT SMS (In Queue) • SMMA (In Progress) • MO SMS (Attempted) • MO SMS (Successful) • MT SMS (Attempted) • MT SMS (Successful) • SMMA (Attempted) • SMMA (Successful)
MO SMS (In Progress)	Total number SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being received by network. It includes parameters related to:
MT SMS (In Progress)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being delivered by network.
MT SMS (In Queue)	Total number of SMS messages that are mobile Terminated i.e. being sent to UE or MS and are in queue for being delivered by the network.

Field	Description
SMMA (In Progress)	Total number of SMMA messages in progress for the reception by the network.The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages.
MO SMS (Attempted)	Total number of SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being attempted to be received by the network.
MO SMS (Successful)	Total number of SMS messages that are Mobile Originated (MO) i.e. being sent to the network by UE or MS and are successfully received by the network.
MT SMS (Attempted)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being attempted to be delivered by the network.
MT SMS (Successful)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are successfully delivered by the network.
SMMA (Attempted)	Total number of SMMA messages that the network has attempted to receive.The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages.
SMMA (Successful)	Total number of SMMA messages that are successfully received by the network. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages.
Message Statistics	Message statistics comprises, received and transmitted data, acknowledgement and error messages between the MS and network for RP as well as CP layers along with the message drop counters. It includes parameters related to: • CP layer messages • RP layer messages • Message drop counters
CP Layer Messages	Short Message Service Control Protocol (SM –CP) is used for communication by the SMC entities from MS and network. Following are components of CP layer messages: • **CP Data**: This message is sent between an MS and MSC in both directions. It contains the user data to be relayed between CM – users and associated parameters such as protocol discriminator, transaction identifier, message type and CP user data. • **CP Ack**: This message is sent between MS and MSC in both directions and is used to acknowledge the reception of a CP-Data message. It contains protocol discriminator, transaction identifier and message type. • **CP Error**: This message is sent between an MS and MSC in both directions and is used to convey the error information. It contains protocol discriminator, transaction identifier, message type and CP cause.
CP Data (Tx)	Total number of transmitted CP data messages.
CP Ack (Tx)	Total number of transmitted CP acknowledgement messages.

Field	Description
CP Error (Tx)	Total number of transmitted CP error messages.
CP Data (Rx)	Total number of received CP data messages.
CP Ack (Rx)	Total number of received CP acknowledgement messages.
CP Error (Rx)	Total number of received CP error messages.
CP Error Cause Stats	The CP error message that conveys error information that is sent between MS and MSC in both directions. It contains protocol discriminator, transaction identifier, message type and CP cause. CP error cause statistics includes: • Network failure • Congestion • Inlaid sematic • Invalid mandatory information • Invalid message type • Invalid protocol state • Invalid IE • Protocol error • Unidentified cause
Network Failure (Tx)	Total number of errors caused due to network failure while transmitting the message from network to MS.
Congestion (Tx)	Total number of errors caused due to congestion while transmitting the message from network to MS.
Inlaid Sematic (Tx)	Total number of errors caused due to invalid sematic while transmitting the message from network to MS.
Invalid Mandatory Info (Tx)	Total number of errors caused due to invalid mandatory information while transmitting the message from network to MS.
Invalid Message Type(Tx)	Total number of errors caused due to invalid schematic while transmitting the message from network to MS.
Invalid Protocol State(Tx)	Total number of errors caused due to invalid protocol state while transmitting the message from network to MS.
Invalid IE (Tx)	Total number of errors caused due to invalid Information Element (IE) while transmitting the message from network to MS.
Protocol Error (Tx)	Total number of errors caused due to protocol error while receiving the message the message from network to MS.

Field	Description
Undefined Cause (Tx)	Total number of errors caused due to unknown or un-defined cause while receiving the message from network toMS.
Network Failure (Rx)	Total number of errors caused due to network media failure while receiving the message from MS to network.
Congestion (Rx)	Total number of errors caused due to congestion while receiving the message from MS to network.
Inlaid Sematic(Rx)	Total number of errors caused due to invalid sematic while receiving the message from MS to network.
Invalid Mandatory Information (Rx)	Total number of errors caused due to invalid mandatory information while receiving the message from MS to network.
Invalid Message Type(Rx)	Total number of errors caused due to invalid message type while receiving the message from MS to network.
Invalid Protocol State(Rx)	Total number of errors caused due to invalid protocol state while receiving the message from MS to network.
Invalid IE (Rx)	Total number of errors caused due to invalid Information Element (IE) while receiving the message from MS to network.
Protocol Error (Rx)	Total number of errors caused due to protocol error while receiving the message the message from MS to network.
Undefined Cause (Rx)	Total number of errors caused due to unknown or un-defined cause while receiving the message from MS to network.
Message Drop Counters	Message drop counter for CP layer comprises number of CP layer messages that were dropped by the MS or network. The message drop counters are categorized as: • CP Data • Retransmission Drops • Unknown TId Drops • CP Ack • CP Error
CP Data	Total number of CP data messages that were dropped.
Retransmission Drops	Total number of CP data re-transmission messages that were dropped.

Field	Description
Unknown TId Drops	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. Control Protocol (CP) message is composed of: • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) This specifies total number of messages dropped due to unknown transaction identifier.
CP Ack	Total number of CP acknowledgement messages that were dropped.
CP Error	Total number of CP error messages that were dropped.
CP Error Drop for Invalid TId Received	Total number of CP error messages dropped due to reception of wrong or non-existent Transaction Identifier (TId).
RP Layer Messages	Short Message Relay Protocol (SM-RP), that is used for communication between the SMR entities from MS and network. Following are the components of RP layer messages: • **RP Data**: This message is sent between MS and the MSC in both directions. It contains message type, message reference, originator address, destination address along with the user data. • **RP Ack**: This message sent between the MS and MSC in both directions. This message is used to relay the acknowledgement of received RP- data or RP-SMMA messages. It contains message type, message reference and user data. • **RP –Error** : This message is sent between the MS and the MSC in both directions and is used to relay the cause of erroneous short message or notification transfer attempt. It contains message type, message reference, and cause and user data.
RP Data (Tx)	Total number of transmitted RP data messages.
RP AcK (Tx)	Total number of transmitted RP acknowledgement messages.
RP Error (Tx)	Total number of transmitted RP error messages.
RP Data (Rx)	Total number of received RP data messages.
RP Ack (Rx)	Total number of received RP acknowledgement messages.
RP Error (Rx)	Total number of received RP error messages.
RP SMMA (Rx)	Total number of received RP SMMA messages.

Field	Description
RP Error Cause Statistics	The RP error message conveys the information that is sent between MS and the MSC in both directions. An RP error message comprises message type, message reference, and cause and user data. RP error cause statistics includes: • Unsigned number • Operator determined barring • Call barred • Reserved • SM transfer rejected • Destination out of order • Unidentified subscriber • Facility rejected • Unknown subscriber • Network out of order • Temporary failure • Congestion • Not subscribed • Not implemented • Interworking error • Resource unavailable
Unassigned Number (Tx)	Total number of errors caused due to un-signed or un-known number while transmitting the message from MS to network.
Operator Determined Barring (Tx)	Total number of errors caused due to operator determined barring while transmitting the message from MS to network.
Call Barred (Tx)	Total number of errors caused due to calls barred while transmitting the message from MS to network.
Reserved (Tx)	Total number or errors caused due to calls reserved while transmitting the message from MS to network.
SM Transfer Rejected (Tx)	Total number of errors caused to Short Message (SM) transfer rejection while transmitting the message from MS to network.
Destination Out of Order (Tx)	Total number of errors caused due to destination out of order while transmitting the message from MS to network.
Unidentified Subscriber (Tx)	Total number of errors caused due to destination out of order while transmitting the message from MS to network.

Field	Description
Facility Rejected (Tx)	Total number of errors caused due to rejection of the facility while transmitting the message from MS to network.
Unknown Subscriber (Tx)	Total number of errors caused due to un-known subscriber while transmitting the message from MS to network.
Network Out of Order (Tx)	Total number of errors caused due to un-availability of the network while transmitting the message from MS to network.
Temporary Failure (Tx)	Total number of errors caused due to temporary failure of the network while transmitting the message from MS to network.
Congestion (Tx)	Total number of errors caused due to congestion in the network while transmitting the message from MS to network.
Not Subscribed (Tx)	Total number of errors caused due to the status as not subscribed while transmitting the message from MS to network.
Not Implemented (Tx)	Total number of errors caused due to non-implementation while transmitting the message from MS to network.
Interworking Error (Tx)	Network interworking is required when for the service execution, a packet domain PLMN works with any other network. The interworking takes place mostly using Gi and Gp interfaces. Total number of errors caused due to interworking errors while transmitting the message from MS to network.
Resource Un-available (Tx)	Total number of errors caused due to un availability of the resource while transmitting the message from MS to network.
Memory Capacity Exceeded	Total number of errors caused due to lack of storage capacity in the MS while receiving the message.
Invalid Reference Number (Tx)	Total number of errors caused due to wrong or non-existent reference number while transmitting the message.
Invalid Semantic (Tx)	Total number of errors caused due to wrong or non-existent semantic information while transmitting the message.
Invalid Mandatory Info (Tx)	Total number of errors caused due to non-semantic mandatory information while transmitting the message.
Invalid Message Type (Tx)	Total number of errors caused due to non-existent or non-implemented message type while transmitting the message.
Invalid Protocol State (Tx)	Total number of errors caused due to wrong or non-implemented protocol state used while transmitting the message.
Invalid IE (Tx)	Total number of errors caused due to wrong or un-implemented Information Element (IE) used while transmitting the message.

Field	Description
Protocol Error (Tx)	Total number of errors caused due to wrong or non-implemented protocol used while transmitting the message.
Invalid Reference Number (Rx)	Total number of errors caused due to wrong or non-existent reference number while receiving the message.
Invalid Semantic (Rx)	Total number of errors caused due to wrong or non-existent semantic information while receiving the message.
Invalid Mandatory Info (Rx)	Total number of errors caused due to invalid mandatory information while receiving the message.
Invalid Message Type (Rx)	Total number of errors caused due to non-existent or non-implemented message type while receiving the message.
Invalid Protocol State (Rx)	Total number of errors caused due to wrong or non-implemented protocol state used while receiving the message.
Invalid IE (Rx)	Total number of errors caused due to wrong or un-implemented Information Element (IE) used while receiving the message.
Protocol Error (Rx)	Total number of errors caused due to wrong or non-implemented protocol used while receiving the message.
Undefined Error (Rx)	Total number of errors caused due to unknown or un-defined cause while receiving the message.
Message Drop Counters	Message drop counter comprises RP layer messages that were dropped by the MS or network. The message drop counters are categorized as: • RP Data • RP Ack • RP Error • RP Decode Failure
RP Data	Total number of RP data messages that were dropped.
RP Ack	Total number of RP acknowledgement messages that were dropped.
RP Error	Total number of RP error messages that were dropped.
RP Decode Failures	Total number of RP decode failure messages that were dropped.

Field	Description
General Statistics	General statistics comprises statistical parameters related to SMS, along with GMM interaction statistics parameters, It includes: • Concatenated MO SMS • CP Timer Expiry • TR1N Timer • TR2N Timer • CP Data Retransmissions • RP Msg Encode Fail • CP Data Tx Fail • CP Data Inv TID • Max Retransmissions Reached • SMSC Addr Restricted • MO SMSC Addr Restricted • MT SMSC Addr Restricted
Concatenated MO SMS	Concatenated MO SMS indicates that the SMC has received the data (CP-Data) as well as associated acknowledgement (CP-Ack) messages.This parameter indicates the number of SMCs in such state.
TR1N timer	Specifies current status of TR1N timer. TR1N is a timer for Point to Point Short SMS Service (POPSMS). It is associated with the wait for RP acknowledgement message. Refer 3GPP TS 4.011 and 0.12 for more information.
TR2N Timer	Specifies current status of TR2N timer. TR2N timer is a timer for Point to Point Short Message Service (POPSMS). The timer is associated with wait to send for RP acknowledgement message. Refer 3GPP 4.0.11 and 0.12 for more information.
CP Data Retransmissions	Total number of Control Protocol data (CP-Data) messages that were re-transmitted between MS and network.
RP Message Encode Fail	Total number of messages with failed Short Message Rely Protocol (SM RP) encoding.

Field	Description
CP Data Inv TID	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol message is composed of: • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs)
Max Returns Reached	Total number of messages that have completed the maximum allowed retransmission attempts.
SMSC Addr Restricted	Total number of restricted Short Message Service Center (SMSC) addresses.
MO SMSC Addr Restr	Total number of SMSC address restricted for the Mobile Originated (MO) messages, i.e. the messages that are being sent from MS to network.
MT SMSC Addr Restr.	Total number of SMSC address restricted for the Mobile Terminated(MT) messages, i.e. the messages that are being sent from network to MS.
GMM Interaction Stats	GMM interaction statistics comprises GPRS Mobility Management (GMM) entitles in the network. It includes: • Page Request Sent • Page Response Successful • Page Response Fail • Release Indication
Page Request Sent	The paging function is used by the network to retrieve the current cell information from an MS that is in the power saving mode. This is the total number of page requests sent by the network.
Page Response Succ	Total number of success full responses, received by the network for the paging requests that were sent to the mobile stations in power saving mode.
Page Response Fail	Total number of response failures, received by the network for the paging requests that were sent to mobile stations in power saving mode.
Release Indication	GMM allows packet service continuity when the MS moves from one GPRS Location Area (LA) to another. MS as well as the network can use the IMSI detach procedure to remove the Mobility Management (MM) context when it is not required. This specifies number of release indications transmitted between MS and network.

Field	Description
Release Indication Waiting (MO)	These are total number of release indications waiting to be delivered for MO messages such as: • MO CP Ack • MO CP Data • MO CP ERR
MO CP Ack Delivery	Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol acknowledgement messages that are being delivered.
MO CP Data Delivery	Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol data messages that are being delivered.
MO CP ERR Delivery	Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol error messages that are being delivered.
Release Indication Waiting (MT)	These are total number of release indications waiting to be delivered for MT messages such as: • MT GMM Connection • MT CP Data • MT CP Ack • MT CP ERR
MT GMM Connection	Total number of release indications waiting to be transferred between the network and MS for mobile terminated GPRS mobility management connections.
MT CP Data Delivery	Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol data messages that are being delivered.
MT CP Ack Delivery	Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol acknowledgement messages that are being delivered.
MT CP Err Delivery	Total number of release indications waiting to be transferred between the network and MS for mobile terminated control protocol error messages that are being delivered.
MT- SMS Failures	Mobile terminated SM S failure statistics specifies total number of SMS messages that failed to reach designated MS. The failure reasons can be: • IMSI record not found • Busy subscriber • Detached subscriber • MT queue full

Field	Description
IMSI Record not Found	Total number of SMS messages that failed to reach the MS due to unavailability of International Mobile Subscriber Identity record.
Busy Subscriber	Total number of SMS messages that failed to reach the MS due to busy status of the subscriber.
Detached Subscriber	Total number of SMS messages that failed to reach MS because the intended subscriber was detached.
MT Queue Full	Total number of SMS messages that failed to reach MS because the MT message queue was full.

show sms statistics verbose

Table 575: show subscribers sms statistics name Command Output Descriptions

Field	Description
Session Statistics	Session statistics includes parameters related to SMS session between the MS and network. It includes parameters such as: • MO SMS (in progress) • MT SMS (in progress) • MT SMS (in queue) • SMMA (in progress) • MO SMS (attempted) • MT SMS (attempted) • MT SMS (successful) • SMMA (Successful)
MO SMS (In Progress)	Total number SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being received by network.
MT SMS (In Progress)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are being delivered by network.
MT SMS (In Queue)	Total number of SMS messages that are mobile Terminated i.e. being sent to UE or MS and are in queue for being delivered by the network.
SMMA (In Progress)	Total number of SMMA messages in progress for the reception by the network. An SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages.

Field	Description
MO SMS (Attempted)	Total number of SMS messages that are Mobile Originated (MO) i.e. sent from an UE or MS and are being attempted to be received by the network.
MT SMS (Attempted)	Total number of SMS messages that are Mobile Terminated i.e. being sent to a UE or MS and are being attempted to be delivered by the network.
MT SMS (Successful)	Total number of SMS messages that are Mobile Terminated (MT) i.e. being sent to a UE or MS and are successfully delivered by the network.
SMMA Successful	Total number of SMMA messages that are successfully received by the network. The SMMA message is used by the MS to indicate the network about the availability of the memory in MS, to receive one or more short messages.
Message Statistics	Message statistics comprises received and transmitted data, acknowledgement and error messages between the MS and network for RP as well as CP layers along with the message drop counters. Message statistics includes, parameters related to: • CP layer messages • RP layer messages • Message drop counters
CP Layer Messages	Short Message Service Control Protocol (SM –CP) is used for communication by the SMC entities from MS and network. Following are components of CP layer messages: • **CP Data**: This message is sent between an MS and MSC in both directions. It contains the user data to be relayed between CM – users and associated parameters such as protocol discriminator, transaction identifier, message type and CP user data. • **CP Ack**: This message is sent between MS and MSC in both directions and is used to acknowledge the reception of a CP-Data message. It contains protocol discriminator, transaction identifier and message type. • **CP Error**: This message is sent between an MS and MSC in both directions and is used to convey the error information. It contains protocol discriminator, transaction identifier, message type and CP cause.
CP Data (Tx)	Total number of transmitted CP data messages.
CP Ack (Tx)	Total number of transmitted CP acknowledgement messages.
CP Error (Tx)	Total number of transmitted CP error messages.
CP Data (Rx)	Total number of received CP data messages.
CP Ack (Rx)	Total number of received CP acknowledgement messages.
CP Error (Rx)	Total number of received CP error messages.

Field	Description
CP Error Cause Stats	The CP error message conveys error information that is sent between MS and MSC in both directions. It contains protocol discriminator, transaction identifier, message type and CP cause. CP error cause statistics includes: • Network failure • Congestion • Inlaid sematic • Invalid mandatory information • Invalid message type • Invalid protocol state • Invalid IE • Protocol error • Unidentified cause
Network Failure (Tx)	Total number of errors caused due to network failure while transmitting the message from network to MS.
Congestion (Tx)	Total number of errors caused due to congestion while transmitting the message from network to MS.
Inlaid Sematic(Tx)	Total number of errors caused due to invalid sematic while transmitting the message from network to MS.
Invalid Mandatory Info (Tx)	Total number of errors caused due to invalid mandatory information while transmitting the message from network to MS.
Invalid Message Type(Tx)	Total number of errors caused due to invalid schematic while transmitting the message from network to MS.
Invalid Protocol State(Tx)	Total number of errors caused due to invalid protocol state while transmitting the message from network to MS.
Invalid IE (Tx)	Total number of errors caused due to invalid Information Element (IE) while transmitting the message from network to MS.
Protocol Error (Tx)	Total number of errors caused due to protocol error while transmitting the message from network to MS.
Undefined Cause (Tx)	Total number of errors caused due to unknown or undefined causes while transmitting the message from network to MS.
Network Failure (Rx)	Total number of errors caused due to network media failure while receiving the message from MS to network.
Congestion (Rx)	Total number of errors caused due to congestion while receiving the message from MS to network.

Field	Description
Inlaid Sematic(Rx)	Total number of errors caused due to invalid sematic while receiving the message from MS to network.
Invalid Mandatory Info (Rx)	Total number of errors caused due to invalid mandatory information while receiving the message from MS to network.
Invalid Message Type (Rx)	Total number of errors caused due to invalid message type while receiving the message from MS to network.
Invalid Protocol State(Rx)	Total number of errors caused due to invalid protocol state while receiving the message from MS to network.
Invalid IE (Rx)	Total number of errors caused due to invalid Information Element (IE) while receiving the message from MS to network.
Protocol Error (Rx)	Total number of errors caused due to protocol error while receiving the message the message from MS to network.
Undefined Cause (Rx)	Total number of errors caused due to unknown or un-defined cause while receiving the message from MS to network.
Message Drop Counters	Message drop counter for CP layer comprises number of CP layer messages that were dropped by the MS or network. The message drop counters are categorized as: • CP Data • Retransmission Drops • Unknown TId Drops • CP Ack • CP Error
CP Data	Total number of CP data messages that were dropped.
Retransmission Drops	Total number of CP data re-transmission messages that were dropped.
Unknown TID Drops	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol (CP) message is composed of: • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) This specifies total number of messages that were dropped due to unknown transaction identifier.

Field	Description
CP Ack	Total number of CP acknowledgement messages that were dropped.
CP Error	Total number of CP error messages that were dropped.
CP –Error Drop for Invalid TID Recvd.	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol message is composed of • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) Specifies total number of CP error messages dropped due to reception of wrong or non-existent Transaction Identifier (TID).
RP Layer Messages	Short Message Relay Protocol (SM-RP), that is used for communication between the SMR entities from MS and network. Following are the components of RP layer messages: • **RP Data**: This message is sent between MS and the MSC in both directions. It contains message type, message reference, originator address, destination address along with the user data. • **RP Ack**: This message sent between the MS and MSC in both directions. This message is used to relay the acknowledgement of received RP- data or RP-SMMA messages. It contains message type, message reference and user data. • **RP –Error** : This message is sent between the MS and the MSC in both directions and is used to relay the cause of erroneous short message or notification transfer attempt. It contains message type, message reference, and cause and user data.
RP Data (Tx)	Total number of transmitted RP data messages.
RP Ack (Tx)	Total number of transmitted RP acknowledge messages.
RP Error (Tx)	Total number of transmitted RP error messages.
RP Data (Rx)	Total number of received RP data messages.
RP Ack (Rx)	Total number of received RP acknowledgement messages.
RP Error (Rx)	Total number of received RP error messages.
RP SMMA (Rx)	Total number of received RP SMMA messages.

Field	Description
RP Error Cause Statistics	The RP error message conveys the information that is sent between MS and the MSC in both directions. An RP error message comprises message type, message reference, and cause and user data. RP error cause statistics includes: • Unsigned number • Operator determined barring • Call barred • Reserved • SM transfer rejected • Destination out of order • Unidentified subscriber • Facility rejected • Unknown subscriber • Network out of order • Temporary failure • Congestion • Not subscribed • Not implemented • Interworking error • Resource unavailable
Unsigned Number (Tx)	Total number of errors caused due to un-signed or un-known number while transmitting the message from MS to network.
Opr. Determined Barring (Tx)	Total number of errors caused due to operator determined barring while transmitting the message from MS to network.
Call Barred (Tx)	Total number of errors caused due to calls barred while transmitting the message from MS to network.
Reserved (Tx)	Total number or errors caused due to calls reserved while transmitting the message from MS to network.
SM Transfer Rejected (Tx)	Total number of errors caused to Short Message (SM) transfer rejection while transmitting the message from MS to network.
Destination Out of Order (Tx)	Total number of errors caused due to destination out of order while transmitting the message from MS to network.
Unidentified Subscriber (Tx)	Total number of errors caused due to unidentified subscriber while transmitting the message form MS to network.

Field	Description
Network Out of Order (Tx)	Total number of errors caused due to un-availability of the network while transmitting the message from MS to network.
Temporary Failure (Tx)	Total number of errors caused due to temporary failure of the network while transmitting the message from MS to network.
Congestion (Tx)	Total number of errors caused due to congestion in the network while transmitting the message from MS to network.
Not Subscribed (Tx)	Total number of errors caused due to the status as not subscribed while transmitting the message from MS to network.
Not Implemented (Tx)	Total number of errors caused due to non-implementation while transmitting the message from MS to network.
Interworking Error (Tx)	Network interworking is required when for the service execution, a packet domain PLMN works with any other network. The interworking takes place mostly using Gi and Gp interfaces. Total number of errors caused due to interworking errors while transmitting the message from MS to network.
Resource Un-available (Tx)	Total number of errors caused due to un availability of the resource while transmitting the message from MS to network.
Memory Capacity Exceed	Total number of errors caused due to lack of storage capacity in the MS while receiving the message.
Invalid Reference Number (Tx)	Total number of errors caused due to wrong or non-existent reference number while transmitting the message.
Invalid Semantic (Tx)	Total number of errors caused due to wrong or non-existent semantic information while transmitting the message.
Invalid Mandatory Info (Tx)	Total number of errors caused due to non-semantic mandatory information while transmitting the message.
Invalid Message Type (Tx)	Total number of errors caused due to non-existent or non-implemented message type while transmitting the message.
Invalid Protocol State (Tx)	Total number of errors caused due to wrong or non-implemented protocol state used while transmitting the message.
Invalid IE (Tx)	Total number of errors caused due to wrong or un-implemented Information Element (IE) used while transmitting the message.
Protocol Error (Tx)	Total number of errors caused due to wrong or non-implemented protocol used while transmitting the message.
Undefined Error (Tx)	Total number of errors caused due to unknown or un-defined cause while transmitting the message.

Field	Description
Invalid Reference Number (Rx)	Total number of errors caused due to wrong or non-existent reference number while receiving the message.
Invalid Semantic (Rx)	Total number of errors caused due to wrong or non-existent semantic information while receiving the message.
Invalid Mandatory Info (Rx)	Total number of errors caused due to invalid mandatory information while receiving the message.
Invalid Message Type (Rx)	Total number of errors caused due to non-existent or non-implemented message type while receiving the message.
Invalid Protocol State (Rx)	Total number of errors caused due to wrong or non-implemented protocol state used while receiving the message.
Invalid IE (Rx)	Total number of errors caused due to wrong or un-implemented Information Element (IE) used while receiving the message.
Protocol Error (Rx)	Total number of errors caused due to wrong or non-implemented protocol used while receiving the message.
Undefined Error (Rx)	Total number of errors caused due to unknown or un-defined cause while receiving the message.
Message Droop Counters	Message drop counters comprises number of RP layer messages that were dropped by the MS or network. The message drop counters are categorized as: • RP Data • RP Ack • RP Error • RP Decode Failure
RP Data	Total number of RP data messages that were dropped.
RP Ack	Total number of RP acknowledgement messages that were dropped.
RP Error	Total number of RP error messages that were dropped.
RP Decode Failure	total number of RP decode failure messages that were dropped.

Field	Description
General Statistics	General statistics comprises statistical parameters related to SMS, along with GMM interaction statistics parameters, It includes: • Concatenated MO SMS • CP Timer Expiry • TR1N Timer • TR2N Timer • CP Data Retransmissions • RP Msg Encode Fail • CP Data Tx Fail • CP Data Inv TID • Max Retransmissions Reached • SMSC Addr Restricted • MO SMSC Addr Restricted • MT SMSC Addr Restricted • CP-DATA No Cp Ack Rx
Concatenated MO SMS	Connected MO SMS indicates that the SMC has received the data (CP-Data) as well as associated acknowledgement (CP-Ack) messages.This parameter indicates the number of SMCs in such state.
TR1N timer	Specifies current status of TR1N timer. TR1N is a timer for Point to Point Short SMS Service (POPSMS). It is associated with the wait for RP acknowledgement message. Refer 3GPP TS 4.011 and 0.12 for more information.
TR2N Timer	Specifies current status of TR2N timer. TR2N timer is a timer for Point to Point Short Message Service (PPSMS). The timer is associated with wait to send for RP acknowledgement message. Refer 3GPP 4.0.11 and 0.12 for more information.
CP Data Retransmissions	Total number of Control Protocol data (CP-Data) messages that were re-transmitted between MS and network.
RP Message Encode Fail	Total number of messages with failed Short Message Rely Protocol (SM RP) encoding.

Field	Description
CP Data Inv TID	Tunnel Identifier TID) is an identity provided by the Gprs Tunneling Protocol (GTP) to every packet. The TID identifies the destination and transaction to which the packet belongs. Transactions are identified using logical Identifiers as well as IMSI. A Control Protocol message is composed of • Protocol discriminator • Transaction Identifier • Message type • Other required Information Elements (IEs) This specifies total number messages with invalid transaction identifier.
Max Returns Reached	Total number of messages that have completed the maximum allowed retransmission attempts.
SMSC Addr Restricted	Total number of restricted Short Message Service Center (SMSC) addresses.
MO SMSC Addr Restricted	Total number of SMSC address restricted for the Mobile Originated (MO) messages, i.e. the messages that are being sent from MS to network.
MT SMSC Addr Restricted.	Total number of SMSC address restricted for the Mobile Terminated(MT) messages, i.e. the messages that are being sent from network to MS.
GMM Interaction Stats	GMM interaction statistics comprises GPRS Mobility Management (GMM) entitles in the network. It includes: • Page Request Sent • Page Response Successful • Page Response Fail • Release Indication
Page Request Sent	The paging function is used by the network to retrieve the current cell information from an MS that is in the power saving mode. This is the total number of page requests sent by the network.
Page Response Successful	Total number of success full responses, received by the network for the paging requests that were sent to the mobile stations in power saving mode.
Page Response Fail	Total number of response failures, received by the network for the paging requests that were sent to mobile stations in power saving mode.
Release Indication	GMM allows packet service continuity when the MS moves from one GPRS Location Area (LA) to another. MS as well as the network can use the IMSI detach procedure to remove the Mobility Management (MM) context when it is not required. This specifies number of release indications transmitted between MS and network.

Field	Description
Release Indication Waiting (MO)	These are number of release indications waiting to be delivered for MO messages such as: • MO CP Ack • MO CP Data • MO CP ERR
MO CP Ack Delivery	Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol acknowledgement messages that are being delivered.
MO CP Data Delivery	Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol data messages that are being delivered.
MO CP ERR Delivery	Total number of release indications waiting to be transferred between network and MS for mobile originated control protocol error messages that are being delivered.
Release Indication Waiting (MT)	These are total number of release indications waiting to be delivered for MT messages such as: • MT GMM Connection • MT CP Data • MT CP Ack • MT CP ERR
MT GMM Connection	Total number of release indications waiting to be transferred between the network and MS for mobile terminated GPRS mobility management connections.
MT CP Data Delivery	Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol data messages that are being delivered.
MT CP Ack Delivery	Total number of release indications waiting to be transferred between network and MS for mobile terminated control protocol acknowledgement messages that are being delivered.
MT CP Err Delivery	Total number of release indications waiting to be transferred between the network and MS for mobile terminated control protocol error messages that are being delivered.
MT- SMS Failures	Mobile terminated SM S failure statistics specifies total number of SMS messages that failed to reach designated MS. The failure reasons can be: • IMSI record not found • Busy subscriber • Detached subscriber • MT queue full

Field	Description
IMSI Record not Found	Total number of SMS messages that failed to reach the MS due to unavailability of International Mobile Subscriber Identity record.
Busy Subscriber	Total number of SMS messages that failed to reach the MS due to busy status of the subscriber.
Detached Subscriber	Total number of SMS messages that failed to reach MS because the intended subscriber was detached.
MT Queue Full	Total number of SMS messages that failed to reach MS because the MT message queue was full.



CHAPTER 138

show smsc-service

This chapter includes the **show smsc-service** command output tables.

- show smsc-service name <smsc_svc_name>, on page 2039
- show smsc-service statistics all, on page 2039
- show smsc-service statistics summary, on page 2041

show smsc-service name <smsc_svc_name>

Table 576: show smsc-service name <smsc_svc_name> Command Output Descriptions

Field	Description
Service name	The name of the configured SMSC service.
Context	The name of the context in which SMSC service is configured.
Status	The status of the SMSC service.
Diameter endpoint	The configured Diameter endpoint name.
Diameter dictionary	The configured Diameter dictionary.
Tmsi	The configured TMSI value.
Non-broadcast-Lai	The configured non-broadcast MCC, MNC, and LAC values.
MME-address	The configured MME address.

show smsc-service statistics all

Table 577: show smsc-service statistics all Command Output Descriptions

Field	Description
Session Stats:	

Field	Description
Total Current Sessions	The total number of current SMSC sessions.
Sessions Failovers	The number of SMSC session failovers.
Total Starts	The total number of SMSC session starts.
Total Session Updates	The total number of SMSC session updates.
Total Terminated	The total number of terminated SMSC sessions.
Message Stats:	
Total Messages Rcvd	The total number of messages received.
Total Messages Sent	The total number of messages sent.
OF Request	The total number of OF requests.
OF Answer	The total number of OF answers.
OFR Retries	The total number of OFR retries.
OFR Timeouts	The total number of OFR timeouts.
OFA Dropped	The total number of OFA dropped.
TF Request	The total number of TF requests.
TF Answer	The total number of TF answers.
TFR Retries	The total number of TFR retries.
TFA Timeouts	The total number of TFA timeouts.
TFA Dropped	The total number of TFA dropped requests.
AL Request	The total number of AL requests.
AL Answer	the total number of AL answers.
ALR Retries	Displays the total number of ALR retries.
ALR Timeouts	The total number of ALR timeouts.
ALA Dropped	Displays the total number of ALA dropped.
Message Error Stats:	
Unable To Comply	The total number of message errors containing the result code "Unable To Comply".
User Unknown	The total number of message errors containing the result code "User Unknown".

Field	Description
User Absent	The total number of message errors containing the result code "User Absent".
User Illegal	The total number of message errors containing the result code "User Illegal".
SM Delivery Failure	The total number of message errors containing the result code "SM Delivery Failure".
User Busy for MT SMS	The total number of message errors containing the result code "User Busy for MT SMS".
Other Errors	the total number of message errors containing the result code "Other Errors".
Bad Answer Stats:	
Auth-Application-Id	The absence or unexpected value in Auth-Application-Id AVP.
Session-Id	The absence or unexpected value in Session-Id AVP.
Origin-Host	The absence of Origin-Host AVP.
Origin Realm	The absence of Origin-Realm AVP.
Parse-Message-Errors	The total number of parse errors in the message.
Parse-Mscc-Errors	The total number of parse errors in MSCC AVP.
Miscellaneous	The total number of other miscellaneous errors.

show smsc-service statistics summary

Table 578: show smsc-service statistics summary Command Output Descriptions

Field	Description
SMSC Session Stats:	
Total Current Sessions	The total number of current SMSC sessions.
Sessions Failovers	The total number of SMSC session failovers.
Total Starts	The total number of SMSC session starts.
Total Session Updates	The total number of SMSC session updates.
Total Terminated	The total number of terminated SMSC sessions.



CHAPTER 139

show sndcp-statistics

This chapter describes the output of the **show sndcp-statistics** command variants.

- show sndcp statistics verbose, on page 2043

show sndcp statistics verbose

Table 579: show sndcp statistics verbose Command Output Descriptions

Field	Description
SNDCP Data Statistics:	
Un-Acknowledged mode:	
SN-PDUs received	**Description**: This proprietary counter indicates the total number of SN-PDUs received by SNDCP. **Triggers**: Increments when an SN-PDU is received by SNDCP. **Availability**: per SGSN service
SN-PDU Bytes received	**Description**: This proprietary counter indicates the total number of SN-PDU bytes received by SNDCP. **Triggers**: Increments when an SN-PDU is received by SNDCP. **Availability**: per SGSN service
SN-PDUs dropped	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to various reasons. **Triggers**: Increments when SN-PDUs are dropped at SNDCP for various error cases as explained by the specific Drop reason counters below. **Availability**: per SGSN service

Field	Description
SN-PDU Bytes dropped	**Description**: This proprietary counter indicates the total number of SN-PDU bytes dropped at SNDCP due to various reasons. **Triggers**: Increments when SN-PDUs are dropped at SNDCP for various error cases as explained by the specific Drop reason counters below. **Availability**: per SGSN service
SN-PDU Drop Reason:	
Invalid SAPI State	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to invalid SAPI state. **Triggers**: Increments when SN-PDUs are received in invalid SAPI state. **Availability**: per SGSN service
Invalid PDP Ctx	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to invalid PDP context. **Triggers**: Increments when SN-PDUs are received by a non-existent PDP Context or non-existent subscriber. **Availability**: per SGSN service
Decode Failure	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to decode failure. **Triggers**: Increments when Decode failures occur for SN-PDUs. **Availability**: per SGSN service
Reassembly Drops:	
Discard State	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP in discard state. **Triggers**: Increments when SN-PDUs are dropped and an unexpected segment is received to enter discard state. SNDCP entity expects either a first segment or subsequent segment. Reception of last segment clears this state. **Availability**: per SGSN service
Rx First Seg State	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP in Receive First Segment state. **Triggers**: In receive first segment state, only first segment of N-PDU is expected. If subsequent segmented is received, it is dropped with this reason and enters discard state. **Availability**: per SGSN service
Rx Subsequent Seg State	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to reassembly failure. **Triggers**: In receive subsequent segment state, only subsequent segments of N-PDU are expected. If first segment is received, it is dropped with this reason and enters discard state. **Availability**: per SGSN service

Field	Description
New First Segment	**Description**: This proprietary counter indicates the total number of buffered SN-PDUs dropped at SNDCP due to reception of new N-PDU. **Triggers**: Increments when reception of new N-PDU drops buffered SN-PDUs, if any with this reason. **Availability**: per SGSN service
Reassembly Failure	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to reassembly failure. **Triggers**: Increments when SN-PDUs are dropped at SNDCP due to reassembly failure. **Availability**: per SGSN service
Reassembly Timeout	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to reassembly timeout. **Triggers**: Increments when the buffered segments are dropped and the last segment is not received before reassembly timer expiry. **Availability**: per SGSN service
DCOMP Error	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to DCOMP (Data Compression algorithm ID) error. **Triggers**: Increments when SN-PDUs are received with invalid DCOMP value or DCOMP value different from that negotiated between MS and SGSN. **Availability**: per SGSN service
PCOMP Error	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to PCOMP (Protocol Header Compression algorithm ID). **Triggers**: Increments when SN-PDUs are received with invalid PCOMP value or PCOMP value different from that negotiated between MS and SGSN. **Availability**: per SGSN service
PDP Ctx Modified	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to PDP modification. **Triggers**: Increments when buffered data segments (SN-PDUs) are dropped during PDP context modification. **Availability**: per SGSN service
PDP Ctx Deleted	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to PDP deletion. **Triggers**: Increments when buffered data segments (SN-PDUs) are dropped at SNDCP due to PDP context deletion. **Availability**: per SGSN service

Field	Description
Other Reasons	**Description**: This proprietary counter indicates the total number of SN-PDUs dropped at SNDCP due to any other reason than those mentioned above. **Triggers**: Increments when buffered data segments (SN-PDUs) are dropped at SNDCP due to other reasons than those mentioned above. **Availability**: per SGSN service



CHAPTER 140

show snmp

This chapter describes the output of the **show snmp** command.

- show snmp accesses, on page 2047
- show snmp communities, on page 2048
- show snmp notifies, on page 2048
- show snmp server, on page 2049
- show snmp trap history, on page 2050
- show snmp trap statistics, on page 2050

show snmp accesses

Table 580: show snmp accesses Command Output Descriptions

Field	Description
SNMP Usage Statistics:	
Get PDUs Received	The number of SNMP Get request packet data units (PDUs) received by the system from the SNMP alarm server.
GetNext PDUs Received	The number of SNMP GetNext request packet data units (PDUs) received by the system from the SNMP alarm server.
Set PDUs Received	The number of SNMP Set request packet data units (PDUs) received by the system from the SNMP alarm server.
PduTooBig Errors	The number of errors that occurred due to the packet data unit being received is too large.
NoSuchName Errors	The number of errors that occurred due to the packet data unit being requested not existing in the system. For example, this error would be generated if an SNMP "GET" request was received for an OID that doesn't exist in the system.
BadValue Errors	The number of errors that occurred due to the receipt of a bad value. For example, this error would be generated if an SNMP "SET" operation provides an illegal value.

Field	Description
GenError Errors	The number errors that occurred that could not be properly classified. For example, this error would be generated if the system receives a valid SNMP "GET" PDU requesting a piece of data about a card, however, the system experiences an internal error attempting to reach the card.
Agent started	The date and time when the SNMP agent was started.

show snmp communities

Table 581: show snmp communities Command Output Descriptions

Field	Description
Community Name	Displays the name of the SNMP community.
Access Level	Displays the access level – "read-only" or "read-write".

show snmp notifies

Table 582: show snmp notifies Command Output Descriptions

Field	Description
SNMP Notification Statistics:	
Total number of notifications	The total number of notifications that have been sent to the SNMP alarm server since notification was enabled.
Last notification sent	The last date and time that a notification was sent to the SNMP alarm server.
Notification sending is	Indicates whether the sending of notifications is enabled or disabled on the system.
Notifications have never been disabled	Indicates whether or not the sending of SNMP notifications has ever been disabled.
Notifications in current period	The number of notifications that have been sent to the SNMP alarm server during the current monitor period.
Notifications in previous period	The number of notifications that have been sent to the SNMP alarm server during the previous monitor period.
Notification monitor period	The duration of the monitor period in seconds.
Trap Name	The trap name.
#Gen	The number of times notifications were generated for the trap.

Field	Description
#Disc	The disc number.
Disable	The number of notifications disabled.
Last Generated	The last date and time that a notification generated.
Total number of notifications Disabled	The total number of notifications disabled.

show snmp server

Table 583: show snmp server Command Output Descriptions

Field	Description
SNMP Server Configuration:	
Server State	Identifies the current server state, for example "enabled".
SNMP Port	Identifies the SNMP port number. Default = 161.
sysLocation	Displays the System Location.
sysContact	Displays the System contact information.
authenticationFail traps	Indicates whether this trap is Enabled or Disabled.
EngineID	Displays the SNMP Engine identifier.
Runtime Debugging	Indicates whether SNMP runtime debugging is enabled (ON) or disabled (OFF). By default the setting is ON.

Field	Description
Runtime Debug Token	Displays the numerical value(s) corresponding to SNMP DEBUGMSG tokens that have been enabled: • 1 = mib_init • 2 = parse-file • 3 = parse-mibs • 4 = read_config • 5 = snmp • 6 = snmpd • 7 = snmptrapd • 8 = trap • 9 = transport • 10 = usm • 11 = disman • 12 = agentx • 13 = dumph • 14 = init_mib
Alert Threshold	"<number> of alerts in <number> seconds"
Alert Low Threshold	"<number> of alerts in <number> seconds"
SNMP Agent Mib Configuration:	
<mib_name>	Lists available SNMP MIBs and whether they are Enabled or Disabled.

show snmp trap history

Table 584: show snmp trap history Command Output Descriptions

Field	Description
There are <> historical trap records (5000 maximum)	
Timestamp	Identifies the date and time the event trap was generated.
Trap Information	Shows the trap notification number and the associated device.

show snmp trap statistics

Table 585: show snmp trap statistics Command Output Descriptions

Field	Description
SNMP Notification Statistics:	

Field	Description
Total number of notifications	The total number of notifications sent to the SNMP alarm server since notification was enabled.
Last notification sent	The last date and time that a notification was sent to the SNMP alarm server.
Notification sending is	Indicates whether notification sending is enabled/disabled.
Notifications have never been disabled	Indicates whether notification sending was ever disabled.
Notifications have never been cleared	Indicates whether notification sending was ever cleared.
Notifications in current period	The number of notifications that have been sent to the SNMP alarm server during the current monitor period.
Notifications in previous period	The number of notifications that have been sent to the SNMP alarm server during the previous monitor period.
Notification monitor period	The duration of the monitor period in seconds.
Trap Name	The trap name.
#Gen	The number of times notifications were generated for the trap.
#Disc	The disc number.
Disable	The number of notifications disabled.
Last Generated	The last date and time that a notification generated.
Total number of notifications Disabled	The total number of notifications disabled.



CHAPTER 141

show software authenticity

This chapter describes the output of the **show software authenticity** command.

- show software authenticity file, on page 2053
- show software authenticity keys, on page 2054
- show software authenticity running, on page 2054

show software authenticity file

Table 586: show software authenticity file Command Output Descriptions

Field	Description
Authenticity Information	
Image Type	States the type of image.
Signer Information	
Common Name	CiscoSystems
Organizational Unit	StarOS
Organizational Name	CiscoSystems
Certificate Serial Number	Number assigned to the certificate.
Hash Algorithm	Type of algorithm used for hashing, such as SHA512.
Signature Algorithm	Type of algorithm used to sign this image, such as 2048-bit RSA.
Key Version	The version of the key used to generate the signature.
Validating digital signature, please wait ... done	This image is <not> authenticate.

show software authenticity keys

Table 587: show software authenticity keys Command Output Descriptions

Field	Description
Primary Public Key	#1 or #2
Backup Public Key	#3 or #4
Key Type	States the type of key, such as Released.
Key Algorithm	The algorithm used to generate the signature key, such as RSA.
Modulus (256 bytes)	Displays the encrypted text corresponding to the public key. Messages encrypted with the public key can only be decrypted using the private key.
Exponent (4 bytes)	The exponent used in modular exponentiation of the public key.
Key Version	The version of the algorithm used by Release Engineering to sign the starfile image.
Product Name	StarOS

show software authenticity running

Table 588: show software authenticity running Command Output Descriptions

Field	Description
SYSTEM IMAGE	
Image Type	States the type of image.
Signer Information	
Common Name	CiscoSystems
Organizational Unit	StarOS
Organizational Name	CiscoSystems
Certificate Serial Number	Number assigned to the certificate.
Hash Algorithm	Type of algorithm used for hashing, such as SHA512.
Signature Algorithm	Type of algorithm used to sign this image, such as 2048-bit RSA.

Field	Description
Key Version	The version of the key used to generate the signature.
Verifier Information	
Verifier Name	Firmware = CFE3 ROM
Verifier Version	Firmware release number
CFE3 ROM	
Image Type	States the type of image.
Signer Information	
Common Name	CiscoSystems
Organizational Unit	StarOS
Organizational Name	CiscoSystems
Certificate Serial Number	Number assigned to the certificate.
Hash Algorithm	Type of algorithm used for hashing, such as SHA512.
Signature Algorithm	Type of algorithm used to sign this image, such as 2048-bit RSA.
Key Version	The version of the key used to generate the signature.
Verifier Information	
Verifier Name	Firmware = BIOS/UEFI
Verifier Version	Firmware release number
BIOS3	
Image Type	States the type of image.
Signer Information	
Common Name	CiscoSystems
Organizational Unit	StarOS
Organizational Name	CiscoSystems
Certificate Serial Number	Number assigned to the certificate.
Hash Algorithm	Type of algorithm used for hashing, such as SHA512.
Signature Algorithm	Type of algorithm used to sign this image, such as 2048-bit RSA.
Key Version	The version of the key used to generate the signature.

Field	Description
Verifier Information	
Verifier Name	Microloader
Verifier Version	Release number



CHAPTER 142

show srp

This chapter describes the outputs of the **show srp** command.

- show srp audit-statistics, on page 2057
- show srp call-loss statistics, on page 2058
- show srp checkpoint info, on page 2059
- show srp checkpoint statistics, on page 2060
- show srp info, on page 2067
- show srp monitor, on page 2069
- show srp statistics, on page 2070

show srp audit-statistics

Table 589: show srp audit-statistics Command Output Descriptions

Field	Description
Message statistics	
Audit Request	
sent	Displays the number of audit requests sent.
received	Displays the number of audit requests received.
dropped	
decode error	Displays the number of audit requests dropped due to decode error.
invalid state	Displays the number of audit requests dropped due to invalid state.
Audit Response	
sent	Displays the number of audit responses sent.
received	Displays the number of audit responses received.
dropped	

Field	Description
decode error	Displays the number of audit responses dropped due to decode error.
invalid state	Displays the number of audit responses dropped due to invalid state.
Session statistics	
Audit-2 as standby started at	Displays a time stamp for when the standby chassis audit began and the amount of time it took to finish.
Audit round trip time	Displays audit round trip time.
Audit triggered by switchover	Displays whether audit was triggered by a switchover.
Active sessions	Displays the number of active sessions and their percentage of total calls.
New sessions	Displays the number of new sessions and their percentage of total calls.
Stale sessions	Displays the number of stale sessions and their percentage of total calls.
Inactive sessions	Displays the number of inactive sessions and their percentage of total calls.
Audit-1 as active started at	Displays a time stamp for when the active chassis audit began and the amount of time it took to finish.
Audit round trip time	Displays audit round trip time.
Audit triggered by switchover	Displays whether audit was triggered by a switchover.
Active sessions	Displays the number of active sessions and their percentage of total calls.
New sessions	Displays the number of new sessions and their percentage of total calls.
Stale sessions	Displays the number of stale sessions and their percentage of total calls.
Inactive sessions	Displays the number of inactive sessions and their percentage of total calls.

show srp call-loss statistics

Table 590: show srp call-loss statistics Command Output Descriptions

Field	Description
Switchover-n	Identifies the switchover by number.
Started at	Displays the timestamp for when the switchover was initiated.
took	Displays how many seconds the switchover took to finish.

Field	Description
Switchover Reason	Indicates the reason for the switchover: • Manual Switchover • AAA failure • BFD failure • BGP failure • Chassis-Chassis BFD failure • Dead Timer Expiry • Diameter failure • Dual Active • Dual Standby • HSRP switchover (WSG/SecGW service only) • Not Defined (replaces "Unknown")
Total number of active calls at switchover time	Displays the total number of active calls on this chassis when the switchover was initiated.
Total number of VoLTE capable subscribers	Displays the total number of subscribers with VoLTE capable phones that were on the system when the switchover was initiated.
Total number of subscribers engaged in voice calls	Displays the total number of subscribers that were on voice calls when the switchover was initiated.
Total number of lost calls at switchover time	Displays the number of calls that were lost on this chassis during the switchover.
Chkpt never sent	Displays the total number of checkpoints that were never sent by the chassis during the switchover.
Chkpt failed	Displays the total number of checkpoints that this chassis failed to receive during the switchover.

show srp checkpoint info

Table 591: show srp checkpoint info Command Output Descriptions

Field	Description
CMD ID	Displays the checkpoint number associated with the micro-checkpoint.
NAME	Displays the name assigned to the micro-checkpoint.
CRITICAL	Indicates whether or not the micro-checkpoint is in a critical state (Yes or No).
STATS	Indicates whether or not audit statistics are available for the micro-checkpoint (Yes or No).
NACK	Indicates whether or not NACK messaging from the standby chassis has been disabled for the micro-checkpoint (Enable or Disable).

show srp checkpoint statistics

Table 592: show srp checkpoint statistics Command Output Descriptions

Field	Description
The following statistics indicates the state of session managers on the chassis. For ideal invocation of SRP procedures, the SessMgr state should *-Connected state.	
Number of Sessmgrs	Displays the total number of session managers
Sessmgrs in Active-Connected state	Displays the number of session managers in the active-connected state.
Sessmgrs in Standby-Connected state	Displays the number of session managers in the standby-connected state.
Sessmgrs in Pending-Active state	Displays the number of sessions managers in the pending-active state.
These statistics indicate the conversion status of checkpoint information on the standby chassis.	
Current Call Recovery Records (CRRs)	Displays the number of current call recovery records.
Current pre-allocated calls	Displays the number of pre-allocated calls.
The following statistics are indicative of the status of various kinds of SRP message exchanges between active and standby chassis.	
Total id-mapping checkpoint rcvd	Displays the total number of id-mapping checkpoints received by the chassis.
Total APN id-mapping chkpnt rcvd	Displays the total number of APN id-mapping checkpoints received by the chassis.
Total SFW id-mapping chkpnt rcvd	Displays the total number of SFW (Stateful Firewall) checkpoints received by the chassis.
Total sync rcvd	Displays the total number of sync messages received by the chassis.
Total sync-ack rcvd	Displays the total number of sync acknowledgement messages received by the chassis.
Total full session checkpoint rcvd	Displays the total number of complete session information checkpoints received by the chassis.
Total nat-ips add rcvd	Displays the total number of NAT IP address additions received by the chassis.
Total nat-ips delete rcvd	Displays the total number of NAT IP address deletions received by the chassis.
Total micro session checkpoint rcvd	Displays the total number of incremental micro session information checkpoints received.
Total inv-crr micro-chkpnt rcvd	Displays the total number of session teardown indication micro-checkpoints received.
total pcrf provided info micro-chkpnt rcvd	Displays the total number of PCRF provided MCC-MNC related information for P-GW and GGSN micro-checkpoints received.

Field	Description
Total call-stats micro-chkpnt rcvd	Displays the total number of call statistics update micro-checkpoints received.
Total nat-ips micro-chkpnt rcvd	Displays the total number of NAT-IP micro-checkpoints received at standby.
Total nat-ips add rcvd	Displays the total number of NAT IP address additions received at standby.
Total nat-ips delete rcvd	Displays the total number of NAT IP address deletions received at standby.
Total nat-port micro-chkpnt rcvd	Displays the total number of NAT port micro-checkpoints received at standby.
Total nat-bypass micro-chkpnt rcvd	Displays the total number of NAT-Bypass Micro-checkpoints received at standby.
Total acs-sess-info micro-chkpnt rcvd	Displays the total number of Active Charging Service (ACS) session information Micro-checkpoints received.
Total dyn-rule micro-chkpnt rcvd	Displays the total number of dynamic rules received and checkpointed to the standby chassis respectively.
Total gx-li micro-chkpnt rcvd	Displays the total number of LI session information, as enabled from Gx, received at standby counter.
Total Instance checkpoint rcvd	Displays the total number of PCRF-generated policy information as received session independent at standby.
Total dyn-rule-instance micro-chkpnt rcvd	Displays the total number of session specific policy received counter.
Total dyn-rule-instance delete micro-chkpnt rcvd	Displays the total number of session specific policy remove counter.
Total dyn-rule-instance ACK rcvd	Displays the total number of session independent information acknowledged from standby counter.
Total id-mapping checkpoint sent	Displays the total number of configuration specific id mapping for VPN/VRF context ids, service ids, and APN ids as sent to standby.
Total APN id-mapping chkpt sent	Displays the total number of configuration specific id mapping for APN ids as sent to standby.
Total SFW id-mapping chkpt sent	Displays the total number of configuration specific id mapping for SFW ids as sent to standby.
Total sync sent	Displays the total number of SYN message received counter.
Total sync-ack sent	Displays the total number of SYN Ack received counter.
Total full session checkpoint sent	Displays the total number of full session checkpoints sent by the chassis.
Total nat-ip add sent	Displays the total number of NAT-IP add sent counter to standby.
Total full chkpnt encoding failures	Displays the total number of complete session information formation failure counter primarily due to release of the session at active
Total micro session checkpoint sent	Displays the total number of micro session checkpoints sent by the chassis.

Field	Description
Total inv-crr micro-chkpnt sent	Displays the total number of invalid CRR micro checkpoints sent.
total pcrf provided info micro-chkpnt sent	Displays the total number of PCRF provided MCC-MNC related information for P-GW and GGSN micro-checkpoints sent.
Total call-stats micro-chkpnt sent	Displays the total number of call statistics micro checkpoints sent.
Total nat-ip micro-chkpnt sent	Displays the total number of NAT-IP Micro-checkpoint sent from active.
Total nat-ip add sent	Displays the total number of NAT-IP address addition indications to standby.
Total nat-ip delete sent	Displays the total number of NAT-IP address deletion indications to standby.
Total nat-port micro-chkpnt sent	Displays the total number of NAT-Port Micro-checkpoint sent from active.
Total nat-bypass micro-chkpnt sent	Displays the total number of NAT-Bypass Micro-checkpoint sent from active.
Total acs-sess-info micro-chkpnt sent	Active Charging Service (ACS) specific session information as sent to standby.
Total dyn-rule micro-chkpnt sent	Displays the total number of dynamic rules sent and checkpointed to the standby chassis respectively.
Total gx-li micro-chkpnt sent	LI session information sent from active.
Total instance micro-chkpnt sent	PCRF generated policy information as sent session independent from active.
Total dyn-rule-instance micro-chkpnt sent	Session specific policy add sent counter at active.
Total dyn-rule-instance delete micro-chkpnt sent	Session specific policy remove sent counter from active.
Total dyn-rule-instance ACK sent	Session independent information acknowledgements sent from standby counter.
Total micro chkpnt encoding failures	Incremental session information failed to be sent due to bad encoding at active.
Total instance micro chkpnt encoding failures	PCRF generated policy encoding failed while being sent session independent from active.
Total ipsec non urgent micro-chkpnt rcvd from active chassis serial number mismatch	Non-urgent IPsec mircro-checkpoint received from Active Chassis with serial number mismatch.
Total ipsec urgent micro-chkpnt rcvd from active chassis serial number mismatch	Urgent IPsec mircro-checkpoint received from Active Chassis with serial number mismatch.

Field	Description
sessmgr --> ipsecmgr checkpoint queue stats	Displays sessmgr to ipsecmgr queue statistics. • Imgr • QFull • UQFull (Urgent Queue) • QLen • UQLen • QSent • UQSent • TotalMsgSent
sessmgr --> aaamgr ipsec checkpoint queue stats	Displays sessmgr to aaamgr queue statistics.gr to ipsecmgr queue statistics. • Amgr • QFull • UQFull (Urgent Queue) • QLen • UQLen • QSent • UQSent • TotalMsgSent
Total micro-chkpnt to send dropped full-chkpnt not sent	Displays number of unsent micro- checkpoints due to dropped full checkpoints.
Total micro-chkpnt to send dropped srp state not active	Displays number of unsent micro- checkpoints that were dropped because SRP state was not Active.
Total micro-chkpnt to send deleted from chkpnt queue	Displays number of unsent micro-checkpoints that were deleted from the checkpoint queue.
Session full checkpoint never sent	Displays the number of calls which failed to send out complete session information.
Total Macro chkpnt Nack Sent	Displays the number of NACKs sent from Standby due to macro-checkpoint failure.
Total Micro chkpnt Nack Sent	Displays the number of NACKs sent from Standby due to micro-checkpoint failure.
Coherency_key mismatch	Displays the number of NACKs sent from Standby due to micro-checkpoint failure with reason coherency_key mismatch.
Micro-Checkpoint failed to apply	Displays the number of NACKs sent from Standby due to micro-checkpoint failure with reason application failure.
Session Not Found	Displays the number of NACKs sent from Standby due to micro-checkpoint failure with reason session failure.
Total Macro chkpnt Nack Rcvd:	Displays the number of NACKs received from Standby due to macro-checkpoint failure.

Field	Description
Total Micro chkpnt Nack Rcvd	Displays the number of NACKs received from Standby due to micro-checkpoint failure.
Coherency_key mismatch	Displays the number of NACKs received from Standby due to micro-checkpoint failure with reason coherency_key mismatch.
Micro-Checkpoint failed to apply	Displays the number of NACKs received from Standby due to micro-checkpoint failure with reason application failure.
Session Not Found	Displays the number of NACKs received from Standby due to micro-checkpoint failure with reason session failure.
Standby call pre-alloc failures	Displays the number of standby call pre allocation failures.
table-id mapping failures	Displays the number of table id mapping failures.
vpn-id mapping failures	Displays the number of decode failures due to not finding matching vpn information on standby.
svc-id mapping failures	Displays the number of decode failures due to not finding matching service information on standby.
ntwk-id mapping failures	Displays the number of decode failures due to not finding matching ggsn network information on standby.
demux-mapping-id failures	Displays the number of decode failures due to not finding matching demux information on standby.
tpo-policy-mapping-id failures	**NOTE: The Traffic Performance Optimization (TPO) in-line service is not supported in this release.**
aaa session failures	Displays the number of AAA session failures.
recovery record alloc failures	Displays the number of recovery record allocation failures.
pre-allocate vpnmgr failure	Pre-allocation of callines at standby failed due to VPN IP address allocation.
Ipv4 failure	Pre-allocation of callines at standby failed due to VPN IPv4 address allocation.
Ipv4 Prefix failure	Pre-allocation of callines at standby failed due to VPN IPv4 prefix address allocation.
Ipv6 failure	Pre-allocation of callines at standby failed due to VPN IPv6 address allocation.
pre-allocate vpnmgr msg failure	Pre-allocation of callines at standby failed due to VPN messaging issues.
pre-allocate demuxmgr failure	Pre-allocation of callines at standby failed due to demux failure.
pre-allocate demuxmgr msg failure	Pre-allocation of callines at standby failed due to demux messaging issues.
Standby micro-checkpoint failures	Displays the number of standby micro checkpoint failures.
recovery record not found	Displays the number of recovery records not found.

Field	Description
nat-ip uchkpt failed	The number of NAT IP micro-checkpoint failures.
nat-port uchkpt failed	The number of NAT port micro-checkpoint failures.
nat-bypass uchkpt failed	The number of NAT bypass micro-checkpoint failures.
The following are audit statistics done as part of the switchover--conversion of session information failures as reported at standby going active.	
Total CRR recovery failures	Displays the total number of Call Recovery Record (CRR) call recovery failures.
audit-npumgr-failure	Audit of npumgr failures.
audit-npumgr-nat-flow-failure	Audit of npumgr NAT flow failures.
audit-npumgr-nat-bypass-flow-failure	Audit of npumgr NAT bypass flow failures.
audit-vpnmgr-failure	Audit of vpnmgr failures.
audit-vpnmgr-nat-ip-failure	Audit of vpnmgr NAT IP failures.
audit-demuxmgr-failure	Audit of demuxmgr failures for all demux managers.
For the next three audit statistics, if all three audits fail for a single call, only the counter for the first failure will be incremented. Total audit failure count will remain one (not three). There is no double counting.	
audit-egtpinmgr-imsi-failure	Audit of EGTP inbound IMSI failures following an Interchassis Session Recovery (ICSR) switchover.
audit-egtpinmgr-gtpc-failure	Audit of EGTP inbound GTPC failures following an ICSR switchover.
audit-gtpumgr-failure	Audit of gtpumgr failures following an ICSR switchover.
audit-aaamgr-failure	Audit of aaamgr failures.
audit-ipsecmgr-failure	Audit of ipsecmgr failures.
audit-dgmbmgr-failure	Audit of dgmbmgr failures.
audit-mcast-proxy-failure	Audit of mcast proxy failures.
audit-igmp-proxy-failure	Audit of igmp proxy failures.
audit-unsupported-sess-type	Audit of unsupported session type failures.
recovery-unspecified-fail	The call recovery failed due to unspecified reason.
recovery-invalid-crr	The call recovery failed due to invalid CRR.
recovery-missing-info	The call recovery failed due to missing information.
recovery-quota-reached	The call recovery failed due to quota reached.
recovery-set-acs-sess-info-failure	The call recovery failed due to set ACS session information.

Field	Description
recovery-acs-sfw-policy-failure	The call recovery failed due to ACS SFW policy.
recovery-ucheckpt-failure	The call recovery failed due to Micro-checkpoint.
recovery-service-not-found	The call recovery failed due to service not found.
recovery-restart-counter-mismatch	The call recovery failed due to restart counter mismatch.
recovery-aaa-sub-session-mismatch	The call recovery failed due to aaa sub session mismatch.
recovery-crr-no-aaa-session	The call recovery failed due to CRR no aaa session.
recovery-crr-aaa-session-not_found	The call recovery failed due to CRR aaa session not found.
recovery-flow-buffer-null	The call recovery failed due to flow buffer null.
recovery-invalid-flow-id	The call recovery failed due to invalid flow ID.
recovery-flow-id-in-use	The call recovery failed due to flow ID in use.
recovery-callline-alloc-failure	The call recovery failed due to callline allocation.
recovery-ipv6-session-alloc-failure	The call recovery failed due to IPv6 session allocation.
recovery-no-apn-group-stats-entry	The call recovery failed due to no APN group statistics.
recovery-apply-aaa-config-failure	The call recovery failed due to application of aaa configuration.
recovery-sub-session-alloc-failure	The call recovery failed due to sub session allocation.
recovery-nat-failure	The call recovery failed due to NAT.
recovery-set-dst-vpn-failure	The call recovery failed due to set destination VPN.
recovery-vpn-not-found	The call recovery failed due to VPN not found.
recovery-access-side-failure	The call recovery failed due to access side.
recovery-network-side-failure	The call recovery failed due to network side.
recovery-peer-callline-failure	The call recovery failed due to peer callline.
recovery-li-failure	The call recovery failed due to LI.
recovery-css-failure	The call recovery failed due to CSS.
recovery-uchkpt-alloc-failure	The call recovery failed due to Micro-checkpoint allocation.
recovery-acs-dyn-rule_failure	The call recovery failed due to ACS dynamic rule.
recovery-acs-acct-rule-failure	The call recovery failed due to ACS account rule.
recovery-prepaid-failure	The call recovery failed due to prepaid.
recovery-mipfa-failure	The call recovery failed due to mipfa.

Field	Description
call-recovery-stale-session	The call recovery failed due to stale session.
call-recovery-wrong-flow-type	The call recovery failed due to wrong flow type.
call-recovery-null-acct-session	The call recovery failed due to null account session.
call-recovery-wrong-acct-session-type	The call recovery failed due to wrong account session type.
call-recovery-null-acct-session	The call recovery failed due to null accounting session.
call-recovery-wrong-acct-session-type	The call recovery failed due to wrong type of accounting session.
recovery-acs-acct-dyn-chrg-update-qg-failure	The call recovery failed due to an ACS accounting dynamic charging QG update failure.
recovery-acs-acct-dyn-chrg-update-ca-failure	The call recovery failed due to an ACS dynamic charging CA update failure.
call-recovery-acs-internal-audit-failure	The call recovery failed due to an ACS internal audit failure.
Total CRR replace record	Total number of replaced CRRs (Call Recovery Records).
call-recovery-gtpu-teid-in_use	The call recoveries for in-use GTPU TEIDs (Tunnel Endpoint IDs).
call-recovery-egtpc-teid-in_use	The call recoveries for in-use EGTPC TEIDs.
NAT-NPU flow audit failures	The number of NAT NPU Flow audit failures.
NAT-IP Pool address audit failures	The number of NAT IP Flow audit failures.
NAT-Bypass flow audit failures	The number of NAT Bypass Flow audit failures.
Graceful call drops during audit failure	The number of calls dropped as a result of Audit Failure with **require graceful-cleanup-during-audit-failure** enabled.

show srp info

Table 593: show srp info Command Output Descriptions

Field	Description
Service Redundancy Protocol	
Context	Displays the srp context configured for service redundancy protocol. Only one context may be configured with this service.
Local Address	Displays the local address of the chassis.
Chassis State	Displays the chassis state (init, standby or active).
Chassis Mode	Displays the chassis mode (primary or backup).

Field	Description
Chassis Priority	Displays the chassis priority. The chassis priority is an integer that determines which chassis is in the active state. The lower number has a higher priority. The priority must be an integer from 1 through 255. Default is 125.
Local Tiebreaker	Displays the MAC address which is used to determine priority when both chassis have the same priority and route modifier. The lower MAC address has the higher priority.
Route-Modifier	Displays the modifier which is used to determine which chassis has priority. The lower the number the higher the priority.
DSCP Markings	Displays current settings for DSCP marking of SRP messages.
Control	Displays DSCP value set for SRP control messages.
Session	Displays DSCP value set for SRP checkpoint messages (session maintenance).
Peer Remote Address	Displays the IP address of the remote peer.
Peer State	Displays whether the peer is in the active or standby state.
Peer Mode	Displays the peer mode (standby or active).
Peer Priority	Displays the peer priority (primary or backup).
Peer Tiebreaker	Displays the peer MAC address.
Peer Route-Modifier	Displays the peer's BGP route modifier.
Last Hello Message received	Displays a time stamp for the most recent hello message that was received.
Peer Configuration Validation	Displays the peer configuration validation.
Last Peer Configuration Error	Displays the most recent error that was received when the chassis was not able to validate its peer configuration.
Last Peer Configuration Event	Displays a time stamp for the last peer configuration event.
Last Validate Switchover Status	Displays whether both active and standby systems are ready for a planned srp switchover.
Connection State	Displays the status of the redundancy link between the two chassis.
Next Peer Audit Scheduled	Displays minutes and seconds until next audit.
Peer Audit State	Displays current state of peer audit configuration.
Last Peer Audit Type	Displays the type of peer audit that was last run.
Last Peer Audit Successful	Indicates whether or not the last peer audit was successfully completed.
Feature Configured-status Operational-status	
allow-volte-data-traffic	Indicates system-level Configuration and Operational status of this feature as Enabled, Disabled or Mismatch.

Field	Description
allow-all-dat-traffic	Indicates system-level Configuration and Operational status of this feature as Enabled, Disabled or Mismatch.

show srp monitor

Table 594: show srp monitor Command Output Descriptions

Field	Description
Type:	(A) = Authentication Probe (B) = BGP (D) = Diameter (F) = Bidirectional Forwarding Detection
State:	(I) = Initializing (U) = Up (D) = Down
GroupId	SRP Peer Group Identifier (displayed as an integer from 0 through 9. Default = 0).
Auth. probe monitor	Displays the following authentication probe information: IP addr = IP address in IPv4 or IPv6 notation Port = Port number Context (VRF Name) Last Update
(AU) Auth. probe monitors up	Displays the number of authentication probe monitors in the active state.
(AD) Auth. probe monitors down	Displays the number of authentication probe monitors in the inactive state.
(AI) Auth. probe monitors init	Displays the number of authentication probe monitors in the initializing state.
BFD monitor	Displays BFD information.
(FU) BFD monitors up	Displays the number of BFD monitors in the active state.
(FD) BFD monitors down	Displays the number of BFD monitors in the inactive state.
(FI) BFD monitors init	Displays the number of BFD monitors in the initializing state.

Field	Description
BGP monitor state	Displays the following BGP information: • IP addr = IP address in IPv4 or IPv6 notation • Port = Port number • Context (VRF Name) • Last • Update
(BU) BGP monitors up	Displays the number of BGP monitors in the active state.
(BD) BGP monitors down	Displays the number of BGP monitors in the inactive state.
(BI) BGP monitors init	Displays the number of BGP monitors in the initializing state.
DIAMETER monitor state	Displays the following Diameter server information: • Context • Endpoint Name • IPAddr (port)/FQDN • Last • Update
(DU) DIAMETER monitors up	Displays the number of Diameter monitors in the active state.
(DD) DIAMETER monitors down	Displays the number of Diameter monitors in the inactive state.
(DI) DIAMETER monitors init	Displays the number of Diameter monitors in the initializing state.
Volume	Displays the status of volume.

show srp statistics

Table 595: show srp statistics Command Output Descriptions

Field	Description
Service Redundancy Protocol	
Peer Remote Address	The IP address for the redundant peer chassis.
Hello Messages Sent	The number of hello messages that were sent to the peer chassis.
Hello Message Received	The number of hello messages received from the peer chassis.
Hello Messages Discarded	The number of discarded hello messages.

Field	Description
Configuration Validation Messages Sent	The number of configuration validation messages sent to the peer.
Configuration Validation Message Received	The number of configuration validation messages received from the peer chassis.
Configuration Validation Messages Discarded	The number of discarded configuration validation messages.
Resource Messages Sent	The number of resource messages sent to the peer chassis.
Resource Messages Received	The number of resource messages received from the peer chassis.
Resource Messages Discarded	The number of discarded resource messages.
Switchover Req Messages Sent	The number of switchover request messages sent to the peer chassis.
Switchover Req Messages Received	The number of switchover request messages received from the peer chassis.
Switchover Rsp Messages Sent	The number of switchover response messages sent to the peer chassis.
Switchover Rsp Messages Received	The number of switchover response messages received from the peer chassis.
Switchover Messages Discarded	The number of discarded switchover messages.
Switchover Events	The number of switchover events, where one chassis went from active to inactive and the other chassis went from inactive to active.
CMP Data Messages Sent	The number of Certificate Management Protocol (CMP) data messages sent. (RFC 4210)
CMP Data Messages Received	The number of CMP data messages received.



CHAPTER 143

show ss7-routing-domain

This chapter describes the outputs of the **show ss7-routing-domain** command.

- show ss7-routing-domain, on page 2073

show ss7-routing-domain

Table 596: show ss7-routing-domain Command Output Descriptions

Field	Description
Peer Server Id	Indicates the peer server identifier.
Peer Server Process Id	Indicates the peer server process identifier.
Association State	Indicates the status of associated link.
Source Address	Indicates the IP address of source node/s.
Destination Address	Indicates the IP address of destination node/s.
Path Status	Indicates the status of established paths between source and destination node.

show ss7-routing-domain



CHAPTER 144

show subscribers

This chapter includes the **show subscribers** command output tables.

- show subscribers aaa-configuration, on page 2076
- show subscribers access-flows, on page 2077
- show subscribers access-flows full, on page 2078
- show subscribers access-flows wf1, on page 2080
- show subscribers activity all, on page 2081
- show subscribers all, on page 2082
- show subscribers apn <apn_name> rulename <rule_name>, on page 2083
- show subscribers apn <apn_name> without-dynamic-rule, on page 2084
- show subscribers apn <apn_name> without-override-control, on page 2085
- show subscribers asngw-only all, on page 2086
- show subscribers asngw-service, on page 2087
- show subscribers callid, on page 2088
- show subscribers callid <callid> adc readdress statistics, on page 2088
- show subscribers counters username, on page 2088
- show subscribers cscf-only full, on page 2091
- show subscribers data-rate, on page 2097
- show subscribers enodeb-address, on page 2098
- show subscribers firewall required, on page 2099
- show subscribers full all, on page 2100
- show subscribers full username, on page 2109
- show subscribers ggsn-only, on page 2116
- show subscribers ggsn-only all, on page 2120
- show subscribers ggsn-only full, on page 2121
- show subscribers gprs-only full, on page 2133
- show subscribers hnbgw-only all, on page 2147
- show subscribers hnbgw-only full, on page 2148
- show subscribers hnbgw-service, on page 2154
- show subscribers mme-only full, on page 2155
- show subscribers summary pgw only, on page 2157
- show subscribers pdif-service, on page 2158
- show subscribers pgw-only full all, on page 2158
- show subscribers pgw-only summary, on page 2160

- show sub pgw-only data-rate, on page 2160
- show subscribers policy, on page 2161
- show subscribers rulename <rule_name>, on page 2163
- show subscribers saegw-only full all, on page 2164
- show subscribers samog-only full, on page 2165
- show subscribers without-dynamic-rule, on page 2165
- show subscribers without-override-control, on page 2167
- show subscribers sgsn-only full, on page 2168
- show subscribers sgsn-only summary, on page 2177
- show subscribers sgsn-only partial qos negotiated, on page 2178
- show subscribers sgw-address, on page 2180
- show subscribers summary without-dynamic-rule without-override-control rulename <rule_name>, on page 2181
- show subscribers tft, on page 2190
- show subscribers summary rulename <rule_name>, on page 2191
- show subscribers summary without-dynamic-rule, on page 2200
- show subscribers summary without-override-control, on page 2209
- show subscribers subscription full, on page 2218
- show subscribers user-plane-only callid *callid_value* drop-statistics, on page 2219
- show subscribers user-plane-only callid *callid_value* flows flow-id *flow_id*, on page 2220
- show subscribers user-plane-only callid *callid_value* flows full, on page 2222
- show subscribers wf1 all, on page 2224
- Common Attributes, on page 2225

show subscribers aaa-configuration

Table 597: show subscribers aaa-configuration Command Output Descriptions

Field	Description
Username	Specifies the name of the subscriber.
Status	Indicates the status of the subscriber's session. The status can be Online or Offline and Active or Dormant. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Access Type	Indicates the type of access for this subscriber. See
Network Type	Displays the type of network connection for this subscribers session. See
Access Tech	Represents the **Access Technology**. See
callid	Displays the subscriber's call identification number (callid).
msid	Displays the subscriber's mobile station identification (MSID).
imsi	Displays the subscriber's international mobile subscriber identity (IMSI).

Field	Description
AAA Information and Attributes	A list of AAA information attributes and their configuration for the specified session. For additional information on these attributes, if you are using StarOS 12.3 or an earlier release, refer to the *AAA and GTPP Interface Administration and Reference*. If you are using StarOS 14.0 or a later release, refer to the *AAA Interface Administration and Reference*.

show subscribers access-flows

Table 598: show subscribers access-flows Command Output Descriptions

Field	Description
Access-Tech	Indicates the session type for this subscriber. See
Type	Indicates the access flow type as one of the following: - Static - Dynamic - Pre-provisioned - Accounting
Direction	Indicates the flow direction as Forward/Uplink or Reverse/Downlink.
Link Status	Indicates the status of the flow as one of the following: - Online/Active - Dormant/idle - Not Applicable
Flow State	Indicates the state of the flow as Active or Inactive.
Flow Mapping	Indicates the mapping of the flow as one of the following: - Mapped - Unmapped - Not Applicable
Network Type	Indicates the session Network Type. See
MSID	Displays the subscriber's mobile station identification (MSID).
ID	Indicates the unique identification number for the flow.
SRID	Indicates the service flow identifier for this subscriber.
PDFID	Indicates the packet data flow identifier for this subscriber.

Field	Description
PROFID	Indicates the QoS profile identifier for this subscriber.
PACKETS	Indicates the total number of packets processed for this flow.
BYTES	Indicates the total number of bytes processed for this flow.
POLICY	Indicates the name of the subscriber QoS policy applicable for this subscriber.

show subscribers access-flows full

Table 599: show subscribers access-flows full Command Output Descriptions

Field	Description
Username	Specifies the name of the subscriber.
callid	Displays the subscriber's call identification number (callid).
msid	Displays the subscriber's mobile station identification (MSID).
flow ID	Indicates the unique identification number for the flow.
Access Tech	Indicates the session type for this subscriber. See
Status	Indicates the status of the session as Active or Dormant/Idle.
Policy Name	Indicates the name of the QoS/subscriber policy.
Direction	Indicates the flow direction as Forward/Uplink or Reverse/Downlink.
State	Indicates the status of the flow as Active or Inactive.
Mapping Status	Indicates the mapping status of the flow as one of the following: - Mapped - Unmapped - Not Applicable
Flow Type	Indicates the access flow type as one of the following: - Accounting - Static - Dynamic - Pre-provisioned
Hdr Comp	Indicates the status of header compression.
QoS Traffic Policing	Indicates the status of the QoS traffic policing as Enabled or Disabled.

Field	Description
Data Statistics	Displays the data statistics.
Packets	Displays the total number of packets.
Bytes	Displays the total number of bytes.
pkts dropped tp	Displays the number of packets dropped by the traffic policy.
pkts dropped access-ctrl	Displays the number of packets dropped by the access control.
Requested QoS	Displays the requested QoS.
Profile Ids	Displays the profile IDs for the requested QoS.
QOS Id	Displays the applicable QoS identifier.
Granted QoS	Displays the granted QoS.
Global-Service-Class-Name	Specifies the global service class name.
Service-Class-Name	Specifies the local service class name.
Schedule Type	Displays the schedule type configured for the requested QoS. This group contains relevant parameters like, minimum reserved traffic rate, maximum latency allowed, polling interval, traffic priority, sustained traffic rate, and maximum traffic burst.
Classifiers	Displays the service classifier parameters like type of traffic, priority, matching protocol, source-destination IP address and ports, DSCP marking etc. It also shows the configured permit criteria for flows.
Data Path(s)	Displays the available information of data path(s).
Peer Address	Indicates the IP address of the trusted peer ASN GWs for inter ASN GW handovers in this service.
BS ID	Indicates the Base station Id.
Tunnel Endpoint	Indicates the IP address of GRE tunnel endpoint.
Gre Key	Indicates the GRE key for this data tunnel.
Type	Type of GRE data tunnel. It may be R4 or R6.
State	Indicates the status of access flow. Possible states are: - **I**: Initializing - **F**: Flow Added - **A**: Active - **P**: Pending
RecdPkts	Indicates the total number of packets received.
SendPkts	Indicates the total number of packets sent.

Field	Description
Total access-flows matching specified criteria	Displays the total number of matching access-flows.

show subscribers access-flows wf1

Table 600: show subscribers access-flows wf1 Command Output Descriptions

Field	Description
Access Tech	Indicates the session type for this subscriber. See
Policy Name	Indicates the name of the QoS/subscriber policy.
Type	Indicates the access flow type as one of the following: - **A**: Accounting - **S**: Static - **D**: Dynamic - **P**: Pre-provisioned
Direction	Indicates the flow direction as Forward/Uplink or Reverse/Downlink.
Link Status	Indicates the status of the link as one of the following: - **A**: Online/Active - **D**: Dormant - **.** (period): Not Applicable
Flow Status	Indicates the status of the flow as Active or Inactive.
Flow Mapping	Indicates the mapping status of the flow as one of the following: - **M**: Mapped - **U**: Unmapped - **.** (period): Not Applicable
Network Type	Indicates the network type. See
MSID	Displays the subscriber's mobile station identification (MSID) number.
ID	Indicates the unique identification number for the flow.
SRID	Indicates the service request identification number for the flow.
PROFID	Indicates the profile identification number used by the flow.
SO	Displays the service option for each flow.

Field	Description
PACKETS	Indicates the total number of packets.
BYTES	Indicates the total number of bytes.
POLICY	Indicates the policy name used for the flow.
HDR-COMP	Indicates the ROHC header compression feedback channel identification number carried by the link.

show subscribers activity all

The output of the **show subscribers activity all** command displays the following field:

Field	Description
Access Tech	Indicates the accessing technology. See **Common Attributes** in this chapter. For example, LTE-M.

show subscribers all

Table 601: show subscribers all Command Output Descriptions

Field	Description
vvvvv	Displays service and session state information. This column provides a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using. See
	The second character represents the **Access Technology**. See
	The third character represents the **Call State**. See
	The fourth character represents the **Access CSCF Status** of the session. - **A**: Attached - **C**: Call (Unknown Type) - **N**: Not Attached - **v**: Voice Call - **.** (period): Not Applicable - **V**: Video Call
	The fifth character represents the **Link Status** of the session. The possible idle states are: - **A**: Online/Active - **D**: Dormant/Idle **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
	The sixth character represents the session **Network Type**. See
CALLID	Displays the subscriber's call identification (callid) number.
MSID	Displays the subscriber's mobile station identification (MSID) number.
USERNAME	Displays the subscriber's username.
IP(*)	Displays the IP address assigned to the subscriber. (*) indicates the multiple hosts supported behind a primary node with primary IP address. Note that this is applicable to ASN GW session only.
TIME-IDLE	Displays the amount of time that the subscriber session has been idle either in an active or dormant state.

Field	Description
(N) - NB-IoT	Display the NB-IoT RAT type

show subscribers apn <apn_name> rulename <rule_name>

Table 602: show subscribers apn <apn_name> rulename <rule_name> Command Output Descriptions

Field	Description
Access Type	Indicates the type of access for this subscriber. See, Access Types, on page 2225.
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 2227.
Call State	The call state. See, Call States, on page 2227.
Access CSCF State	The access state of the session. The possible states are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
Link Status	Indicates the status of the flow. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected
Network Type	Indicates the session Network Type. See, Network Types, on page 2228.
vvvvvv	Displays service and session state information. This column displays a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using.
	The second character represents the **Access Technology**.
	The third character represents the **Call State**.
	The fourth character represents the **Access CSCF Status** of the session.
	The fifth character represents the **Link Status** of the session.
	The sixth character represents the session **Network Type**.
CALLID	The subscriber's call identification (callid) number.
MSID	The subscriber's mobile station identification (MSID) number.
USERNAME	The subscriber's user name.
IP	The IP address assigned to the subscriber.

Field	Description
TIME-IDLE	The amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers apn <apn_name> without-dynamic-rule

Table 603: show subscribers apn <apn_name> without-dynamic-rule Command Output Descriptions

Field	Description
Access Type	Indicates the type of access for this subscriber. See, Access Types, on page 2225.
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 2227.
Call State	The call state. See, Call States, on page 2227.
Access CSCF State	The access state of the session. The possible states are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
Link Status	Indicates the status of the flow. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected
Network Type	Indicates the session Network Type. See, Network Types, on page 2228.
vvvvvv	Displays service and session state information. This column displays a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using.
	The second character represents the **Access Technology**.
	The third character represents the **Call State**.
	The fourth character represents the **Access CSCF Status** of the session.
	The fifth character represents the **Link Status** of the session.
	The sixth character represents the session **Network Type**.
CALLID	The subscriber's call identification (callid) number.
MSID	The subscriber's mobile station identification (MSID) number.
USERNAME	The subscriber's user name.

Field	Description
IP	The IP address assigned to the subscriber.
TIME-IDLE	The amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers apn <apn_name> without-override-control

Table 604: show subscribers apn <apn_name> without-override-control Command Output Descriptions

Field	Description
Access Type	Indicates the type of access for this subscriber. See, Access Types, on page 2225.
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 2227.
Call State	The call state. See, Call States, on page 2227.
Access CSCF State	The access state of the session. The possible states are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
Link Status	Indicates the status of the flow. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected
Network Type	Indicates the session Network Type. See, Network Types, on page 2228.
vvvvvv	Displays service and session state information. This column displays a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using.
	The second character represents the **Access Technology**.
	The third character represents the **Call State**.
	The fourth character represents the **Access CSCF Status** of the session.
	The fifth character represents the **Link Status** of the session.
	The sixth character represents the session **Network Type**.
CALLID	The subscriber's call identification (callid) number.
MSID	The subscriber's mobile station identification (MSID) number.

Field	Description
USERNAME	The subscriber's user name.
IP	The IP address assigned to the subscriber.
TIME-IDLE	The amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers asngw-only all

Table 605: show subscribers asngw-only all Command Output Descriptions

Field	Description
vvvvvv	Displays service and session state information. This column displays a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using. See
	The second character represents the **Access Technology**. See
	The third character represents the **Call State**. See
	The fourth character represents the **Access CSCF Status** of the session. The possible states are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
	The fifth character represents the **Link Status** of the session. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected) **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
	The sixth character represents the session **Network Type**. See
CALLID	The subscriber's call identification (callid) number.
MSID	The subscriber's mobile station identification (MSID) number.
USERNAME	The subscriber's user name.
IP	The IP address assigned to the subscriber.

Field	Description
TIME-IDLE	The amount of time that the subscriber session has been idle either in an active or dormant state.
Total subscribers matching specified criteria	The total number of subscribers using firewall.

show subscribers asngw-service

Table 606: show subscribers asngw-service Command Output Descriptions

Field	Description
vvvvvv	Displays service and session state information. This column displays a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using. See
	The second character represents the **Access Technology**. See
	The third character represents the **Call State**. See
	The fourth character represents the **Access CSCF Status** of the session. The possible states are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
	The fifth character represents the **Link Status** of the session. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected) **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
	The sixth character represents the session **Network Type**. See
CALLID	The subscriber's call identification (callid) number.
MSID	The subscriber's mobile station identification (MSID) number.
USERNAME	The subscriber's user name.
IP	The IP address assigned to the subscriber.
TIME-IDLE	The amount of time that the subscriber session has been idle either in an active or dormant state.

Field	Description
Total subscribers matching specified criteria	The total number of subscribers using firewall.

show subscribers callid

Table 607: show subscribers callid <callid>

Field	Description
Access Tech:	
LTE-M	Displays the Access Technology of the call as LTE-M.

show subscribers callid <callid> adc readdress statistics

Table 608: show subscribers callid <callid> adc readdress statistics Command Output Descriptions

Field	Description
Total Readdressed Flows	Total number of readdressed uplink and downlink flows.
Readdressed Upl Pkts	Total number of readdressed uplinked packets.
Readdressed Dnl Pkts	Total number of readdressed downlinked packets.
Total Readdressing Failures	Total number of packets with readdressing failures.
Non Syn Flow	Total number of readdressing packets with a non SYN flow failure.
Duplicate Key	Total number of readdressing packets with a duplicate key failure.
Dropped Pkts	Total number of packets discarded on readdressing failure.

show subscribers counters username

Table 609: show subscriber counters username Command Output Descriptions

Field	Description
Username	Specifies the name of the subscriber.

Field	Description
Status	Indicates the status of the subscriber's session. The status can be Online or Offline and Active or Dormant. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Access Type	Indicates the session type for this subscriber. See
Network Type	Indicates the network service used for the subscriber session. See
callid	Displays the subscriber's call identification number (callid).
msid	Displays the subscriber's mobile station identification (MSID).
input pkts	Indicates the number of packets received.
output pkts	Indicates the number of packets transmitted.
input bytes	Indicates the number of bytes received.
output bytes	Indicates the number of bytes transmitted.
input bytes dropped	Indicates the number of bytes that were dropped while receiving data for this subscriber session.
output bytes dropped	Indicates the number of bytes that were dropped while transmitting data for this subscriber session.
input pkts dropped	Indicates the number of packets that were dropped while receiving data for this subscriber session.
output pkts dropped	Indicates the number of packets that were dropped while transmitting data for this subscriber session. This field includes packets blocked by Access Control Lists (ACLs). Do not use this figure when computing the total number of output packets.
input pkts dropped due to zero mbr	Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
output pkts dropped due to zero mbr	Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
pk rate from user(bps)	The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.

Field	Description
pk rate to user(bps)	The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(bps)	The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
ave rate to user(bps)	The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(bps)	The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds.
sust rate to user(bps)	The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
pk rate from user(pps)	The speed that packets are being received from the user in packets per second. The sampling period is 30 seconds.
pk rate to user(pps)	The speed that packets are being sent to the user in packets per second. The sampling period is 30 seconds.
ave rate from user(pps)	The average speed that packets are being received from the user in packets per second. The sampling period is 30 seconds.
ave rate to user(pps)	The average speed that packets are being sent to the user in packets per second. The sampling period is 30 seconds.
sust rate from user(pps)	The sustained speed that packets are being received from the user in packets per second. The sampling period is 30 seconds.
sust rate to user(pps)	The sustained speed that packets are being sent to the user in packets per second. The sampling period is 30 seconds.
link online/active percent	The percentage of time that the data link was online and active during the last sampling period. The sampling period is 30 seconds.
ipv4 bad hdr	Indicates the number of IPv4 packets received with bad headers.
ipv4 ttl exceeded	Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session.
ipv4 fragments sent	Indicates the number of IPv4 packet fragments that were transmitted.
ipv4 could not fragment	Indicates the number of IPv4 packets that could not be fragmented.
ipv4 input acl drop	Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. **Note:** This counter may increment even if no ACL is configured.
ipv4 output acl drop	Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation.
ipv4 source violations	Indicates the number of IPv4 source validation violations.

Field	Description
ipv4 source violation no accounting	The IPv4 source validation violations that were detected but not included in the statistics.
ipv6 egress filtered	Enable IPv6 egress address filtering feature.
dormancy total	Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the session. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
handoff total	The total number of subscriber sessions handed off.
ipv4 icmp packets dropped	When hide service address is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped.
Total subscribers matching specified criteria	Displays the number of subscribers currently accessing the system that matched the criteria that was specified during the execution of this command.

show subscribers cscf-only full

Displays per-subscriber information for active sessions.

Table 610: show subscribers cscf-only full Command Output Descriptions

Field	Description
AoR	The address of record of the CSCF subscriber.
callid	The call ID of the active subscriber session.
Contact	The subscriber's contact information provided during registration.
Custom Features	If applicable, the custom feature tag set for the CSCF subscriber.
Card/CPU	The slot and CPU number of the Processing Card through which the session is being processed.
Sessmgr Instance	The session manager instance the active subscriber session is using.
Active TCP Connections	(P-CSCF only) The total number of open TCP connections with subscribers.
Transport of Last Received Msg	The transport method used for the last received message. Possible transport methods used are TCP or UDP.
Last Registration Timestamp	Last registration received for the subscriber, displayed in Universal Time Coordinated (UTC).
Registration expires after	The remaining duration of the subscriber registration.

Field	Description
State	The current state of the session.
Subscriber type	The subscriber type (home or visitor).
CSCF Service	The CSCF service the session is using.
CSCF Role	The role of the CSCF service.
Collapsed with access service	The access service with which the CSCF service is collapsed.
Access service callid	The call ID number of the access gateway integrated with the SCM.
AAA context	The AAA service to which the subscriber belongs.
AAA domain	The AAA domain to which the subscriber belongs.
AAA RADIUS group	The AAA RADIUS group to which the subscriber belongs.
RADIUS Auth Server IP	The RADIUS authentication server's IP address.
RADIUS Acct Server IP	The RADIUS accounting server's IP address. **Note:** When the RADIUS Accounting Mediation Device is configured, this field will NOT display the RADIUS accounting mediation server's IP address.
DIAMETER Policy Server	The IP address of the Diameter policy server.
DIAMETER Policy Session-Id	The ID of Diameter Policy External Control Application (DPECA) session created by P-CSCF for every subscriber to subscribe to registration path signaling with PCRF. If the diameter subscription fails at PCRF, diameter Policy session ID will be displayed as N/A. **Note:** This field is applicable only for P-CSCF.
DIAMETER Policy Subscription	The status of DPECA subscription. **Note:** This field is applicable only for P-CSCF.
DIAMETER Acct Server	The IP address of the Diameter accounting server.
Charging Function Address	The IP address of the charging function server.
PCSCF Path	The node path to the registrar. A "Path" field is only used for REGISTER messages and 200OK responses to REGISTER messages. This field contains either IP-address:port or fully-qualified-domain-name:port.
SCSCF Service Route	The path to the service proxy as returned by the registrar upon successful registration. This field contains either IP-address:port or fully-qualified-domain-name:port.
Current CSCF sessions	The number of CSCF sessions the subscriber currently has running.

Field	Description
Registration Set All public URIs registered by the subscriber. It includes a public URI that the user explicitly registers as well as associated URIs that get implicitly registered for the user by the S-CSCF node. In addition, call features that a public URI is subscribed to are also shown below each URI.	
AoR	The address of record of the CSCF subscriber.
Display Name	The display name for the CSCF subscriber.
Unsupported VoLTE	Displays TRUE or FALSE, as per information obtained through Unsupported-VoLTE AVP in SAA from HSS.
Loose Route	The loose route information for the CSCF subscriber.
Alias GroupId	Populated if alias indication feature is enabled on S-CSCF. HSS reports alias group ID.
Total PubUids	The total number of implicit registered users for the CSCF subscriber.
Shared IFC	Populated if Shared Initial Filter Criteria (SiFC) functionality is enabled on the CSCF.
Call Features Subscriber profile shows whether a subscriber has enabled local call features. Possible values are: • Disabled - Subscriber has disabled local call features; no associated local call features are displayed. • Enabled - Subscriber has enabled local call features; associated local call features are displayed.	
CID VSC OverRide	Indicates whether Caller ID Display Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber.
CID	Indicates whether Caller ID Display has been enabled (1) or disabled (0) by this subscriber.
CIDB VSC OverRide	Indicates whether Caller ID Display Blocked Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber.
CIDB	Indicates whether Caller ID Display Blocked has been enabled (1) or disabled (0) by this subscriber.
CW VSC OverRide	Indicates whether Call Waiting Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber.
CW	Indicates whether Call Waiting has been enabled (1) or disabled (0) by this subscriber.
CT VSC OverRide	Indicates whether Call Transfer Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber.
CT	Indicates whether Call Transfer has been enabled (1) or disabled (0) by this subscriber.
CFU VSC OverRide	Indicates whether Call Forward Unconditional Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber.

Field	Description
CFU	Indicates whether or not Call Forward Unconditional is enabled for the subscriber's session. If not, None will be displayed.
CFNA VSC OverRide	Indicates whether Call Forward No Answer Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber.
CFNA	Indicates whether or not Call Forward No Answer is enabled for the subscriber's session. If not, None will be displayed.
CFBL VSC OverRide	Indicates whether Call Forward Busy Line Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber.
CFBL	Indicates whether or not Call Forward Busy Line is enabled for the subscriber's session. If not, None will be displayed.
CFNR VSC OverRide	Indicates whether Call Forward Not Registered Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber.
CFNR	Indicates whether or not Call Forward Not Registered is enabled for the subscriber's session. If not, None will be displayed.
FollowMe VSC OverRide	Indicates whether Follow Me/Find Me Vertical Service Code Over Ride has been enabled (1) or disabled (0) by this subscriber.
FollowMe	Indicates whether or not Follow Me/Find Me is enabled for the subscriber's session. If not, None will be displayed.
Current CSCF Subscriptions	
Subscription id	The subscription ID.
Call-ID	The call identification number that uniquely identifies the subscriber.
Subscription Type	The subscription type.
Resource	The resource information.
Event Package	The associated event package. Possible event package types are: message-summary, presence, reg, and winfo.
Subscriber counters	
Call Attempts Tx	The total number of call attempts made by the subscriber for this session.
Call Attempts Rx	The total number of call attempts received by the subscriber for this session.
Call Successes Tx	The total number of calls successfully made by the subscriber for this session.
Call Successes Rx	The total number of successful calls received by the subscriber for this session.
Call Failures Tx	The total number of failed calls made by the subscriber for this session.
Call Failures Rx	The total number of call failures received by the subscriber for this session.

Field	Description
Call Release Attempts Tx	The total number of call release attempts made by the subscriber for this session.
Call Release Attempts Rx	The total number of call release attempts received by the subscriber for this session.
Call Release Successes Tx	The total number of call releases successfully made by the subscriber for this session.
Call Release Successes Rx	The total number of successful call releases received by the subscriber for this session.
Call Release Failures Tx	The total number of failed call releases made by the subscriber for this session.
Call Release Failures Rx	The total number of call release failures received by the subscriber for this session.
Subscription Attempts Tx	The total number of subscription attempts made by the subscriber for this session.
Subscription Attempts Rx	The total number of subscription attempts received by the subscriber for this session.
Subscription Successes Tx	The total number of subscriptions successfully made by the subscriber for this session.
Subscription Successes Rx	The total number of successful subscriptions received by the subscriber for this session.
Subscription Failures Tx	The total number of failed subscriptions made by the subscriber for this session.
Subscription Failures Rx	The total number of subscription failures received by the subscriber for this session.
Publish Attempts Tx	The total number of publish attempts made by the subscriber for this session.
Publish Attempts Rx	The total number of publish attempts received by the subscriber for this session.
Publish Successes Tx	The total number of publishes successfully made by the subscriber for this session.
Publish Successes Rx	The total number of successful publishes received by the subscriber for this session.
Publish Failures Tx	The total number of failed publishes made by the subscriber for this session.
Publish Failures Rx	The total number of publish failures received by the subscriber for this session.
Notification Attempts Tx	The total number of notification attempts made by the subscriber for this session.
Notification Attempts Rx	The total number of notification attempts received by the subscriber for this session.
Notification Successes Tx	The total number of notifications successfully made by the subscriber for this session.
Notification Successes Rx	The total number of successful notifications received by the subscriber for this session.
Notification Failures Tx	The total number of failed notifications made by the subscriber for this session.
Notification Failures Rx	The total number of notification failures received by the subscriber for this session.
Message Attempts Tx	The total number of message attempts made by the subscriber for this session.
Message Attempts Rx	The total number of message attempts received by the subscriber for this session.
Message Successes Tx	The total number of messages successfully made by the subscriber for this session.
Message Successes Rx	The total number of successful messages received by the subscriber for this session.

Field	Description
Message Failures Tx	The total number of failed messages made by the subscriber for this session.
Message Failures Rx	The total number of message failures received by the subscriber for this session.
Response 403 Tx	The total number of Response 403 transmitted.
Response 403 Rx	The total number of Response 403 received.
Response 408 Tx	The total number of Response 408 transmitted.
Response 408 Rx	The total number of Response 408 received.
Response 480 Tx	The total number of Response 480 transmitted.
Response 480 Rx	The total number of Response 480 received.
Response 481 Tx	The total number of Response 481 transmitted.
Response 481 Rx	The total number of Response 481 received.
Response 487 Tx	The total number of Response 487 transmitted.
Response 487 Rx	The total number of Response 487 received.
Response 488 Tx	The total number of Response 488 transmitted.
Response 488 Rx	The total number of Response 488 received.
Response 500 Tx	The total number of Response 500 transmitted.
Response 500 Rx	The total number of Response 500 received.
PDF Call Rejects	The total number of times the subscriber initiated a call through the P-CSCF but the policy decision function (PDF) rejected it.
Local Call Rejects	The total number of local call rejects (by the P-CSCF) for this subscriber.
Emergency Calls	The total number of emergency calls made by this subscriber during this session.
Operator-assistance Calls	The total number of operator-assisted calls made by this subscriber during this session.
Tollfree Calls	The total number of toll-free calls made by this subscriber during this session.
Directory-assistance Calls	The total number of directory assisted calls made by this subscriber during this session.
Premium Calls	The total number of premium service calls made by this subscriber during this session.
International Calls	The total number of international calls made by this subscriber during this session.
LongDistance Calls	The total number of long distance calls made by this subscriber during this session.
Session Timer Expires	The total number of session timer expirations occurring during this session.

show subscribers data-rate

Use this command to view data rates for a subscriber.

Note Data rates are transient for some time (2 minutes) after the ICSR SRP switchover

peak rate from user(bps)	The peak data rate in bits per second is obtained for data that are sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
peak rate to user(bps)	The peak data rate in bits per second is obtained for data that are received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(bps)	The average data rate in bits per second that is obtained for data that are sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
ave rate to user(bps)	The average data rate in bits per second is obtained for data that are received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(bps)	The mean data rate in bits per second is obtained for data that is sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds.
sust rate to user(bps)	The mean data rate in bits per second is obtained for data that are received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
peak rate from user(pps)	The speed that packets are received from the user in packets per second. The sampling period is 30 seconds.
peak rate to user(pps)	The speed at which the packets are sent to the user in packets per second. The sampling period is 30 seconds.
ave rate from user(pps)	The average speed at which the packets are received from the user in packets per second. The sampling period is 30 seconds.
ave rate to user(pps)	The average speed that packets are being sent to the user in packets per second. The sampling period is 30 seconds.
sust rate from user(pps)	The sustained speed at which the packets are received from the user in packets per second. The sampling period is 30 seconds.
sust rate to user(pps)	The sustained speed at which the packets are sent to the user in packets per second. The sampling period is 30 seconds.

show subscribers enodeb-address

Table 611: show subscribers enodeb-address Command Output Descriptions

Field	Description
vvvvv	Displays service and session state information. This column provides a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using. See
	The second character represents the **Access Technology**. See
	The third character represents the **Call State**. See
	The fourth character represents the **Access CSCF Status** of the session. The possible network types are: **A** - Attached **N** - Not Attached **.** (period) - Not Applicable
	The fifth character represents the **Link Status** of the session. The possible idle states are: **A** - Online/Active **D** - Dormant/Idle
	The sixth character represents the session **Network Type**. See
CALLID	Displays the subscriber's call identification (callid) number.
MSID	Displays the subscriber's mobile station identification (MSID) number.
USERNAME	Displays the subscriber's username.
IP	Displays the IP address assigned to the subscriber.
TIME-IDLE	Displays the amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers firewall required

Table 612: show subscribers firewall required Command Output Descriptions

Field	Description
vvvvvv	Displays service and session state information. This column provides a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using. See
	The second character represents the **Access Technology**. See
	The third character represents the **Call State**. See
	The fourth character represents the **Access CSCF Status** of the session. The possible network types are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
	The fifth character represents the **Link Status** of the session. The possible idle states are: - **A**: Online/Active - **D**: Dormant/Idle **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
	The sixth character represents the session **Network Type**. See
CALLID	Displays the subscriber's call identification (callid) number.
MSID	Displays the subscriber's mobile station identification (MSID) number.
USERNAME	Displays the subscriber's username.
IP	Displays the IP address assigned to the subscriber.
TIME-IDLE	Displays the amount of time that the subscriber session has been idle either in an active or dormant state.
Total subscribers matching specified criteria	Total number of subscribers with firewall enabled.

show subscribers full all

Table 613: show subscribers full all Command Output Descriptions

Field	Description
Username	The subscriber name.
Status	Indicates the session status.
Access Type	Indicates the session type for this subscriber. See **Common Attributes** in this chapter.
Network Type	Indicates the network service used for the subscriber session. See **Common Attributes** in this chapter.
Access Tech	Indicates the accessing technology. See **Common Attributes** in this chapter.
callid	The subscriber's call identification number (callid).
msid	The subscriber's mobile station identification (MSID).
WLAN UE Identifier	The UE identifier — MAC address in ASCII format (upper case only), with octet values separated by hyphens.
WLAN AP Identifier	The UE's access point identifier — Location Area Code Cell Identity (LAC_CI) that is, Location Area Code (LAC) and Cell Id (CI) separated by an underscore.
EAP-TYPE	The Extensible Authentication Protocol type.
Card/Cpu	The card and CPU ID.
Sessmgr Instance	The session manager instances.
state	The session state. The possible values are: - Connected - Connecting - Disconnecting - Unknown
PCF address	IP address of the PCF.
Peer address	IP address of peer system in network.
BS/PA address	Indicates the IP address of base station or paging agent.
idle time	The time period that the subscriber session has been idle, either in an active or dormant state.
idle time left	The idle time period left before timeout.
session time left	The session time left for the subscriber.

Field	Description
long duration time left	Indicates how much time is left for the maximum duration of a specified subscriber session.
long duration action	The setting for the action to take when the long duration timer expires. The possible values are: • Detection - Detect and send SNMP trap and CORBA notification only. • Disconnection - Disconnect the session and send SNMP trap and CORBA notification.
context-retention timer running	Indicates whether context-retention timer is running.
context-retention time left	Indicates time remaining.
always on	Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature enabled.
ip address	Indicates the primary IP address of the subscriber interface in the session. In WiMAX session this is the primary IP address of WiMAX CPE, if multiple host support enabled.
ue mac	The UE's MAC.
Default Gateway	The default gateway IP address.
Multiple Hosts	Specifies the multiple IP host support enabled or disabled for a WiMAX session. It also indicates the connected hosts behind a WiMAX CPE and their allocated IP address with secondary IP pool name.
home-agent	The name of the HA for this subscriber.
fa-service-name	The name of the FA service for this subscriber.
ip pool name	The IP address pool or group to use for subscriber IP address allocation.
local ip addr	The local IP address of the interface in the session.
source context	The name of a configured source context from which the subscriber initiates a session.
destination context	The name of a configured destination context through which the subscriber is provided access to the packet data network.
ip header compression	The header compression method being used.
ROHC cid-mode (local/remote)	Robust Header Compression mode for the bidirectional channel: [small | large | na].
ROHC max-cid (local/remote)	For Robust Header Compression, indicates the maximum value of a context identifier.
ROHC mrru (local/remote)	For Robust Header Compression, indicates the maximum reconstructed reception unit.

Field	Description
ROHC max-hdr (local/remote)	For Robust Header Compression, the largest header size in octets that may be compressed.
ROHC profile	Robust Header Compression profile ID as per RFC3095 for the bidirectional channel.
AAA context	The context in which the AAA service is configured.
AAA domain	The domain in which the AAA service is configured.
AAA start count	The number of accounting start messages sent to the accounting server for the subscriber session.
AAA stop count	The number of accounting stop messages sent to the accounting server for the subscriber session.
AAA interim count	The number of accounting interim messages sent to the accounting server for the subscriber session.
Acct-session-id	Identifies a subscriber session or PDP context and sends the information to RADIUS server. In Release 14.0 and later, this field will be displayed in both 3GPP and CDMA formats.
Mediation-acct-session-id	Identifies a subscriber session or PDP context and sends the information to mediation server. This field will be displayed in both 3GPP and CDMA formats.
AAA RADIUS group	The AAA RADIUS server group assigned to specific subscriber for AAA functionality.
AAA RADIUS Secondary group	If the secondary Accounting group is configured in the Subscriber configuration, this field displays the corresponding group name. Otherwise, it displays *n/a*.
RADIUS Auth Server IP	The RADIUS authentication server's IP address.
RADIUS Acct Server IP	The RADIUS accounting server's IP address. When the RADIUS Accounting Mediation Device is configured, this field will not display the RADIUS accounting mediation server's IP address.
NAS IP Address	The Network Access Server's (NAS) IP address.
Nexthop IP Address	The IP address of configured next-hop-forwarding-address in RADIUS attribute, subscriber configuration, or IP pool configuration.
GTPP Group	Displays all the configured GTPP server groups associated with this APN. **Note:** This field only appears if the Accounting Mode is GTPP.
Acct Context	Specifies the name of all configured GTPP accounting contexts associated with this APN. **Note:** This field only appears if the Accounting Mode is GTPP.

Field	Description
Authentication Mode	The authentication mode. Possible modes are: - None - User (Single EAP) - Device (Single EAP) - Device-User (Double EAP) - Device-User (Single EAP)
Authentication Type	The authentication type.
EAP-Type	The type of EAP authentication. Possible types are: - EAP-Pre-shared Key (EAP-PSK) - EAP-Transport Layer Security (EAP-TLS) - EAP-Tunneled Transport Layer Security (EAP-TTLS) - EAP-Authentication and Key Agreement (EAP-AKA)
Client Type	The type of client, which can be Regular or Data. Identifies whether the client is a regular client, which includes voice, or a data client, which is data only.
active input acl	The active Access Control List (ACL) for input.
active output acl	The active Access Control List (ACL) for output.
active input ipv6 acl	The active IPv6 Access Control List (ACL) for input.
active output ipv6 acl	The active IPv6 Access Control List (ACL) for output.
ECS Rulebase	The rulebase applicable for this subscriber when Enhanced Charging Service/Active Charging Service is enabled.
CBB-Policy	The CBB policy associated with the subscriber.
Bandwidth-Policy	The bandwidth policy associated with the subscriber.
Firewall-and-NAT Policy	Displays the Firewall-and-NAT policy name.
Firewall Policy IPv4	Indicates whether IPv4 firewall is enabled for the subscriber.
Firewall Policy IPv6	Indicates whether IPv6 firewall is enabled for the subscriber.
NAT Policy NAT44	Indicates whether NAT44 is enabled or disabled for the subscriber.
NAT Policy NAT64	Indicates whether NAT64 is enabled or disabled for the subscriber.
NAT Policy	Indicates whether NAT is enabled for the subscriber.

Field	Description
NAT Realm	The NAT realms associated with the subscriber. **Note:** In 15.0 and later releases, the **NAT Realm** field will be displayed only when IP is assigned, and removed again when IP is released.
NAT IP address	The NAT IP address allocated from the NAT realm.
(on-demand/not-on-demand)	If the NAT realm type is "on-demand" (where NAT IP allocation happens when the very first packet is received from the subscriber for that realm) it is indicated.
(<pool_name>)	If a NAT IP pool group is used, it indicates the NAT pool from which the IP is allocated.
Nat port chunks allocated[start - end]	The NAT port range allocated to the subscriber.
CF Policy ID	The Category-based Content Filtering Policy ID associated with the subscriber.
TPO Policy	**Note:** The Traffic Performance Optimization (TPO) in-line service is not supported in this release.
active input plcy grp	The active input policy group for traffic flow.
active output plcy grp	The active output policy group for traffic flow.
MIPFA Sessions	The status of Mobile IP FA sessions.
Layer 3 tunneling	Indicates if Layer 3 tunneling is enabled.
dhcp-service name	The DHCP service name.
dhcp-server address	The DHCP server address.
prepaid status	Indicates if prepaid status is on or off.
external inline srvr processing	Indicates if external inline server processing is on or off.
Proxy DNS Intercept List	The proxy DNS intercept list used for the subscriber.
access-link ip-frag	Configures IP fragmentation processing over the Access-link.
ignore DF-bit data-tunnel	Indicates if whether during Mobile IP tunneling, the DF bit is not ignored and packets are not fragmented.
MIP grat-ARP mode	Indicates if gratuitous ARPs are sent out for an HA session upon handoff and renewal requests.
Downlink traffic-policing	Indicates if traffic policing is enabled for the downlink direction.
Uplink traffic-policing	Indicates if traffic policing is enabled for the uplink direction.
Downlink traffic-shaping	Indicates if traffic shaping is enabled for downlink direction.
Uplink traffic-shaping	Indicates if traffic shaping is enabled for uplink direction.

Field	Description
Radius Accounting Mode	Indicates if the RADIUS accounting mode is either session-based or access-flow-based.
cscf-service name	The CSCF service name.
cscf registration AoR	The CSCF registered AoR.
3GPP User Location Info:	
TAI	Displays the total number of Tracking Area Identity (TAI) for Mobile Country Code (MCC), Mobile Network Code (MNC) , and the Tracking Area Code (TAC).
ECGI	Displays the total number of ECGI for Mobile Country Code (MCC), Mobile Network Code (MNC) , and the Tracking Area Code (TAC).
5GS TAI	Displays the total number of 5GS TAI.
NCGI	Displays the New Radio Cell Global Identity (NCGI) for MCC, MNC, and New Radio Cell Identity (NCI).
apn	The Access Point Name associated with the subscriber.
nsapi	The subscriber's Network Service Access Point Identifier (NSAPI).
imsi	The subscriber's International mobile Subscriber Identity.
MSISDN	The Mobile Station International ISDN Number (MSISDN) of the subscriber node.
remote-ip-addr	The assigned remote IP address.
imei(sv)	The UE's MAC address with FFFE appended at the end.
uli	Displays the access point's identity.
mcc	The Mobile Country Code.
mnc	The Mobile Network Code.
lac	The Location Area Code, which identifies a location area.
ci	The Cell ID, which identifies a cell within a location area.
input pkts	Indicates the number of packets received.
output pkts	Indicates the number of packets transmitted.
input bytes	Indicates the number of bytes received.
output bytes	Indicates the number of bytes transmitted.
input bytes dropped	Indicates the number of bytes that were dropped while receiving data for this subscriber session.

Field	Description
output bytes dropped	Indicates the number of bytes that were dropped while transmitting data for this subscriber session.
input pkts dropped	Indicates the number of packets that were dropped while receiving data for this subscriber session.
output pkts dropped	Indicates the number of packets that were dropped while transmitting data for this subscriber session. This field includes packets blocked by Access Control Lists (ACLs). Do not use this figure when computing the total number of output packets.
input pkts dropped due to zero mbr	Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
output pkts dropped due to zero mbr	Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
pk rate from user(bps)	The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
pk rate to user(bps)	The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(bps)	The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
ave rate to user(bps)	The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(bps)	The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds.
sust rate to user(bps)	The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
pk rate from user(pps)	The peak data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
pk rate to user(pps)	The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(pps)	The average data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.

Field	Description
ave rate to user(pps)	The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(pps)	The mean data rate, in packets per second, obtained for data sent from the subscriber tot he network during the last three sampling periods. The sampling period is 30 seconds.
sust rate to user(pps)	The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
link online/active percent	The percentage of time that the data link was online and active during the last sampling period.
ipv4 bad hdr	Indicates the number of IPv4 packets received with bad headers.
ipv4 ttl exceeded	Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session.
ipv4 fragments sent	Indicates the number of IPv4 packet fragments that were transmitted.
ipv4 could not fragment	Indicates the number of IPv4 packets that could not be fragmented.
ipv4 input acl drop	Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. This counter may increment even if no ACL is configured.
ipv4 output acl drop	Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation.
ipv4 input css down drop	Indicates the number of input packets dropped because the CSS service is yet not up or the service went down.
ipv4 output css down drop	Indicates the number of output packets dropped because the CSS service is yet not up or the service went down.
ipv4 output xoff pkts drop	Indicates the number of packets dropped because of flow control.
ipv4 output xoff bytes drop	Indicates the number of bytes dropped because of flow control.
input pkts dropped (0 mbr)	The total number of input packets dropped when a 0 MBR is received in a UPC (Update PDP Context Request) indicating that the UE is out of radio coverage.
output pkts dropped (0 mbr)	The total number of output packets dropped when a 0 MBR is received in a UPC (Update PDP Context Request) indicating that the UE is out of radio coverage.
output pkts dropped lorc	The total number of packets dropped due to a UE loss of radio coverage condition. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.

Field	Description
ipv4 source violations	Indicates the number of IPv4 source validation violations.
ipv4 proxy-dns redirect	The number of foreign DNS request packets intercepted and redirected to the home DNS for the subscriber.
ipv4 proxy-dns pass-thru	The number of foreign DNS request packets allowed through the intercept filter for the subscriber.
ipv4 proxy-dns drop	The number of foreign DNS request packets not matching either redirect or pass-thru rules for the subscriber.
ip source violations no acct	The IP source validation violations that were detected but not included in the statistics.
ip source violations ignored	The IP source validation violations that were detected but then ignored.
ipv4 output no-flow drop	The number of IP packets not matching traffic classifier and dropped for the subscriber.
ip source violations active	The total number of IP source validation violations.
ipv6 source violations	The number of IPv6 source validation violations.
ipv6 source violations no acct	The IPv6 source validation violations that were detected but not included in the statistics.
ipv6 source violations ignored	The IPv6 source validation violations that were detected but then ignored.
ipv6 source violations active	The total number of active IPv6 source validation violations.
dormancy total	Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the session.
handoff total	The total number of subscriber sessions handed off.
ipv4 icmp packets dropped	When hide service address is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped.
Access-flows	The total number of matching access-flows. For flow-based service subscribers it provides information on access flow id, packet data flow id, service data flow id, type of access flow, QoS policy name, and direction of flow.
CAE Server Address	The IPv4 address of the CAE serving the subscriber.
Total subscribers matching specified criteria	The total number of subscribers matching the specified criteria.

show subscribers full username

Table 614: show subscribers full username Command Output Descriptions

Field	Description
Username	Specifies the name of the subscriber.
Status	Indicates the status of the subscriber's session. The status can be Online/Active or Offline/Dormant/Idle. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
Access Type	Indicates the session type for this subscriber. See
Network Type	Indicates the network service used for the subscriber session. See
Access Tech	Indicates Accessing Technology. See
BSID	Displays the ASN base station identifier (MAC address).
callid	Displays the subscriber's call identification number (callid).
msid	Displays the subscriber's mobile station identification (MSID).
3GPP2 Carrier ID	Unique identifier for the carrier.
3GPP2 ESN	Electronic Serial Number of the mobile handset.
Card/Cpu	Indicates the ID of Card and CPU.
Sessmgr Instances	Displays the session manager instances.
state	Indicates the status of session. The possible status are: - Connected - Connecting - Disconnecting - Unknown
PCF address	Specifies the IP address of PCF in decimal notation.
connect time	Displays the time of connection starts.
call duration	Specifies total duration of call session in hh:mm:ss format
idle time	Displays the amount of time that the subscriber session has been idle either in an active or dormant state.
idle time left	Shows the amount of idle time left before timeout.

Field	Description
session time left	How much session time is left for the specified subscriber.
long duration time left	Shows how much time is left for the maximum duration of a specified subscriber session.
long duration action	Shows the setting for the action to take when the long duration timer expires. The possible values for this are: • Detection - Detect and send SNMP trap and CORBA notification only. • Disconnection - Disconnect the session and send SNMP trap and CORBA notification.
always on	Session Update message was sent to the PCF to notify the PCF that the subscriber has the Always On feature enabled.
ip address	The IP address of the interface in the session.
Primary DNS Address	The primary DNS address of the interface in the session.
Secondary DNS Address	The secondary DNS address of the interface in the session.
home-agent	The IP address of the mobile IP user's home agent.
pdsn-service name	The PDSN service that is running this session and the context name of the PDSN-service with the service-name.
fa-service name context	The FA service that is running this session and the context name of the FA-service with the service-name for a MIP call.
ggsn-service name	The GGSN service that is running this session and the context name of the GGSN-service with the service-name.
source context	Specifies the name of a configured source context from which the subscriber initiates a session.
destination context	Specifies the name of a configured destination context through which the subscriber is provided access to the packet data network.
ip header compression: (loc to rem) vj, (rem to loc) vj	This specifies what header compression method is being used.
ROHC max-cid (local/remote)	For Robust Header Compression, indicates the maximum value of a context identifier.
ROHC mrru (local/remote)	For Robust Header Compression, indicates the maximum reconstructed reception unit.
ROHC max-hdr (local/remote)	For Robust Header Compression, the largest header size in octets that may be compressed.
AAA context	The context in which the AAA service is configured.
AAA domain	The domain in which the AAA service is configured.
AAA start count	The number of accounting start messages sent to the accounting server for the subscriber session.

Field	Description
AAA stop count	The number of accounting stop messages sent to the accounting server for the subscriber session.
AAA interim count	The number of accounting interim messages sent to the accounting server for the subscriber session.
Acct-session-id	Identifies a subscriber session or PDP context.
AAA RADIUS group	Indicates the group of AAA RADIUS server assigned to specific subscriber for AAA functionality.
RADIUS Auth Server IP	The RADIUS authentication server's IP address.
RADIUS Acct Server IP	The RADIUS accounting server's IP address. When the RADIUS Accounting Mediation Device is configured, this field will NOT display the RADIUS accounting mediation server's IP address.
NAS IP Address	IP address of Network Access Server (NAS).
Nexthop IP Address	IP address of configured next-hop-forwarding-address in RADIUS attribute, subscriber configuration, or IP pool configuration.
Authentication Mode	The authentication mode. Possible modes are: - None - User (Single EAP) - Device (Single EAP) - Device-User (Double EAP) - Device-User (Single EAP)
Authentication Type	The authentication type.
EAP-Type	The type of EAP authentication. Possible types are: - EAP-Pre-shared Key (EAP-PSK) EAP-Transport Layer Security (EAP-TLS) EAP-Tunneled Transport Layer Security (EAP-TTLS) EAP-Authentication and Key Agreement (EAP-AKA)
Client Type	The type of client, which can be Regular or Data. Identifies whether the client is a regular client, which includes voice, or a data client, which is data only.
active input acl	Specifies active Access Control List (ACL) for input.
active output acl	Specifies active Access Control List (ACL) for output.
ECS Rulebase	Specifies applicable Rulebase for this subscriber when ECS is enabled.

Field	Description
active input plcy grp	Specifies active input policy group for traffic flow.
active output plcy grp	Specifies active output policy group for traffic flow.
MIPHA Session	
Care-of-Address	The IP address of the device terminating the tunnel to the mobile node. The address may belong to either a Foreign Agent that is facilitating the subscriber's Mobile IP session or another device that the mobile node is associated (co-located) with.
Home-Address	The IP address assigned to the subscriber's mobile node for the duration of the session.
HA-Address	The IP address of the Home Agent that is facilitating the subscriber's Mobile IP session.
Lifetime	The accepted lifetime interval for this session.
Remaining Life	The amount of time that remains after which the session expires and is torn down.
Reverse Tunneling On	Displays whether or not reverse tunneling is enabled for the subscriber's session.
Encapsulation Type	The encapsulation method used for the subscriber's session.
GRE Key	The key that uniquely identifies the subscriber session when the Generic Routing Encapsulation (GRE) protocol Encapsulation Type.
IPSec Required	Indicates whether or not IPSec is required for the subscriber Mobile IP session.
IPSec Ctrl Tunnel Estab.	If IPSec is required for the session, this field indicates whether or not the control tunnel has been established.
IPSec Data Tunnel Estab.	If IPSec is required for the session, this field indicates whether or not the data tunnel has been established.
Revocation Negotiated	Indicates whether or not MIP Registration Revocation was negotiated between the FA and the HA for this subscriber session. Possible values are: No or yes.
Revocation I bit Negotiated	Indicates whether or not the Revocation I bit was negotiated. Possible values are: No or Yes.
Collocated COA	Indicates whether or not the subscribers that registered a MIP collocated COA directly with the HA. Options are No or Yes.
NAT Detected	Indicates whether or not network address translation (NAT) is detected.Options are No or Yes.
MN-HA-Key-Present	The security parameter index (SPI) key is used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of mobile node (MN) - home agent (HA) key. Options are True or False.
MN-HA-SPI	Mobile node (MN) - home agent (HA) security parameter index (SPI).

Field	Description
FA-HA-Key-Present	The SPI key is used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of the FA - HA key. Options are True or False.
FA-HA-SPI	FA - HA security parameter index (SPI).
MN-FA-Key-Present	The SPI key is used to verify a trusted host environment and that communications are to be established between known hosts. Checks for presence of the MN - FA key. Options are True or False.
MN-FA-SPI	MN - FA security parameter index (SPI).
Layer 3 tunneling	Indicates if Layer 3 tunneling is enabled.
prepaid status	Indicates if prepaid status is on or off.
external inline srvr processing	Indicates if external inline server processing is on or off.
IPv6 Egress address filtering	Enable IPv6 egress address filtering feature.
IPv6 DNS Proxy	Enables/Disables the domain name server proxy for the current session.
Proxy DNS Intercept List	Identifies the proxy DNS intercept list used for the subscriber.
access-link ip-frag	Configures IP fragmentation processing over the Access-link.
ignore DF-bit data tunnel	Use this command to configure a user so that during Mobile IP tunneling the DF bit is not ignored and packets are not fragmented.
MIP grat-ARP mode	Indicates if gratuitous ARPs are sent out for an HA session upon handoff and renewal requests.
Downlink traffic-policing	Shows if traffic policing is enabled for the downlink direction.
Uplink traffic-policing	Shows if traffic policing is enabled for the uplink direction.
input pkts	Indicates the number of packets received.
output pkts	Indicates the number of packets transmitted.
input bytes	Indicates the number of bytes received.
output bytes	Indicates the number of bytes transmitted.
input bytes dropped	Indicates the number of bytes that were dropped while receiving data for this subscriber session.
output bytes dropped	Indicates the number of bytes that were dropped while transmitting data for this subscriber session.
input pkts dropped	Indicates the number of packets that were dropped while receiving data for this subscriber session.

Field	Description
output pkts dropped	Indicates the number of packets that were dropped while transmitting data for this subscriber session. This field includes packets blocked by Access Control Lists (ACLs). Do not use this figure when computing the total number of output packets.
input pkts dropped due to zero mbr	Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
output pkts dropped due to zero mbr	Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
pk rate from user(bps)	The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
pk rate to user(bps)	The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(bps)	The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
ave rate to user(bps)	The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(bps)	The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds.
sust rate to user(bps)	The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
pk rate from user(pps)	The peak data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
pk rate to user(pps)	The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(pps)	The average data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
ave rate to user(pps)	The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(pps)	The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.

Field	Description
link online/active percent	The percentage of time that the data link was online and active during the last sampling period. The sampling period is 30 seconds.
ipv4 bad hdr	Indicates the number of IPv4 packets received with bad headers.
ipv4 ttl exceeded	Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session.
ipv4 fragments sent	Indicates the number of IPv4 packet fragments that were transmitted.
ipv4 could not fragment	Indicates the number of IPv4 packets that could not be fragmented.
ipv4 input acl drop	Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. **Note:** This counter may increment even if no ACL is configured.
ipv4 output acl drop	Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation.
ipv4 input css down drop	Indicates the number of input packets dropped because the CSS service is yet not up or the service went down.
ipv4 output css down drop	Indicates the number of output packets dropped because the CSS service is yet not up or the service went down.
ipv4 output xoff pkts drop	Indicates the number of packets dropped because of flow control.
ipv4 output xoff bytes drop	Indicates the number of bytes dropped because of flow control.
ip source violations	Indicates the number of IPv4 source validation violations.
ipv6 egress filtered	Enable IPv6 egress address filtering feature.
ipv4 proxy-dns redirect	The number of foreign DNS request packets intercepted and redirected to the home DNS for the subscriber.
ipv4 proxy-dns pass-thru	The number of foreign DNS request packets allowed through the intercept filter for the subscriber.
ipv4 proxy-dns drop	The number of foreign DNS request packets not matching either redirect or pass-thru rules for the subscriber.
ip source violations no accounting	The IP source validation violations that were detected but not included in the statistics.
ip source violations ignored	The IP source validation violations that were detected but then ignored.
dormancy total	Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the session. **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.

Field	Description
handoff total	The total number of subscriber sessions handed off.
ipv4 icmp packets dropped	When hide service address is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped.
Access-flows	The total number of matching access-flows.

show subscribers ggsn-only

Table 615: show subscribers ggsn-only Command Output Descriptions

Field	Description
Total Subscribers	Total number of subscribers registered on system for GGSN service session.
TotalPDP contexts	Total number of PDP contexts registered on the system for GGSN service session.
Total MBMS-UE contexts	Total number of MBMS-UE contexts registered on the system for GGSN service session.
pdp-type-ipv4	Total number of PDP contexts of IPv4 type registered on the system for GGSN service session.
pdp-type-ppp	Total number of PDP contexts of PPP type registered on the system for GGSN service session.
pdp-type-ipv6	Total number of PDP contexts of IPv6 type registered on the system for GGSN service session.
mbms-ue-type-ipv4	Total number of MBMS-UE contexts of IPv4 type registered on the system for GGSN service session.
ip-type-static	Total number of MS, having static IP allocation, registered with GGSN service session on this system.
ip-type-local-pool	Total number of MS, having IP allocation from local IP pool, are registered with GGSN service session on this system.
ip-type-aaa-ip	Total number of MS, having IP allocation from AAA server, are registered with GGSN service session on this system.
ip-type-dhcp-proxy	Total number of MS, having IP allocation through DHCP-proxy, are registered with GGSN service session on this system.
ip-type-dhcp-relay	Total number of MS, having IP allocation through DHCP-relay, are registered with GGSN service session on this system.
ip-type-unknown	Total number of MS, having IP allocation through unknown method, are registered with GGSN service session on this system.

Field	Description
ip-type-no-alloc	Total number of MS, having no IP allocation, are registered with GGSN service session on this system. Generally IP allocation for a Multicast session of this type.
ip-type-static-nrpca	Total number of MS, having static IP allocation through network requested PDP context activation, are registered with GGSN service session on this system.
in bytes dropped	Total number of bytes dropped in downlink (from PDN) direction for GGSN service session on the system.
out bytes dropped	Total number of bytes dropped in uplink (to PDN) direction for GGSN service session on the system.
in packet dropped	Total number of packets dropped in downlink (from PDN) direction for GGSN service session on the system.
out packet dropped	Total number of packets dropped in uplink (to PDN) direction for GGSN service session on the system.
in packet dropped due to zero mbr	Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
out packet dropped due to zero mbr	Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
out packet dropped due to lorc	Indicates the number of packets that were dropped while UE was out of coverage area or radio coverage was lost for a subscriber. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.
ipv4 ttl exceeded	Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session.
ipv4 bad hdr	Indicates the number of IPv4 packets received with bad headers.
ipv4 bad length trim	Indicates the number of IPv4 packets received with bad trimming of packet length.
ipv4 frag failure	Indicates the number of IPv4 packet fragments that were transmitted.
ipv4 frag sent	Indicates the number of IPv4 packets that could not be fragmented.
ipv4 in-acl dropped	Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. This counter may increment even if no ACL is configured.

Field	Description
ipv4 out-acl dropped	Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation.
ipv6 bad hdr	Indicates the number of IPv6 packets received with bad headers.
ipv6 bad length trim	Indicates the number of IPv6 packets received with bad trimming of packet length.
ipv6 in-acl dropped	Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. This counter may increment even if no ACL is configured.
ipv6 out-acl dropped	Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation.
ipv4 in-css-down dropped	Indicates the number of input packets dropped because the CSS service is yet not up or the service went down.
ipv4 out-css-down dropped	Indicates the number of output packets dropped because the CSS service is yet not up or the service went down.
ipv4 early pdu rcvd	The current total number of early IP packet data units (PDUs) received.
ipv4 icmp packets dropped	Indicates the total number of IPv4 ICMP packets dropped for GGSN service on this system. When **hide service address** is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped.
dormancy count	Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the GGSN session on this system.
handoff count	The total number of subscriber sessions handed off for GGSN service on this system.
Bearer not ready	Indicates the total number of instances when bearer was not ready and data received for session.
output bytes dropped	Indicates the cumulative number of bytes dropped for all GGSN subscriber session on this system.
output pkts dropped	Indicates the cumulative number of bytes dropped for all GGSN subscriber session on this system.
ggsn preservation mode	Indicates whether "Preservation-Mode" is enabled or not. Note that this is a customer-specific feature and may not be available for other users.
Direct Tunnel Bearers	Indicates total number of bearer contexts active for direct tunnel support for SGSN with this GGSN service on system.

Field	Description
ggsn LORC state	Indicates the number of session where overcharging protection is enabled due to loss of radio coverage. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.

show subscribers ggsn-only all

Table 616: show subscribers ggsn-only all Command Output Descriptions

Field	Description
vvvvvvv	Displays service and session state information. This column provides a code consisting of seven characters.
	From left-to-right, the first character represents the **Network Type** that the subscriber is using. See
	The second character represents the network **Access Tech** that the subscriber is using. See
	The third character represents the **Call State**. See
	The fourth character (ggsn-only output) represents the **Traffic Class**. The possible traffic classes are: - **C**: Conversational - **S**: Streaming - **B**: Background - **1**: Interactive 1 - **2**: Interactive 2 - **3**: Interactive 3 - **x**: Not Applicable
	The fifth character represents the **Network Type** of the session. See
	The sixth character (**ggsn-only** output) represents the **PLMN** of the session. The possible network types are: - **H**: Home - **V**: Visiting - **R**: Roaming - **u**: Unknown
	The seventh character (**ggsn-only** output) represents the **Emergency Bearer Type** of the session. The possible emergency bearer types are: - **A**: Authentic IMSI - **U**: Un-Authentic IMSI - **O**: Only IMEI - **N**: Non-Emergency
CALLID	Displays the subscriber's call identification (callid) number.

Field	Description
IMSI/IMEI	Displays the International Mobile Subscriber Identity (IMSI) number (ggsn-only output) if the Emergency Bearer Type is Authentic IMSI and/or Non-Emergency. If the Emergency Bearer Type is Un-Authentic IMSI and/or Only IMEI, the International Mobile Equipment Identity (IMEI) number is displayed.
NSAPI	Displays the Network Service Access Point Identifier (ggsn-only output).
Address type	Displays the Address type (ggsn-only output) for the subscriber's session. The possible address types are: - **S**: Static (Subscriber Supplied) - **L**: Local pool - **RA**: RADIUSAAA - assigned - **d**: via DHCP proxy - **D**: via DHCP relay - **u**: Unknown
IP	Displays the IP address assigned to the subscriber.
APN	Displays the Access Point Name for the session (ggsn-only output).
Gn-APN	Displays the APN that comes in CPC. If there is no virtual-apn resolution, both Gi & Gn APN are the same.
Gi-APN	Displays the APN finally selected by the GGSN based on the virtual-apn configuration. If there is no virtual-apn resolution, both Gi & Gn APN are the same.
TIME-IDLE	Displays the amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers ggsn-only full

Table 617: show subscribers ggsn-only full Command Output Descriptions

Field	Description
Username	The name of the subscribers using GGSN service.
Status	Indicates the session status. Possible status are: - Online/Active - Offline/Inactive
Access Type	Indicates the session type for this subscriber. See Access Types, on page 2225.

Field	Description
Network Type	Indicates the network service used for the subscriber session. See Network Types, on page 2228.
Access Tech	Indicates the accessing technology. See Access Technologies, on page 2227.
Access Network Peer ID	Indicates the identifier of the peer in access network.
callid	The subscriber's call identification number (callid).
imsi	The subscriber's International mobile station identification (IMSI).
state	The session state. The possible values are: - Connected - Connecting - Disconnecting - Unknown
SGSN cntl address	IP address of SGSN system in network for control messages.
SGSN data address	IP address of SGSN system in network for data traffic messages.
Protocol User Name	User name of protocol.
MSISDN	The Mobile Station International ISDN Number of subscriber node.
Emergency Bearer Type	Bearer type set as emergency. Possible values are: - Only IMEI - Authentic IMSI - Un-Authentic IMSI In case of the non-emergency bearer type, the value displayed is N/A.
connect time	The time of connection of this subscriber.
call duration	Duration of call session.
idle time	Duration of idle status of call session, when no activity detected for this session.
IMEI(SV)	International mobile equipment identification- software version of connected subscriber.
SGSN-MCC-MNC	Mobile country code (MCC) and mobile network code (MNC) of SGSN connected for this call.

Field	Description
ULI	Indicates the user location information. The possible values are: - CELL ID • MCC: Mobile Country Code • MNC: Mobile Network Code • LAC: Location Area Code • CI: Cell Identity -Absent
SGSN RAI	Indicates the Routing Area Identity (RAI) of the SGSN connected to this call. The possible values are: - MCC - MNC - Unknown
Gi-APN	Access point name used for this session on Gi interface, towards PDN.
NSAPI	Identifier for Network Service Access Point (NSAP) index.
Gn-APN	Access point name used for this session on Gn interface, in network side between GSNs.
S6b Returned Virtual APN	Displays the S6b returned full virtual APN name, if the Virtual APN Truncation feature is enabled. Otherwise, it displays 'n/a'. For more information on this feature, see the *Rf Interface Support* chapter in the administration guide of the product you are deploying.
Restoration priority level	Identifies the restoration priority value associated with the PND connection.
Total subscribers matching specified criteria	Identifies the total number of subscribers matching criteria for restoration priority value associated with the PND connection.
IMS Auth Service	Indicates whether IMS authorization (Gx) interface support is enabled or not.
S6b Auth Status	Indicates whether S6b interface authorization is enabled or not.
GGSN Preservation Mode	Indicates whether preservation-mode support for GGSN is enabled or not. **Note:** This is a customer-specific counter that requires a customer-specific license.
Vendor Id	Indicates the identification of vendor who uses GGSN preservation mode feature.

Field	Description
GGSN LORC State	Indicates the state of the overcharging protection feature for specific subscriber. Possible status are: - Yes (overcharging protection is enabled) - No (overcharging protection is enabled) - N/A (overcharging protection is not applicable) This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.
GGSN Bearer Control Mode	Indicates whether network controlled QoS negotiation enabled or not and also the mode applicable for bearer control for this. Possible values are: - MS-Only - Mixed (MS and Network)
FOCS	Indicates whether free of charge service is enabled or not. **Note:** This is a customer-specific service that requires a customer-specific license.
ODB	Indicates whether Operator Determined Barring is enabled or not. **Note:** This is a customer-specific service that requires a customer-specific license.
ip address	Indicates the primary IP address of the subscriber interface in the session.
ggsn-service-name	The name of the GGSN service for this subscriber.
GTPU Address	GTP-U/data address of the subscriber, which can be either of the IPv4/IPv6 address.
gtpu-service-name	The name of the GTP-U service associated with the 'ggsn-service-name', which can be bound with one or more addresses.
initiated by	Indicates whether QoS initiated by MS or network.
Subscriber Type	Indicates the type of subscriber. Possible values are Visiting or Home.
Accounting mode	Indicates the accounting mode applicable for this subscriber: Possible modes are: - gtpp - none - radius-diameter
APN Selection mode	Indicates the APN selection mode applicable for this subscriber: Possible modes are: - Chosen by SGSN - Sent by MS - Subscribed

Field	Description
ip allocation type	Indicates the IP allocation type applicable for this subscriber: Possible types are: - DHCP proxy - DHCP relay - local pool - AAA
gtp version	Indicates the GTPP version used for this subscriber: Possible versions are 0 and 1.
ipv6 allocation type	Indicates the allocation method by which the IPv6 address has been allocated. The possible values are: - local pool (allocated from local pool) - dhcpv6-proxy (allocated by DHCP server) - aaa (S6b or AAA returned IP address) - no-dynamic (Static IP address) - unknown - N/A
ggsn c-teid	Indicates the GGSN Tunnel Endpoint Identifier (TEID) for GTP-C messages.
ggsn u-teid	Indicates the GGSN Tunnel Endpoint Identifier (TEID) for GTP-U messages.
sgsn c-teid	Indicates the SGSN Tunnel Endpoint Identifier (TEID) for GTP-C messages.
sgsn u-teid	Indicates the SGSN Tunnel Endpoint Identifier (TEID) for GTP-U messages.
charging id	Indicates the charging identifier for this subscriber.
charging chars	Specifies the charging characteristics behavior applicable for this subscriber session.
access-link ip-frag	Configures IP fragmentation processing over the Access-link.
ignore DF-bit data-tunnel	Indicates if whether during Mobile IP tunneling, the DF bit is not ignored and packets are not fragmented.
traffic flow template	The name of the traffic flow template (TFT) applicable for this subscriber session.
Source context	The name of a configured source context from which the subscriber initiates a session.
Destination context	The name of a configured destination context through which the subscriber is provided access to the packet data network.
Authentication context	The name of a configured authentication context from which the subscriber gets authentication.
Accounting context	The name of a configured accounting context through which the subscriber is provided accounting of data session.

Field	Description
Mediation context	The name of a configured mediation context to use for communicating with the mediation device. If this context is not specified in APN configuration mode, the destination context will be used.
Mediation no early PDUs	Specifies whether or not the **no-early-pdu** option is configured for this subscriber. If **no-early-PDUs** is enabled, the chassis does not send uplink/downlink data from/to a MS till it receives the Acct-Rsp Start for the same from the mediation device. On receiving the Acct-Rsp, pending PDUs are sent out.
Mediation No Interims	Specifies whether or not the **no-interims** option configured for this subscriber. If **no-interims** is enabled, the chassis does not send any interim message to the mediation device.
Mediation Delay GTP Response	Specifies whether or not the **delay-GTP-response** option is configured for this subscriber. When enabled, this option delays the Create PDP Context response until an Accounting Start response is received from the mediation device.
active input acl	The active IPv4 access control list (ACL) for inward traffic.
active output acl	The active IPv4 access control list (ACL) for outward traffic.
active input IPv6 acl	The active IPv6 access control list (ACL) for inward traffic.
active output IPv6 acl	The active IPv6 access control list (ACL) for outward traffic.
ECS Rulebase	The rulebase applicable for this subscriber when ECS is enabled.
CBB-Policy	The CBB policy associated with the subscriber.
Firewall Policy	Indicates whether firewall processing for this subscriber is enabled.
CF Policy ID	The identifier of content filtering policy ID.
active input plcy grp	The active input policy group for inward traffic flow.
active output plcy grp	The active output policy group for outward traffic flow.
Layer 3 tunneling	Indicates if Layer 3 tunneling is enabled.
alloc/retention priority	Indicates the traffic handling priority for quality of service (QOS) differentiated service code point (DSCP) if the allocation priority is present in the QOS profile. Possible priorities are 1, 2 or 3.

Field	Description
traffic class	Indicates the class of traffic applied for quality of service (QOS) in this subscriber session. Possible classes are: - background - conversational - interactive - streaming
traffic priority	Indicates the priority for interactive class of traffic for this subscriber session. Possible priorities are 1, 2 or 3.
delivery order	Specifies the delivery order included in service data unit (SDU) for packets to this subscriber.
Negotiated MBR for up (bps)	Indicates the maximum bit rate in bits per seconds negotiated for this subscriber in uplink direction.
Negotiated MBR for down (bps)	Indicates the maximum bit rate in bits per seconds negotiated for this subscriber in downlink direction.
Negotiated GBR for up (bps)	Indicates the guaranteed bit rate in bits per seconds negotiated for this subscriber in uplink direction.
Negotiated GBR for down (bps)	Indicates the guaranteed bit rate in bits per seconds negotiated for this subscriber in downlink direction.
Negotiated GBR for down (bps)	Indicates the guaranteed bit rate in bits per seconds negotiated for this subscriber in downlink direction.
Downlink APN AMBR (bps)	Indicates the aggregate maximum bit rate in bits per second set in downlink direction for APN.
Uplink APN AMBR (bps)	Indicates the aggregate maximum bit rate in bits per second set in uplink direction for APN.
PCRF Authorized Bearer	This group displays the PCRF authorized QoS attributes for GGSN service.
QCI	Indicates the QoS Class Identifier (QCI) received through authorized bearer QoS for GGSN service. Possible values are between 1 through 9.
ARP	Indicates the Allocation and Retention Priority (ARP) set in authorized bearer QoS for GGSN service. Possible values are between 1 through 3.
PCI	Indicates the Preemption Capability Indicator (PCI) value in ARP in authorized bearer QoS for GGSN service. Possible values are: 0 - disabled 1 - enabled

Field	Description
PL	Indicates the Priority level (PL) value in ARP in authorized bearer QoS for GGSN service. Possible values are between 1 through 15.
PVI	Indicates the Preemption Vulnerability Indicator (PVI) value in ARP in authorized bearer QoS for GGSN service. Possible values are: 0 - disabled 1 - enabled
MBR uplink (bps)	Indicates the maximum bit reate (MBR) value in bit per second for uplink direction in authorized bearer QoS for GGSN service.
MBR downlink (bps)	Indicates the maximum bit rate (MBR) value in bit per second for downlink direction in authorized bearer QoS for GGSN service.
GBR uplink (bps)	Indicates the guaranteed bit rate (GBR) value in bit per second for uplink direction in authorized bearer QoS for GGSN service.
GBR downlink (bps)	Indicates the guaranteed bit rate (GBR) value in bit per second for downlink direction in authorized bearer QoS for GGSN service.
APN AMBR uplink (bps)	Indicates the aggregate maximum bit rate (AMBR) in bits per second set in uplink direction for APN.
APN AMBR downlink (bps)	Indicates the aggregate maximum bit rate (AMBR) in bits per second set in downing direction for APN.
Ran procedure pkts buffered	Indicates the total number of packets buffered in sub-system waiting for RAB setup ready flag. This is enabled for RAN Procedure Ready delay buffering feature for GGSN service used by this subscriber. Buffer limit is 1024 packets.
Ran procedure buffer overflow pkts drop	Indicates the total number of packets dropped after sub-system buffer was full (buffer limit is 1024 packets) and GGSN is still waiting for RAB setup ready flag. This is enabled for RAN Procedure Ready delay buffering feature for GGSN service used by this subscriber.
Downlink traffic-negotiate-limit	Indicates whether traffic flow negotiate limit is configured for this subscriber under traffic policing feature in downlink direction.
Downlink traffic-rate-limit	Indicates whether traffic flow rate limit is configured for this subscriber under traffic shaping feature in downlink direction.
Uplink traffic-negotiate-limit	Indicates whether traffic flow negotiate limit is configured for this subscriber under traffic policing feature in uplink direction.
Uplink traffic-rate-limit	Indicates whether traffic flow rate limit is configured for this subscriber under traffic shaping feature in uplink direction.

Field	Description
Downlink traffic-shaping	Indicates whether traffic shaping is enabled or not for this subscriber under traffic shaping feature in downlink direction. Possible states are Enabled or Disabled.
Uplink traffic-shaping	Indicates whether traffic shaping is enabled or not for this subscriber under traffic shaping feature in uplink direction. Possible states are Enabled or Disabled.
Peak data rate(bps)	Indicates the peak data rate allowed in downlink/uplink direction through traffic rate limiting.
Guaranteed data rate(bps)	Indicates the guaranteed data rate allowed in downlink/uplink direction through traffic rate limiting.
Burst Size	This group indicates the static/dynamic burst size in bytes for peak and guaranteed rate limiting for this class of QoS in this APN.
Auto Readjust	Indicates whether auto readjustment of burst size is enabled or not. Possible states are Enabled or Disabled.
Auto Readjust Duration	Indicates the configured auto readjust duration in a seconds. If auto readjust is enabled and no readjust duration is specified the default value is 1 second.
Peak Burst Size(bytes)	Indicates the peak burst size in bytes calculated dynamically by auto readjust duration and rate limit value.
Guaranteed Burst Size(bytes)	Indicates the guaranteed burst size in bytes calculated dynamically by auto readjust duration (seconds) and rate limit value (bytes). This counter is applicable only when auto readjustment is enabled.
Peak data rate(bps)	Indicates the peak data rate configured for this subscriber in bits per seconds.
Guaranteed data rate(bps)	Indicates the guaranteed data rate configured for this subscriber in bits per seconds.
Downlink CSS Information	This group provides the information regarding content steering service for downlink traffic.
Service Name	Name of the content steering service applicable for downlink traffic.
downlink pkts to svc	Total number of packets from subscriber node (downlink direction) sent to CSS service.
downlink pkts from svc	Total number of packets from CSS service sent to subscriber node (downlink direction).
Uplink CSS Information	This group provides the information regarding content steering service for uplink traffic.
Service Name	Name of the content steering service applicable for uplink traffic.

Field	Description
uplink pkts to svc	Total number of packets from PDN/Internet (uplink direction) sent to CSS service.
uplink pkts from svc	Total number of packets from CSS service sent to PDN/Internet (uplink direction).
Bearer Establishment	Indicates the status of bearer establishment.
Bearer not ready	This group indicates the number of bytes dropped when bearer was ready.
IM-CN Signaling Context	Specifies the name of the signaling context used for IM-CN (IP Multimedia-Core Network) for interoperability with IP multimedia subsystem (IMS) service.
input pkts	Indicates the number of packets received.
output pkts	Indicates the number of packets transmitted.
input bytes	Indicates the number of bytes received.
output bytes	Indicates the number of bytes transmitted.
input bytes dropped	Indicates the number of bytes that were dropped while receiving data for this subscriber session.
output bytes dropped	Indicates the number of bytes that were dropped while transmitting data for this subscriber session.
input pkts dropped	Indicates the number of packets that were dropped while receiving data for this subscriber session.
output pkts dropped	Indicates the number of packets that were dropped while transmitting data for this subscriber session. This field includes packets blocked by Access Control Lists (ACLs). Do not use this figure when computing the total number of output packets.
input pkts dropped due to zero mbr	Indicates the number of packets that were dropped while receiving data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
output pkts dropped due to zero mbr	Indicates the number of packets that were dropped while transmitting data due to configured maximum bit rate (MBR) was set to zero for a subscriber. This counter is applicable when system drops uplink/downlink packets when SGSN notifies Update PDP Contexts for QOS change with bandwidth rate as zero for conversation/streaming class of services.
out packet dropped due to lorc	Indicates the number of packets that were dropped while UE was out of coverage area or radio coverage was lost for a subscriber. This counter is applicable when GGSN is enabled for overcharging protection for subscriber due to loss of radio coverage and SGSN notifies Update PDP Contexts for QOS change with GTP-C extension for LORC.

Field	Description
pk rate from user(bps)	The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
pk rate to user(bps)	The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(bps)	The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
ave rate to user(bps)	The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(bps)	The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds.
sust rate to user(bps)	The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
pk rate from user(pps)	The peak data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
pk rate to user(pps)	The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(pps)	The average data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
ave rate to user(pps)	The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(pps)	The mean data rate, in packets per second, obtained for data sent from the subscriber tot he network during the last three sampling periods. The sampling period is 30 seconds.
sust rate to user(pps)	The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
link online/active percent	The percentage of time that the data link was online and active during the last sampling period. The sampling period is 30 seconds.
ipv4 bad hdr	Indicates the number of IPv4 packets received with bad headers.
ipv4 ttl exceeded	Indicates the number of IPv4 packets dropped because their time-to-live was exceeded for this subscriber session.
ipv4 fragments sent	Indicates the number of IPv4 packet fragments that were transmitted.
ipv4 could not fragment	Indicates the number of IPv4 packets that could not be fragmented.

Field	Description
ipv4 input acl drop	Indicates the number of IPv4 packets dropped due to an inbound access control list (ACL) violation. This counter may increment even if no ACL is configured.
ipv4 output acl drop	Indicates the number of IPv4 packets dropped due to an outbound access control list (ACL) violation.
ipv4 input css down drop	Indicates the number of input packets dropped because the CSS service is yet not up or the service went down.
ipv4 output css down drop	Indicates the number of output packets dropped because the CSS service is yet not up or the service went down.
ipv4 output xoff pkts drop	Indicates the number of packets dropped because of flow control.
ipv4 output xoff bytes drop	Indicates the number of bytes dropped because of flow control.
ipv4 source violations	Indicates the number of IPv4 source validation violations.
ipv4 proxy-dns redirect	The number of foreign DNS request packets intercepted and redirected to the home DNS for the subscriber.
ipv4 proxy-dns pass-thru	The number of foreign DNS request packets allowed through the intercept filter for the subscriber.
ipv4 proxy-dns drop	The number of foreign DNS request packets not matching either redirect or pass-thru rules for the subscriber.
ip source violations no acct	The IP source validation violations that were detected but not included in the statistics.
ip source violations ignored	The IP source validation violations that were detected but then ignored.
ipv4 output no-flow drop	The number of IP packets not matching traffic classifier and dropped for the subscriber.
dormancy total	Indicates the total amount of time in seconds that the subscriber session was dormant over the duration of the session.
handoff total	The total number of subscriber sessions handed off.
ipv4 icmp packets dropped	When hide service address is enabled and a service in the system is sent ping packets or a traceroute is executed, the packets pertaining to the service address are dropped. This counter shows the number of those packets that have been dropped.
DHCP context	Name of the system context in which DHCP service is configured.
DHCP service	Name of the DHCP service configured for this subscriber.
DHCP server	Name of the DHCP servers configured for this subscriber for DHCP function.
DHCP lease expiry policy	Specifies the DHCP address lease expiry policy. Possible actions are autoconnect or disconnect

Field	Description
DHCP lease obtained	Specifies the whether lease obtained after lease expiry or not.
DHCP lease remaining	Specifies the status of lease obtained for DHCP allocated IP address.
Total subscribers matching specified criteria	The total number of subscribers matching the specified criteria.

show subscribers gprs-only full

Table 618: Show subscribers gprs-only full Command Output Descriptions

Field	Description
Access Type	Number of GPRS access type, for the subscriber. Possible categories are: SGSN or GGSN.
Access Tech	Number of access technologies associated with the PLMN that is being accessed by the Mobile Station (MS). The Access Tech can be: - GPRS GERAN - GSM COMPACT - UTRN - E-UTRN
Network Type	Network type associated with the PLMN or HPLMN on the PLMN selector. The MS uses this information to select the type of radio carrier for searching, while attempting to select a specific PLMN. Network Type can be: - IP - IP Sec - Mobile IP
msid	Displays the Mobile Station Identification (MSID) associated with the subscriber.
Callid	Displays the subscriber's call identification number.
State	Displays the state of GPRS session in the Mobile Station. Data transfer between MS and network depends on this state. The state can be: - Idle - Stand by - Active - Ready
RFSP Id in Use	Displays the value of the RFSD Id. used.

Field	Description
Connect Time	The date and time when the call was connected to the GPRS network in Day MM DD HH:MM:SS YYYY format.
Call Duration	Total time lapsed after call connection, for this subscriber. Displayed in format hhmmss.
Idle Time	Time period for which the subscriber session has been idle either in standby or dormant state. Displayed in format hhmmss.
User Location (RAI)	This is the Routing Area Indicator (RAI). It indicates user location in GPRS network.
Cell Global Identity	Cell Global Identity (CGI) indicates a category of user location information that can be used to geographically locate the connected MS.
IMEI (SV)	International Mobile Identity (IMEI) Software Version (SV) associated with MS.
Equipment Status	Equipment status of the mobile equipment, queried from Equipment Identity Registry (EIR).
Source Context	Name of configured source context that was used for session initiation.
Destination Context	Name of configured destination context that was used by the subscriber to access the network.
Accounting Context	The context name where accounting information is configured or where an accounting interface is configured. It can be used to provide accounting of the data session to the subscriber.
Charging Characteristics	Displays associated charging characteristics. It can be: - Hot Billing - Flat Rate Billing - Prepaid Billing - Normal Billing
Characteristics Selection Mode	The selection mode of charging characteristics that is applicable to this session. For example selection mode can be Home or Roaming.
Subscriber Plmn Type	Category of subscriber's Public Land Mobile Network (PLMN). Possible values are: - **H:** home Networks - **F:** Foreign Networks - **U:** Unknown Networks
PPF	The Page Proceed Flag (PPF) indicates whether paging for PS and CS services can be initiated. Possible values are True or False.
NGAF	The Non Gprs Alert Flag (NGAF), indicates whether the MS activity is being reported to MCSC or VLR. Possible values for this flag are True or False.

Field	Description
VLR-Reliable	This flag is set to False when SGSN has received a reset indication from the VLR. The SGSN, upon reception of next Routing Area Update (RAU), may request the MS a procedure to re-attach to non-GPRS services provided that the MS is IMISI attached to such non-GPRS request. Alternately, the SGSN, upon reception of a combined RAU and Location Area Update (LAU) request from an MS that is still attached to non-GPRS service, performs location update procedure for such non-GPRS service.
VLR – Association	States associated with the Gs interface in the VLR. Possible states are: - GS NULL - LA UPDATE PRESENT - Gs ASSOCIATED
NRI Assigned	Assigned Network Resource Indicator (NRI). The NRI is utilized when either Iu-flex or Gb-flex or MOCN configuration is used for network sharing.
ISR – Activated	The activation status of Idle mode Signaling Reduction (ISR). This status can either be True or False.
MME Ctrl Teid	**S4-SGSN only**: If the **ISR-Activated** field reads **True**, this field provides the MME Control Tunnel Endpoint Identifier. The Ctrl TEID identifies the specific S3 tunnel on the MME being used for this ISR-activated subscriber.
MME IP Address	**S4-SGSN only**: If the **ISR-Activated** field reads **True**, this field provides the IP address of the MME associated with this ISR-activated subscriber.
Nego Ready Timer	This value is sent from SGSN to MS. It indicates timeout ready timer value. Its range is from 0 to 11160 seconds the default value is 44 seconds.
MS Network Capacity	The MS network capacity elements provide MS information related to GPRS network. These elements indicate general Mobile Station (MS) characteristics, hence are independent of the frequency band of the channel for which this capability is set. The MS network capacity specifies parameters such as: - Revision level indicator - SoLSA capacity - SS screening indicator - Whether UCS2 character set is enabled - SMS via GPRS Channel - Whether or not GPRS Encryption Algorithm - GEA1 to GEA 7 are supported - LCS VA
Revision Level Indicator (MS Network Capability)	The 3GPP released version that is supported by the MS network capability.

Field	Description
SoLSA Capability (MS Network Capability)	Specifies whether the Support of Localized Service Area (SoLSA) is included in the MS network capability.
SS Screening Indicator (MS Network Capability)	Category of Supplemental Services (SS) screening indicator that is being sent by MS to the network to assess the capabilities of the MS. This indictor is sent by the MS at the beginning of the radio connection.
UCS2 (MS Network Capability)	Specifies whether the Universal Character Set 2 (UCS-2) encoding for the character is supported or whether the use of default alphabet is supported.
SMS via GPRS CH (MS Network Capability)	Specifies whether the MS support for mobile terminated point to point SMS via GPRS channel is included in the MS network capability.
SMS via Dedicated CH (MS Network Capability)	Specifies whether the MS support for mobile terminated point to point SMS via a dedicated GPRS channel is included in the MS network capability.
GEA/1 (MS Network Capability)	Specifies whether support for GEA1 is included in the MS network capability.
GEA/2 (MS Network Capability)	Specifies whether support for GEA2 is included in the MS network capability.
GEA/3 (MS Network Capability)	Specifies whether support for GEA3 is included in the MS network capability.
GEA/4 (MS Network Capability)	Specifies whether support for GEA4 is included in the MS network capability.
GEA/5 (MS Network Capability)	Specifies whether support for GEA5 is included in the MS network capability.
GEA/6 (MS Network Capability)	Specifies whether support for GEA6 is included in the MS network capability.
GEA/7 (MS Network Capability)	Specifies whether support for GEA7 is included in the MS network capability.
Negotiated ciphering algorithm	The ciphering algorithm negotiated by the SGSN and MS during Authentication and Ciphering Request.
LCS VA Capability (MS Network Capability)	Specifies whether the LoCation Services Value Add (LCS VA) capability is included or not in the MS network capacity.
DRX Parameter	Discontinuous Reception (DRX) is used when the MS is in the packet idle mode. If MS is using the discontinuous reception, then the DRX parameters indicate whether the MS is in no-sleep mode and is able to receive paging requests and channel assignments. GPRS uses two DRX modes namely, normal DRX and split paging DRX. Following are the DRX parameters: - Split PG cycle code - Split on CCCH - Non-DRX timer - CN Specific DRX cycle length coefficient.
SPLIT PG Cycle Code (DRX Parameter)	displays the cycle code for the split paging mode.
SPLIT on CCCH (DRX Parameter)	Specifies whether split on Common Control Channel (CCCH) is supported or not.

Field	Description
Non-DRX timer (DRX Parameter)	Value of non-DRX timer transfer state, displayed in seconds.
CN Specific DRX cycle length coefficient (DRX Parameter)	Specifies the Core Network (CN) specific DRX cycle length coefficient support by MS. An MS can be attached to either circuit or packet domain of CN. For the circuit domain the MS uses the circuit domain CN- domain specific cycle length coefficient broadcast in system information.
Uplink Coverage Class	Specifies the uplink coverage class value of the subscriber.
Downlink Coverage Class	Specifies the downlink coverage class value of the subscriber.
Current PTMSI	Current value of Packet Temporary Mobile Subscriber Identity (P-TMSI). P-TMSI gets attached to the MS when GPRS attach procedure is performed. P-TMSI is used to avoid transmitting the IMSI over air interface. P-TMSI is only applicable in the geographical area served by the SGSN. When the MS move to another geographical area, a new P_TMSI gets attached to the MS.
Current PTMSI Acked by MS	Acknowledgement status of current P_TMSI by the MS. Possible values are yes and no.
Any Previous PTMSI	Specifies whether any previous P-TMSI value is available for this MS.
MNRG Flag	Current value of Mobile station Not Reachable in GPRS (MNRG) flag. This flag is found in Home Location Register (HLR) and it indicates whether SGSN can reach this MS. Possible values for this flag are true and false.
Subscriber offload status	Indicates the subscriber offload status.
NRI Assigned	Number of assigned Network Resource Indicators (NRIs).An NRI is a part of TMSI in CS domain and P-TMSI in PS domain.
Number of Free Vectors	Number of free authentication vectors available for the Universal Subscriber Identity Module (USIM) that is associated with the MS.
Number of Used Vectors	Number of authentication vectors used by the Universal Subscriber Identity Module (USIM) associated with the MS.
Number of In-Use Vectors	Indicates the number of authentication vectors that are being used by the Universal Subscriber Identity Module (USIM) that is associated with the MS.
MSISDN (Subscription Data)	The Mobile Station Integrated Subscriber Digital Network Number (MSISDN) associated with the MS. It uniquely identifies a subscription in a mobile network.
Charging Characteristics (Subscription Data)	Associated charging characteristic profile. It can be hot or normal or pre-paid or flat billing.

Field	Description
ODB General Data	Operator Determined Barring (ODB) data. The ODB is an unsigned 32-bit Attribute Value Pair (AVP) containing a bit mask that indicates the services barred by the operator. As per the bit mask: - Bit 0 bars all packet oriented services. - Bit 1 bars roamer access HPLMN-AP. - Bit 2 bars roamer access VPLMN- AP. - Bit 3 bars all outgoing calls. - Bit 4 bars all outgoing international calls. - Bit 5 bars all outgoing international calls except to the home PLMN country. - Bit 6 bars all outgoing inter-zonal calls. - Bit 7 bars all outgoing inter-zonal calls, except to the home PLMN country. - Bit 8 bars all outgoing international calls, except to the home PLMN country and barring of all inter-zonal calls.
	The following parameters constitute the ODB general data: - All Out Going Calls. - All International Outgoing Calls. - All International Outgoing Not To HPLMN Country Calls. - All Interzonal Outgoing Calls. - All Interzonal And International Outgoing Calls Not To HPLMN Country. - Roamer Access to VPLMN Access Point Barred.
All Out Going Calls (ODB-General-Data)	Specifies permission for all categories of outgoing calls associated with this MS. This is a parameter of ODB General Data. These calls can be barred or not-barred.
All International Outgoing Calls (ODB-General-Data)	Specifies the permission for international outgoing calls associated with this MS. This is a parameter of ODB General Data. These calls can be barred or not-barred
All International Outgoing Not To HPLMN Country Calls (ODB-General-Data	Specifies permission for the international outgoing calls that are not made to Home Public Land Mobile Network (HPLMN). This is a parameter of ODB General Data. These calls can be barred or not-barred.
All Interzonal Outgoing Calls (ODB-General-Data)	Specifies the permission for the Interzonal outgoing calls associated with this MS. This is a parameter of ODB General Data. These calls can be barred or not-barred.
All Interzonal And International Outgoing Calls Not To HPLMN Country (ODB-General-Data)	Specifies the permission for all interzonal and international calls that are not made to HPLMN country. This is a parameter of ODB General Data. These calls can be barred or not barred.
Roamer Access to HPLMN Access Point Barred (ODB-General-Data)	Specifies whether or not the access point for roamer access to Home PLMN is barred. This is a parameter of ODB General Data.

Field	Description
Roamer Access to VPLMN Access Point Barred (ODB-General-Data)	Specifies whether or not the access point for roamer access to Visitor PLMN is barred. This is a parameter of ODB General Data.
ODB-HPLMN-Data	Specifies the availability of HPLMN data for Operator Defined Barring (ODB).
Zone-Code-List	Zone code list that can be associated with the subscription. A zone is combination of origin and destination area codes. Zoning information can be used for rating and charging purpose.
Tele-Service Code List	Code of the barer service (tele service) associated with this subscription.
HLR Number	The Home Location Register (HLR) associated with this subscription.
HLR-Reset Flag	Specifies the whether the HLR associated with this subscription was reset or not. Possible values of this flag are true and false.
HSS Peer	The name of the peer home subscriber server (HSS) service associated with this subscription.
Utran-not-allowed (ARD)	Value of UTRN –not –allowed flag in the Algorithm Requirements Document (ARD) associated with this subscription. Possible values are true or false.
Geran-not-allowed (ARD)	Value of GERAN –not –allowed flag in the Algorithm Requirements Document (ARD) associated with this subscription. Possible values are true or false.
Super-Charger Enabled	Current value of Super-Charger Enabled flag. It can be either true or False. Subscriber movement across MSC or VLR forces the HLR to provision new serving MSC or VLR with the subscriber data by moving this data. These signaling procedures add significant overhead in the network traffic. Specifically in high population aerates where the MSC or VLR is handling significantly smaller geographical area. In s supercharged network the HLR does not remove subscriber data from old MSC or VLR and this data can be used when subscriber roams back to old MSC or VLR.
SAI Version	Current version of SAI. The Service Area Identifier (SAI) is a combination of PLMN-id, Location Area Code (LAC) and Service Area Code (SAC). The SAI identifies an area consisting of one or more cells belonging to same LA.
EPS Subscription	Enhanced Packet Service (EPS) subscription data includes subscription related data. Refer the 3GPP technical standard 3GPP TS 23.016 and other related standards for more information.
PDP Context Id (PDP Subscription Data)	Identifies the PDP context for PDP subscription data.
APN (PDP Subscription Data)	Identifies the Access Point Name (APN) associated with this PDP subscription.
PDP Type (PDP Subscription Data)	Category of PDP context. For example it can be IPv4, IPv6 or PPP.
PDP Address Type (PDP Subscription Data)	Category or type of address allocation for PDP address. For example it can be static or dynamic.

Field	Description
PDP Address (PDP Subscription Data)	The IP address allocated for PDP packets.
Ext PDP Type (PDP Subscription Data)	Category or type of PDP context. For example, IPv4 or IPv6.
Ext PDP Address Type (PDP Subscription Data)	Category or type of address allocation for external PDP address. For example it can be static or dynamic.
Ext PDP address (PDP Subscription Data)	The IP address allocated for external PDP packets.
Charging Characteristics (PDP Subscription Data)	Category of charging characteristics associated with this PDP subscription. For example charging characteristics can be either normal billing or hot billing.
VPLMN Address Allowed (PDP Subscription Data)	Specifies whether the address of Visited Public Land Mobile Network (VPLMN) is allowed or not allowed.
Reliability Class (PDP Subscription Data)	Reliability class associated with the PDP subscription. It considers reliability attributes such as delivery order, traffic handling priority, as well as allocation and retention priority. For example reliability class for PDP subscription can be unacknowledged GTP, LLC, acknowledged RLC or protected data.
Delay Class (PDP Subscription Data)	Defined category of network transient delay for the PDP subscription data. For example class 4.
Precedence Class (PDP Subscription Data)	Service precedence delay supported by SGSN by discarding or allowing packets based on the precedence class for the PDP subscription. For example the precedence class for PDP subscription can be high priority.
Peak Throughput (PDP Subscription Data)	Configured maximum allowed throughput rate for the PDP subscription. Along with other fields such as reliability, delay or precedence class, it can be used for traffic shaping.
Mean Throughput (PDP Subscription Data)	Configured mean throughput rate for the PDP subscription. Along with other fields such as reliability, delay or precedence class, it can be used for traffic shaping.
Allocation/Retention Priority (PDP Subscription Data)	Allocation, retention priority indicates the reliability of the PDP subscription data. For example for various traffic classes such as conversational, streaming, interactive and background, this priority can be defined as 1, 2 or 3.
Delivery of Erroneous SDUs (PDP Subscription Data)	Status of the delivery of erroneous Service Delivery Units (SDUs) for the PDP subscription. For example, it indicates whether the delivery of erroneous SDUs are detected.
Traffic Class (PDP Subscription Data)	Category of traffic associated with this PDP subscription. Traffic is broadly categorized as Conversational, Streaming, Background and Interactive.
Max Sdu Size (PDP Subscription Data)	Maximum allowable size of Service Data Units (SDUs) in octets, which is associated with this PDP subscription data.
Max Bit Rate Uplink (PDP Subscription Data)	Maximum allowable rate in kbps for sending that data from an MS to network, that is associated with the PDP subscription.

Field	Description
Max Bit Rate Downlink (PDP Subscription Data)	Maximum allowable rate in kbps for sending the data from network to the MS, which is associated with the PDP subscription.
Residual Bit Error rate (PDP Subscription Data)	Reliability based on residual Bit Error Rate (BER) associated with PDP subscription. For specific traffic class such as conversational, streaming, interactive or background, certain range of residual BER is required.
Sdu Error rate (PDP Subscription Data)	Reliability class based on Service Delivery Unit (SDU) error rate associated with the PDP subscription. For specific traffic class such as Conversational, Streaming, Interactive or background, certain range of SDU error rate is required.
Traffic Handling Priority (PDP Subscription Data)	Priority or importance of handling SDUs belonging to a specific context associated with the PDP subscription.
Transfer Delay (PDP Subscription Data)	Delay encountered in milliseconds (ms), while delivering about 95% of SDUs associated with the PDP context, in the life time of the bearer service.
Guaranteed Bit Rate Uplink (PDP Subscription Data)	Guaranteed number of bits delivered by MS to network in kbps for the associated PDP context.
Guaranteed Bit Rate Downlink (PDP Subscription Data)	Guaranteed number of bits delivered by network to MS, in kbps for the associated PDP context.
APN (User Name)	Access Point Name used by the Mobile Station (MS) to communicate with the GPRS network. It determines the IP addresses used by and security methods applicable to the MS.
PDP address (User Name)	IP address associated with the PDP context that is being used by this user name or subscriber.
NSAPI (User Name)	Network (layer) Service Access Point Identifier (NSAPI) that is being used to identify the unique data session or the PDP context associated with the MS and the SGSN.
Context initiated by (User Name)	Context or session initiated by the user name.
LLC SAPI (User Name)	Logical Link Control Service Access Point Identifier LLC SAPI associated with this user name.
Context Plmn Type (User Name)	PLMN context associated with the MS. IT can be home or roaming.
GGSN c-teid (User Name)	GGSN control plane Tunnel Endpoint Identifier (teid), that is associated with this subscription. The teid is a unique number that is allocated by the GSN (SGSN or GGSN) and it identifies the tunnel data related to a specific PDP context. The teid along with IP address and UDP port number is used to identify the Gprs Tunneling Protocol (GTP) tunnel that is being established between two GPRS nodes to deliver packets.

Field	Description
GGSN u-teid (User Name)	GGSN user plan Tunnel End Point Identifier (teid), that is associated with this subscription. The teid is a unique number that is allocated by the GSN (SGSN or GGSN) and it identifies the tunnel data related to a specific PDP context. The teid along with IP address and UDP port number is used to identify the GTP tunnel that is being established between two GPRS nodes to deliver packets.
SGSN c-teid (User Name)	SGSN control plane Tunnel Endpoint Identifier (teid), that is associated with this subscription. The teid is a unique number that is allocated by the GSN (SGSN or GGSN) and it identifies the tunnel data related to a specific PDP context. The teid along with IP address and UDP port number is used to identify the Gprs Tunneling Protocol (GTP) tunnel that is being established between two GPRS nodes to deliver packets.
SGSN u-teid (User Name)	SGSN user plan Tunnel End Point Identifier (teid), that is associated with this subscription. The teid is a unique number that is allocated by the GSN (SGSN or GGSN) and it identifies the tunnel data related to a specific PDP context. The teid along with IP address and UDP port number is used to identify the GTP tunnel that is being established between two GPRS nodes to deliver packets.
Requested and Negotiated QoS	A Quality of Service Profile (QoS) profile for the GPRS is defined using service parameters such as: - Traffic class - Reliability class - Delay class - Maximum bit rate uplink throughput - Maximum bit rate downlink throughput - Guaranteed bit rate downlink throughput - Residual bit error rate - SDU error rate - Traffic handling priority - Transfer delay Using these parameters an MS **requests** the network with specific values for the QoS profile parameters and the network provides the **negotiated** values of the profile parameters. There can be a difference between the values of the QoS parameters requested by the Mobile Station (MS), and those negotiated with the network.
Reliability Class (Requested-QoS)	It is a QoS attribute associated with reliability. It considers reliability attributes such as delivery order, traffic handling as well as allocation or retention priority. Possible values are unchecked GTP, LLC, acked RLC and protected data. This indicates a QoS parameter value requested by the MS to the network.

Field	Description
Delay Class (Requested-QoS)	It is a QoS attribute associated with traffic flow, the delay class indicates network transient delay. This indicates a QoS parameter value requested by the MS to the network.
Precedence Class (Requested-QoS)	It is a QoS attribute that indicates the service precedence supported by the GPRS network by discarding packets, based on requested and negotiated precedence class. For example a precedence class can have Priority values as high, Normal and Low. This indicates the QoS parameter value requested by the MS to the network.
Peak Throughput (Requested-QoS)	It is a QoS attribute that indicates configured, maximum allowed throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between GPRS network and MS.
Mean Throughput (Requested-QoS)	It is a QoS attribute that indicates configured mean throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between GPRS network and the MS. This is the QoS parameter value requested by the MS to the network.
Delivery of Erroneous SDUs (Requested-QoS)	It is the QoS status regarding the delivery of erroneous Service Delivery Units (SDUs). For example it indicates whether or not the delivery of the erroneous SDUs is detected or not. This is the QoS parameter value requested by the MS to the network.
Traffic Class (Requested-QoS)	Category of traffic class as per the QoS requested by the MS. The traffic is broadly categorized as: - Conversational - Streaming - Background - Interactive This is the QoS parameter value requested by the MS to the network.
Max Sdu Size (Requested-QoS)	Maximum allowable size of Service Data Units (SDUs) in octets. This is the QoS parameter value requested by the MS to the network.
Max Bit Rate Uplink (Requested-QoS)	Maximum allowable traffic rate in kbps, for sending data from MS to the network. This is the QoS parameter value requested by the MS to the network.
Max Bit Rate Downlink (Requested-QoS)	Maximum allowable traffic rate in kbps for sending the data from network to MS. This is the QoS parameter value requested by the MS to the network.
Residual Bit Error rate (Requested-QoS)	Reliability based on residual Bit Error Rate (BER). Certain BER rate is associated with specific category of the traffic class such as conversational, streaming, and interactive or background. This is the QoS parameter value requested by the MS to the network.
Sdu Error rate (Requested-QoS)	Service Delivery Unit (SDU) error rate. This is the QoS parameter value requested by the MS to the network.
Traffic Handling Priority (Requested-QoS)	Priority or level of handling SDUs belonging to a specific context. This is the QoS parameter value requested by the MS to the network.

Field	Description
Transfer Delay (Requested-QoS)	Delay encountered in ms, while delivering about 95% of SDUs belonging to specific context. This is the QoS parameter value requested by the MS to the network.
Guaranteed Bit Rate Uplink (Requested-QoS)	Guaranteed number of bits transferred in the specified time frame, by the MS to the network. This is the QoS parameter value requested by the MS to the network.
Guaranteed Bit Rate Downlink (Requested-QoS)	Guaranteed number of bits transferred in the specified time frame, by the network to MS. This is the QoS parameter value requested by the MS to the network.
Reliability Class (Negotiated-QoS)	QoS attribute associated with reliability. It considers reliability attributes such as delivery order, traffic handling as well as allocation or retention priority. Possible values are unchecked GTP, LLC, acked RLC and protected data. This is the negotiated value between MS and the network.
Delay Class (Negotiated-QoS)	QoS attribute associated with traffic flow, the delay class indicates network transient delay. This is the negotiated value between MS and the network.
Precedence Class (Negotiated-QoS)	QoS attribute that indicates the service precedence supported by the GPRS network by discarding packets, based on requested and negotiated precedence class. For example a precedence class can have Priority values as high, Normal and Low. This is the negotiated value between MS and the network.
Peak Throughput (Negotiated-QoS)	QoS attribute that indicates configured, maximum allowed throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between GPRS network and MS.This is the negotiated value between MS and the network.
Mean Throughput (Negotiated-QoS)	QoS attribute that indicates configured mean throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between GPRS network and the MS.This is the negotiated value between MS and the network.
Allocation/Retention Priority (Negotiated-QoS)	Allocation, retention priority indicates the reliability of the PDP subscription data. For example for various traffic classes such as conversational, streaming, interactive and background, this priority can be defined as 1, 2 or 3. This is the negotiated value between MS and the network.
Delivery of Erroneous SDUs (Negotiated-QoS)	QoS status regarding the delivery of erroneous Service Deliver Units (SDUs). For example it indicates whether or not the delivery of the erroneous SDUs is detected or not. This is the negotiated value between MS and the network.
Traffic Class (Negotiated-QoS)	Category of traffic class as per the QoS requested by the MS. The traffic is broadly categorized as: - Conversational - Streaming - Background - Interactive This indicates the negotiated value between MS and the network.

Field	Description
Max Sdu Size (Negotiated-QoS)	Maximum allowable size of Service Data Units (SDUs) in octets. This is the negotiated value between MS and the network.
Max Bit Rate Uplink (Negotiated-QoS)	Maximum allowable traffic rate in kbps, for sending data from MS to the network. This is the negotiated value between MS and the network.
Max Bit Rate Downlink (Negotiated-QoS)	Maximum allowable traffic rate in kbps for sending the data from network to MS. This is the negotiated value between MS and the network.
Residual Bit Error rate (Negotiated-QoS)	Reliability based on residual Bit Error Rate (BER). Certain BER rate is associated with specific category of the traffic class such as conversational, streaming, and interactive or background. This is the negotiated value between MS and the network.
Sdu Error rate (Negotiated-QoS)	Service Delivery Unit (SDU) error rate. This is the negotiated value between MS and the network.
Traffic Handling Priority (Negotiated-QoS)	Priority or level of handling SDUs belonging to a specific context. This is the negotiated value between MS and the network.
Transfer Delay (Negotiated-QoS)	Delay encountered in ms, while delivering about 95% of SDUs belonging to specific context. This is the negotiated value between MS and the network.
Guaranteed Bit Rate Uplink (Negotiated-QoS)	Guaranteed number of bits transferred in the specified time frame, by the MS to the network. This is the negotiated value between MS and the network.
Guaranteed Bit Rate Downlink (Negotiated-QoS)	Guaranteed number of bits transferred in the specified time frame, by the network to MS. This is the negotiated value between MS and the network.
Downlink traffic-rate-limit	Specifies whether the traffic rate limit for the data traffic from network to MS is enabled or disabled.
Uplink traffic-rate-limit	Specifies whether the traffic rate limit for the data traffic form MS to network is enabled or disabled.
input pkts	Specifies total number of error free packets received by the MS from the network.
input bytes	Total number of error free bytes received by the MS from the network.
input bytes dropped	Total number of input bytes dropped by the MS while receiving them from the network.
input pkts dropped	Total number of packets dropped by the MS while receiving the packets from the network.
input pkts dropped due to lorc	Number of input packets dropped by the MS while sending them to the network, due to Loss of Radio Coverage (LORC).

Field	Description
input bytes dropped due to lorc	Number of input bytes dropped by the MS while receiving them from the network due to Loss of Radio Coverage (LORC).
in packet dropped suspended state	Total number of packets dropped by the MS, because the packets were in suspended state, while receiving the packets from the network.
in bytes dropped suspended state	Total number of bytes dropped by the MS, because the bytes were in suspended state, while receiving the bytes from the network.
output pkts	Total number of error free packets sent by the MS to the network.
output bytes	Total number of error free bytes sent by the MS to the network.
output bytes dropped	Total number of output bytes dropped by the MS while sending them to network.
output pkts dropped	Total number of packets dropped by the MS while sending the packets to the network.
output pkts dropped due to lorc	Total number of packets dropped by the MS while sending the packets to the network, due to loss of radio service.
pk rate from user(bps)	The peak data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
pk rate to user(bps)	The peak data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(bps)	The average data rate, in bits per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
ave rate to user(bps)	The average data rate, in bits per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(bps)	The mean data rate, in bits per second, obtained for data sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds.
sust rate to user(bps)	The mean data rate, in bits per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
pk rate from user(pps)	The peak data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
pk rate to user(pps)	The peak data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(pps)	The average data rate, in packets per second, obtained for data sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
ave rate to user(pps)	The average data rate, in packets per second, obtained for data received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(pps)	The mean data rate, in packets per second, obtained for data sent from the subscriber tot he network during the last three sampling periods. The sampling period is 30 seconds.

Field	Description
sust rate to user(pps)	The mean data rate, in packets per second, obtained for data received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
SSAF	Indicates if the SSAF flag is set during the CSFB procedure.
EMM Combined UE Waiting Flag	Indicates if the EMM combined UE waiting flag is set during the CSFB procedure.
Subscription Type	Displays the configured subscription type as either "EPS" or "GPRS".

show subscribers hnbgw-only all



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 619: show subscribers hnbgw-only all Command Output Descriptions

Field	Description
vv	Displays service and session state information. This column provides a code consisting of two characters.
	From left-to-right, the first character represents the **Network Type** that the subscriber is using. The possible access types are: - **H**: HNB - **P**: PS Connection - **C**: CS Connection
	The second character represents the **Call State**. The possible call states are: - **R**: Registered - **D**: Deregistered - **C**: Connected - **N**: Disconnected
CALLID	Displays the subscriber's call identification (callid) number on HNB-GW in HNB access network.
HNB/UE Id	Displays the HNB or UE identifier on HNB-GW in HNB access network.
HNB IP Address	Displays the HNB IP address registered on HNB-GW service in HNB access network.

show subscribers hnbgw-only full



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 620: show subscribers hnbgw-only full Command Output Descriptions

Field	Description
Username	The name of the subscribers accessing HNB-GW over IuH or IuCS or IuPS connection on HNB-GW service.
Access Type	Indicates the access type used by subscriber session over HNB access network. Possible access types are: - hnbgw-hnb (IuH connection between HNB and HNB-GW) - hnbgw-iu (IuCS or IuPS connection between HNB-GW and CN)
Network Type	Indicates the type of network used by subscriber session over HNB access network. Possible network types are: - IP - IPSec - Unknown
Access Tech	Indicates the access technology used by subscriber session over HNB access network. Possible access technologies are FEMTO UTRAN or Other/Unknown
callid	Indicates the subscriber's call identification number (callid) used for this session.
msid	Indicates the subscriber's Mobile Station identification (MS id) used for this session.
state	Indicates the state of the subscriber session over HNB access network. The possible session states are: - **R**: Registered - **D**: Deregistered - **C**: Connected - **N**: Disconnected
Service Name	Indicates the name of the HNB-GW service for which subscriber information is displayed.
HNB Ip Address	Indicates the primary IP address of the HNB in the session. In HNB-GW session this is the primary IP address of Femto CPE.

Field	Description
User Location (RAI)	Indicates the user location in Femto UTRAN network. This is the Routing Area Identifier (RAI) provided to HNBs during registration with this HNB-GW service. The RAC signifies the routing area that this HNBGW service belongs to and is configured under the PLMN-ID
Service Area Code	Identifies the Service Area (SA) code within a LA (Location Area) used during this HNB-GW session.
GlobalRNCId	Indicates the Global identifier used for Radio Network Controller used by this subscriber session in Femto UTRAN network.
IMSI	Indicates the IMSI number which is currently registered with HNB-GW service session instance.
Registration Type	Indicates the type of registration applies for specific subscriber session over HNB access network. Possible registration types are: • Normal: Indicates the normal subscriber session. in this type of session registration multiple Iu sessions and multiple Radio Access Bearers (RABs) are allowed. • Emergency: Indicates that current subscriber session is of Emergency type. In this type of session only on Iu session (CS or PS) with only one Radio Access Bearer (RAB) is allowed.
Context Id	Indicates the identity number of the context used by specific subscriber session over HNB-GW service instance.
SGSN Point Code	Indicates the SGSN address in SS7 point code where specific subscriber's IuPS session is attached and serve the PS session in Femto UTRAN access network.
Domain	Indicates the type of core network (CN) domain where specific subscriber's Iu (CS or PS) session is attached and served. Possible domains are: - Packet Switched (PS) Domain - Circuit Switched (CS) Domain
PS RABs	This group indicates the status and statistics of RABs used by specific subscriber session over IuPS interface while connected to HNB-PS core network.
Rab id	Indicates the identifier number of PS RAB used by specific subscriber session over IuPS interface while connected to HNB-PS core network.
State	Indicates the state of PS RAB used by specific subscriber session over IuPS interface while connected to HNB-PS core network. Possible states are Established or Released.
GTP-U Tunnel towards CN	This group indicates the setup information of GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network.
Remote Addr	Indicates the IP address of SGSN used as remote peer node at the end of GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network.

Field	Description
Remote TEID	Indicates the remote GTP-U tunnel end (SGSN side) identifier used by GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network.
Local Addr	Indicates the IP address of HNB-GW used by GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network.
Local TEID	Indicates the local GTP-U tunnel end (HNB-GW side) identifier used by GTP-U tunnel established between HNB-GW and HNB-PS core network (SGSN) for specific subscriber session over IuPS interface while connected to HNB-PS core network.
GTP-U Tunnel towards HNB	This group indicates the setup information of GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network.
Remote Addr	Indicates the IP address of HNB used as remote peer node at the end of GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network.
Remote TEID	Indicates the remote GTP-U tunnel end (HNB side) identifier used by GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network.
Local Addr	Indicates the IP address of HNB-GW used by GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network.
Local TEID	Indicates the local GTP-U tunnel end (HNB-GW side) identifier used by GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuPS interface while connected to HNB-PS core network.
Data Fwd GTP-U Tunnel towards SGSN/T-RNC	This group indicates the setup information of Data Forwarding GTP-U tunnel established between HNB-GW and SGSN or target RNC (T-RNC) for specific subscriber session over IuPS interface while connected to HNB-PS core network.
Remote Addr	Indicates the IP address of SGSN/target RNC used as remote peer node at the end of Data forwarding GTP-U tunnel established between HNB-GW and SGSN or target RNC for specific subscriber session over IuPS interface while connected to HNB-PS core network.
Remote TEID	Indicates the remote Data Forwarding GTP-U tunnel end (SGSN or target RNC side) identifier used by GTP-U tunnel established between HNB-GW and SGSN or target RNC for specific subscriber session over IuPS interface while connected to HNB-PS core network.
Data Fwd GTP-U Tunnel towards HNB	This group indicates the setup information of Data Forwarding GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network.

Field	Description
Local Addr	Indicates the IP address of HNB-GW used as local address by Data forwarding GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network.
Local TEID	Indicates the local Data Forwarding GTP-U tunnel end (HNB-GW side) identifier used by GTP-U tunnel established between HNB and HNB-GW for specific subscriber session over IuH interface while connected to HNB-PS core network.
GTPU	This group indicates the data transmission information for specific subscriber session connected to HNB-PS core network.
GTPU Downlink Bytes Rx	Indicates the total number of bytes received by HNB-GW in downlink direction (from CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Downlink Bytes Tx	Indicates the total number of bytes transmitted by HNB-GW in downlink direction (towards HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Downlink Packets Rx	Indicates the total number of packets received by HNB-GW in downlink direction (from CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Downlink Packets Tx	Indicates the total number of packets transmitted by HNB-GW in downlink direction (towards HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Uplink Bytes Rx	Indicates the total number of bytes received by HNB-GW in uplink direction (from HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Uplink Bytes Tx	Indicates the total number of bytes transmitted by HNB-GW in uplink direction (towards CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Uplink Packets Rx	Indicates the total number of packets received by HNB-GW in uplink direction (from HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Uplink Packets Tx	Indicates the total number of packets transmitted by HNB-GW in uplink direction (towards CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Downlink Bytes dropped	Indicates the total number of bytes dropped by HNB-GW in downlink direction (from CN to HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Uplink Bytes dropped	Indicates the total number of bytes dropped by HNB-GW in uplink direction (from HNB to CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.

Field	Description
GTPU Downlink Packets dropped	Indicates the total number of packets dropped by HNB-GW in downlink direction (from CN to HNB) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Uplink Packets dropped	Indicates the total number of packets dropped by HNB-GW in uplink direction (from HNB to CN) over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
Drop Cause	This group indicates the reasons for packet/bytes dropped by HNB-GW in downlink/uplink direction over GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
RAB not in CONNECTED state	Indicates the total number of packets/bytes dropped by HNB-GW in downlink/uplink direction over GTP-U tunnel for specific subscriber session connected to HNB-PS core network as RAB was not connected when packets/bytes received by HNB-GW.
Miscellaneous	Indicates the total number of packets/bytes dropped by HNB-GW in downlink/uplink direction over GTP-U tunnel for specific subscriber session connected to HNB-PS core network due to Emergency type of session or other unknown cause.
GTPU Fwd Packets Rx	Indicates the total number GTP-U Forward packets received by HNB-GW over Data Forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
GTPU Fwd Packets Tx	Indicates the total number GTP-U Forward packets transmitted by HNB-GW over Data Forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
Drop Cause	This group indicates the reasons for Data Forward GTP-U packet dropped by HNB-GW over Data forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network.
RAB not in CONNECTED state	Indicates the total number of GTPU Forward packets dropped by HNB-GW over Data Forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network as RAB was not connected when Data forward packets received by HNB-GW.
Miscellaneous	Indicates the total number of GTPU Forward packets dropped by HNB-GW over Data Forward GTP-U tunnel for specific subscriber session connected to HNB-PS core network due to Emergency type of session or other unknown cause.
MSC Point Code	Indicates the MSC address in SS7 point code where specific subscriber's IuCS session is attached and serve the CS session in Femto UTRAN access network.
CS RABs	This group indicates the status and statistics of RABs used by specific subscriber session over IuCS interface while connected to HNB-CS core network.
Rab id	Indicates the identifier number of CS RAB used by specific subscriber session over IuCS interface while connected to HNB-CS core network.
State	Indicates the state of CS RAB used by specific subscriber session over IuCS interface while connected to HNB-CS core network. Possible states are: Established or Released.

Field	Description
IUH interface	This group displays the session setup information of IuH interface between HNB and HNB-GW used by specific subscriber session while connected to HNB-CS core network.
Local RTP Addr	Indicates the local IP address allocated to HNB-GW by RTP IP pool and used by HNB-GW for establishing IuH session with HNB. This address is used for RTP session in specific subscriber session while connected to HNB-CS core network.
Local RTP port	Indicates the local RTP port number used by HNB-GW for establishing IuH session with HNB. This port is used by RTP session in specific subscriber session while connected to HNB-CS core network.
Remote RTP Addr	Indicates the remote IP address allocated to HNB by RTP IP pool and used by HNB-GW for establishing IuH session with HNB. This address is used for RTP session in specific subscriber session while connected to HNB-CS core network.
Remote RTP port	Indicates the local RTP port number used by HNB for establishing IuH session with HNB-GW. This port is used by RTP session in specific subscriber session while connected to HNB-CS core network.
RTP	This group indicates the RTP data packet transmission information for specific subscriber session connected to HNB-CS core network.
RTP Downlink Packets Rx	Indicates the total number of RTP packets received by HNB-GW in downlink direction (from CN) over IuCS interface for specific subscriber session connected to HNB-CS core network.
RTP Uplink Packets Tx	Indicates the total number of RTP packets transmitted by HNB-GW in uplink direction (to CN) over IuCS interface for specific subscriber session connected to HNB-CS core network.
RTP Downlink Packets dropped	Indicates the total number of RTP data packets dropped by HNB-GW in downlink direction (from CN to HNB) over IuH interface for specific subscriber session connected to HNB-CS core network.
Drop Cause	This group indicates the reasons for RTP data packets dropped by HNB-GW in downlink/uplink direction over RTP tunnel for specific subscriber session connected to HNB-CS core network.
RAB not in CONNECTED state	Indicates the total number of packets dropped by HNB-GW in downlink direction over RTP tunnel for specific subscriber session connected to HNB-CS core network as RAB was not connected when RTP packets received by HNB-GW.
Miscellaneous	Indicates the total number of packets dropped by HNB-GW in downlink direction over RTP tunnel for specific subscriber session connected to HNB-CS core network due to Emergency type of session or other unknown cause.
IU interface	This group indicates the data packet transmission information over IuCS interface for specific subscriber session connected to HNB-CS core network.
Transport	Indicates the type of transport used in HNB-GW service instance over IuCS interface for specific subscriber session connected to HNB-CS core network. Possible type of transport are IP or ATM.

Field	Description
AAL2 Node	This group displays the information related to ATM adaptation layer 2 (AAL2) channel used for specific subscriber session connected to HNB-CS core network.
AAL2 Path	Indicates the identity number of AAL2 path used for ATM transport in AAL2 node which is applicable for specific subscriber session connected to HNB-CS core network.
AESA	Indicates the ATM End System Address (AESA) used for ATM transport in AAL2 node which is applicable for specific subscriber session connected to HNB-CS core network.
AAL2	This group indicates the AAL2 packet transmission information over ATM channel for specific subscriber session connected to HNB-CS core network.
AAL2 Downlink Packets Rx	Indicates the total number of AAL2 packets received by HNB-GW in downlink direction (from CN) over ATM channel for specific subscriber session connected to HNB-CS core network.
AAL2 Uplink Packets Tx	Indicates the total number of AAL2 packets transmitted by HNB-GW in uplink direction (to CN) over ATM channel for specific subscriber session connected to HNB-CS core network.
AAL2 Downlink Packets dropped	Indicates the total number of AAL2 packets dropped by HNB-GW in downlink direction (from CN to HNB) over ATM channel for specific subscriber session connected to HNB-CS core network.
Drop Cause	This group indicates the reasons for AAL2 packets dropped by HNB-GW in downlink direction over ATM channel for specific subscriber session connected to HNB-CS core network.
RAB not in CONNECTED state	Indicates the total number of packets dropped by HNB-GW in downlink direction over ATM channel for specific subscriber session connected to HNB-CS core network as RAB was not connected when ATM packets received by HNB-GW.
Miscellaneous	Indicates the total number of packets dropped by HNB-GW in downlink direction over ATM channel for specific subscriber session connected to HNB-CS core network due to Emergency type of session or other unknown cause.

show subscribers hnbgw-service



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 621: show subscribers hnbgw-service svc_name Command Output Descriptions

Field	Description
vv	Displays service and session state information. This column provides a code consisting of two characters.
	From left-to-right, the first character represents the **Network Type** that the subscriber is using. The possible access types are: - **H**: HNB - **P**: PS Connection - **C**: CS Connection
	The second character represents the **Call State**. The possible call states are: - **R**: Registered - **D**: Deregistered - **C**: Connected - **N**: Disconnected
CALLID	Displays the subscriber's call identification (callid) number on HNB-GW in HNB access network.
HNB/UE Id	Displays the HNB or UE identifier on HNB-GW in HNB access network.
HNB IP Address	Displays the HNB IP address registered on HNB-GW service in HNB access network.

show subscribers mme-only full

Table 622: show subscribers mme-only full Command Output Descriptions

Field	Description
Username	The subscriber name connected for EPS session.
Status	Indicates the status of EPS subscriber session. Possible status are Online/Active or Offline/Dormant/Idle.
Access Type	Indicates the type of access applicable for this subscriber. For MME subscribers it should be **s1-mme**.
Network Type	Indicates the type of network service used for the subscriber session. See
Access Tech	Indicates the accessing technology. For MME session it is **eUTRAN**.
Access Network Peer ID	Indicates the identifier of the peer in access network.
Peer Id	Indicates the identifier of the peer MME in home network.

Field	Description
callid	The MME subscriber's call identification number (callid).
msid	The MME subscriber's mobile station identification (MSID), and whether the subscriber is unauthenticated (such as during emergency attach).
imei	The MME subscriber's International Mobile Equipment Identity (IMEI).
guti	This group indicates the Globally Unique Temporary Identifier (GUTI) constructed with following identifiers: - PLMN (MMC and MNC) - MME Group ID (MMEGI) - MME Code (MMEC) - MME TMSI (M-TMSI)
plmn-id	Indicates the public mobile land network (PLMN) of which MME belongs. PLMN is constructed from MMC and MNC.
mme-group-id	Indicates the MME group Id of which MME belongs to.
mme-code	Indicates the MME code of which MME belongs to.
m-tmsi	Indicates the MME TMSI which is used to identify this subscriber in MME service.
MSISDN	Indicates the Mobile Subscriber Integrated Services Digital Network Number (MSISDN) of the subscriber connected to an MME service.
Card/Cpu	The card and CPU ID on which this MME subscriber session is running.
Sessmgr Instance	The session manager instances running for this subscriber.
state	The state of MME subscriber session. The possible values are: - Connected - Connecting - Disconnecting - Unknown
Peer address	IP address of peer MME system in network.
connect time	Indicate the time in DAYMMMDD HH:MM:SS YYYY format when call connected to MME service.
call duration	Total time lapsed after call connected for this subscriber with this MME service.
idle time	The time period that the subscriber session has been idle, either in an active or dormant state.
ip address	Indicates the primary IP address of the subscriber interface in the session.
mme-service name	Indicates the name of MME service which is serving this subscriber for MME calls.

Field	Description
mme-service context	Indicates the name of system context in which particular MME service which is serving this subscriber for MME calls is configured.
source context	The name of the source context in which the S1-MME interface is configured for this MME service
destination context	The name of the destination context in which the S5/S8 interface is configured for this MME service.
Imsimgr Instance DCNR Devices	The IMSI Manager instance holding the mapping entry for a subscriber session is displayed as part of the subscriber session information. Indicates the number of DCNR devices attached to the MME.

show subscribers summary pgw only

Table 623: show subscribers summary pgw only Command Output Descriptions

Field	Description
EUTRAN	The total number of EUTRAN PDNs by RAT-Type.
UTRAN	The total number of UTRANs PDNs by RAT-Type.
GERAN	The total number of GERANs PDNs by RAT-Type.
WLAN	The total number of WLANs PDNs by RAT-Type.
Other	The total number of Others PDNs by RAT-Type.

show subscribers pdif-service

Table 624: show subscribers pdif-service Command Output Descriptions

Field	Description
vvvvvv	Displays service and session state information. This column provides a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using. See
	The second character represents the **Access Technology**. See
	The third character represents the **Call State**. See
	The fourth character represents the **Access CSCF Status** of the session. The possible network types are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
	The fifth character represents the **Link Status** of the session. The possible idle states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected)
	The sixth character represents the session **Network Type**. See
CALLID	Displays the subscriber's call identification (callid) number.
MSID	Displays the subscriber's mobile station identification (MSID) number.
USERNAME	Displays the subscriber's username.
IP	Displays the IP address assigned to the subscriber.
TIME-IDLE	Displays the amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers pgw-only full all

Table 625: show subscribers pgw-only full all Command Output Descriptions

Field	Description
Access Type	Indicates the session type for this subscriber. See **Common Attributes** in this chapter.

Field	Description
Network Type	Indicates the network service used for the subscriber session. See **Common Attributes** in this chapter.
Access Tech	Indicates the accessing technology. See **Common Attributes** in this chapter.
pgw-service-name	The name of the P-GW service configured and running on the system.
Callid	The subscriber's call identification number (callid).
IMSI	The International Mobile Subscriber Identification (IMSI) which is the 3-digit MCC (Mobile Country Code), 2 or 3-digit MNC (Mobile Network Code), and the MSIN (Mobile Subscriber Identification Number).
MSISDN	The Mobile Station International ISDN Number (MSISDN) of the subscriber node.
External ID	The External-Id that is used as an alternative ID for the MSISDNLess device. External-Id is received in the Network Access Identifier (NAI) format with a maximum size of 22 characters. The operator must ensure the correct format and size of the External-Id value.
Interface Type	Indicates the type of interface.
Low Access Priority	Displays whether or not LAPI (Low Access Priority Indicator) PDN sessions are rejected due to overload.
TWAN Mode	Displays TWAN mode value associated with a P-GW subscriber. Possible TWAN modes are: • Multi-connection Mode • Single-connection Mode • Transparent Single Connection Mode
Emergency Bearer Type	The Emergency Bearer Type of the subscriber session.
S6b Returned Virtual APN	Displays the S6b returned full virtual APN name, if the Virtual APN Truncation feature is enabled. Otherwise, it displays "N/A". For more information on this feature, see the *Rf Interface Support* chapter in the administration guide of the product you are deploying.
Restoration priority level	Displays the value of restoration priority associated with a P-GW subscriber.
S6b Auth Status	S6b Auth Status shown as By-passed if S6b auth failed and in the assumed positive state.
Bearer State	
in packet dropped sgw restoration state	Uplink packets dropped during S-GW Restoration.
in bytes dropped sgw restoration state	Uplink bytes dropped during S-GW Restoration.
out packet dropped sgw restoration state	Downlink packets dropped during S-GW Restoration.

Field	Description
out bytes dropped sgw restoration state	Downlink bytes dropped during S-GW Restoration.
Paging Policy Differentiation	Displays whether or not the PPD feature is enabled.
multiple-pra	Multiple Presence Reporting Area Information Reporting.
4G MHS Input Bytes	The total number of input bytes used with 4G Tethering.
4G MHS Output Bytes	The total number of output bytes used with 4G Tethering.
5G MHS Input Bytes	The total number of input bytes used with 5G Tethering.
5G MHS Output Bytes	The total number of ouput bytes used with 5G Tethering.
5G Composite Input Bytes	The total number of input bytes used with 5G Composite (Tethering and non-Tethering).
5G Composite Output Bytes	The total number of ouput bytes used with 5G Composite (Tethering and non-Tethering).

show subscribers pgw-only summary

Table 626: show subscribers pgw-only summary Command Output Descriptions

Field	Description
Total S6b Assume Positive	Total number of subscribers in the assumed positive state.

show sub pgw-only data-rate

Use this command to view the combined PGW subscribers' data rate.

Field	Description
Peak rate from user(bps)	The peak data rate in bits per second is obtained for data that are sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.
Peak rate to user(bps)	The peak data rate in bits per second is obtained for data that are received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
ave rate from user(bps)	The average data rate in bits per second that is obtained for data that are sent from the subscriber to the network during the last sampling period. The sampling period is 30 seconds.

ave rate to user(bps)	The average data rate in bits per second is obtained for data that are received from the network by the subscriber during the last sampling period. The sampling period is 30 seconds.
sust rate from user(bps)	The mean data rate in bits per second is obtained for data that is sent from the subscriber to the network during the last three sampling periods. The sampling period is 30 seconds.
sust rate to user(bps)	The mean data rate in bits per second is obtained for data that are received from the network by the subscriber during the last three sampling periods. The sampling period is 30 seconds.
Peak rate from user(pps)	The speed that packets are received from the user in packets per second. The sampling period is 30 seconds.
peak rate to user(pps)	The speed at which the packets are sent to the user in packets per second. The sampling period is 30 seconds.
ave rate from user(pps)	The average speed at which the packets are received from the user in packets per second. The sampling period is 30 seconds.
ave rate to user(pps)	The average speed that packets are being sent to the user in packets per second. The sampling period is 30 seconds.
sust rate from user(pps)	The sustained speed at which the packets are received from the user in packets per second. The sampling period is 30 seconds.
sust rate to user(pps)	The sustained speed at which the packets are sent to the user in packets per second. The sampling period is 30 seconds.

Using the following show commands you can view similar P-GW roaming data rate details for the PLMN types such as home, roaming, and visiting:

- **show subscribers pgw-only data-rate plmn-type** *home*: Displays P-GW home subscribers' data rate.
- **show subscribers pgw-only data-rate plmn-type** *roaming*: Displays P-GW roaming subscribers' data rate.
- **show subscribers pgw-only data-rate plmn-type** *visiting*: Displays P-GW visiting subscribers' data rate.

show subscribers policy

Table 627: show subscribers policy Command Output Descriptions

Field	Description
PCC rule stats	
Install requests	Total number of Policy Control and Charging (PCC) rule install requests.
Remove requests	Total number of PCC rule removal requests.

Field	Description
Installed uplink	Total number of PCC rules installed for uplink direction.
Installed downlink	Total number of PCC rules installed for downlink direction.
Activate requests	Total number of PCC rule activate requests.
Deactivate requests	Total number of PCC rule deactivate requests.
Activate group	Total number of policy groups activated.
Deactivate group	Total number of policy groups deactivated.
Active Rules	Total number of active rules.
Temp Inactive Rules	Total number of temporary inactive rules.
PCC rule failure stats	
Rule install failure	Total number of PCC rule install failures.
Rule remove failure	Total number of PCC rule removal failures.
Activation failure	Total number of PCC rule activation failures.
Deactivation failure	Total number of PCC rule deactivation failures.
Group activation failure	Total number of policy group activation failures.
Group deactivation failure	Total number of policy group deactivation failures.
Event stats	
Session up	Total number of subscriber sessions up.
Session down	Total number of subscriber sessions down.
Handoff	Total number of handoffs occurred.
RAT change	Total number of Radio Access Type (RAT) changes occurred.
User location change	Total number of user location changes occurred.
Default Bearer QoS change	Total number of default bearer QoS changes occurred.
Flow create	Total number of flows created.
Flow delete	Total number of flows deleted.
Bearer loss	Total number of bearer loss.
Bearer recovery	Total number of bearer recoveries after loss of bearer.
Update tft	Total number of Traffic Flow Template (TFT) updates.
Update qos	Total number of QoS updates.

Field	Description
UE Time Zone change	Total number of UE time zone changes occurred.
Event failure stats	
Session up	Total number of session up failures.
Session down	Total number of session down failures.
Handoff	Total number of handoff failures.
RAT change	Total number of RAT change failures.
User location change	Total number of user location change failures.
Default Bearer QoS change	Total number of default bearer QoS change failures.
Flow create	Total number of flow creation failures.
Flow delete	Total number of flow deletion failures.
Bearer loss	Total number of bearer loss failures.
Bearer recovery	Total number of bearer recovery failures.
Update tft	Total number of TFT update failures.
Update qos	Total number of QoS update failures.
UE Time Zone change	Total number of UE time zone change failures.
Auth stats	
Auth request	Total number of authorization requests sent.
Auth failure	Total number of authorization request failures.
Reauth request	Total number of re-authorization requests sent.
Reauth request failure	Total number of re-authorization request failures.
Terminate request	Total number of terminate requests sent.
Terminate request failure	Total number of terminate request failures.

show subscribers rulename <rule_name>

Table 628: show subscribers rulename <rule_name> Command Output Descriptions

Field	Description
Access Type	Indicates the type of access for this subscriber. See, Access Types, on page 2225.

Field	Description
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 2227.
Call State	The call state. See, Call States, on page 2227.
Access CSCF State	The access state of the session. The possible states are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
Link Status	Indicates the status of the flow. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected
Network Type	Indicates the session Network Type. See, Network Types, on page 2228.
vvvvvv	Displays service and session state information. This column displays a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using.
	The second character represents the **Access Technology**.
	The third character represents the **Call State**.
	The fourth character represents the **Access CSCF Status** of the session.
	The fifth character represents the **Link Status** of the session.
	The sixth character represents the session **Network Type**.
CALLID	The subscriber's call identification (callid) number.
MSID	The subscriber's mobile station identification (MSID) number.
USERNAME	The subscriber's user name.
IP	The IP address assigned to the subscriber.
TIME-IDLE	The amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers saegw-only full all

The output of the **show subscribers saegw-only full all** command displays the following details:

Field	Description
4G MHS Input Bytes	The total number of input bytes used with 4G Tethering.
4G MHS Output Bytes	The total number of output bytes used with 4G Tethering.
5G MHS Input Bytes	The total number of input bytes used with 5G Tethering.
5G MHS Output Bytes	The total number of ouput bytes used with 5G Tethering.
5G Composite Input Bytes	The total number of input bytes used with 5G Composite (Tethering and non-Tethering).
5G Composite Output Bytes	The total number of ouput bytes used with 5G Composite (Tethering and non-Tethering).
Access Tech: Indicates the accessing technology. See **Common Attributes** in this chapter.	
LTE-M	Displays the access technology of the call as LTE-M.

show subscribers samog-only full

Table 629: show subscribers samog-only full Command Output Descriptions

Field	Description
EAP-Method	Indicates the Extensible Authentication Protocol (EAP) method. The Possible values are: - EAP-AKA - EAP-SIM - EAP-AKA-PRIME - EAP-TLS - EAP-TTLS - EAP-PEAP **Note** The EAP-Method already displays EAP-AKA, EAP-SIM, EAP-AKA-PRIME. Now this show command is extended to display EAP-TLS, EAP-TTLS, EAP-PEAP.

show subscribers without-dynamic-rule

Table 630: show subscribers without-dynamic-rule Command Output Descriptions

Field	Description
Access Type	Indicates the type of access for this subscriber. See, Access Types, on page 2225.

Field	Description
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 2227.
Call State	The call state. See, Call States, on page 2227.
Access CSCF State	The access state of the session. The possible states are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
Link Status	Indicates the status of the flow. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected
Network Type	Indicates the session Network Type. See, Network Types, on page 2228.
vvvvvv	Displays service and session state information. This column displays a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using.
	The second character represents the **Access Technology**.
	The third character represents the **Call State**.
	The fourth character represents the **Access CSCF Status** of the session.
	The fifth character represents the **Link Status** of the session.
	The sixth character represents the session **Network Type**.
CALLID	The subscriber's call identification (callid) number.
MSID	The subscriber's mobile station identification (MSID) number.
USERNAME	The subscriber's user name.
IP	The IP address assigned to the subscriber.
TIME-IDLE	The amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers without-override-control

Table 631: show subscribers without-override-control Command Output Descriptions

Field	Description
Access Type	Indicates the type of access for this subscriber. See, Access Types, on page 2225.
Access Tech	Represents the **Access Technology**. See, Access Technologies, on page 2227.
Call State	The call state. See, Call States, on page 2227.
Access CSCF State	The access state of the session. The possible states are: - **A**: Attached - **N**: Not Attached - **.** (period): Not Applicable
Link Status	Indicates the status of the flow. The possible states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected
Network Type	Indicates the session Network Type. See, Network Types, on page 2228.
vvvvvv	Displays service and session state information. This column displays a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using.
	The second character represents the **Access Technology**.
	The third character represents the **Call State**.
	The fourth character represents the **Access CSCF Status** of the session.
	The fifth character represents the **Link Status** of the session.
	The sixth character represents the session **Network Type**.
CALLID	The subscriber's call identification (callid) number.
MSID	The subscriber's mobile station identification (MSID) number.
USERNAME	The subscriber's user name.
IP	The IP address assigned to the subscriber.
TIME-IDLE	The amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers sgsn-only full

Table 632: show subscribers sgsn-only full Command Output Descriptions

Field	Description
Source context	Specifies the name of a configured source context from which the subscriber initiates a session.
Destination context	Specifies the name of a configured destination context through which the subscriber is provided access to the packet data network.
Accounting context	Specifies the name of a configured accounting context through which the subscriber is provided accounting of data session.
Subscriber Plmn Type	Indicates the subscriber type of Public Land Mobile Network area. Possible values are: - **H**: Home networks - **F**: Foreign networks - **U**: Unknown networks
Charging Characteristics	Displays the Charging characteristics. Hot Billing, Flat rate Billing, Prepaid Billing and Normal Billing
Charging Characteristics Selection Mode	Displays the selection mode of the Charging characteristics.
MNRG Flag	The MNRG (Mobile Not Reachable for GPRS) flag indicates whether activity from the MS will be reported to the HLR or not. Possible values are True or False.
PPF	The PPF (Page Proceed Flag) indicates whether paging for PS and CS services can be initiated. Possible values are True or False.
NGAF	The NGAF (Non-GRPS Alert Flag) indicates whether activity from the MS will be reported to the MCSC/VLR. Possible values are True or False.
VLR-Reliable	Set to 'false' when the SGSN has received a reset indication from the VLR. The SGSN may request the MS, upon reception of the next routing area update (either periodic routing area update or combined routing and location area update) procedure, to re-attach to non-GPRS services if the MS is still IMSI attached to non-GPRS services. Alternatively, the SGSN may upon reception of a combined routing and location area update request or a periodic routing area update from a MS that is still attached for non-GPRS service, perform immediately the location update for non-GPRS services procedure.
VLR-Association	States associated to the Gs interface in the VLR. Possible states are: - Gs-NULL - LA-UPDATE PRESENT - Gs-ASSOCIATED

Field	Description
NRI Assigned	The Network Resource Identifier (NRI) is used either when Iu-flex or Gb-flex is used or when MOCN configuration is used for network sharing. NRI is a 1-10 bit length value that is a part of PTMSI. This de-multiplexes which SGSN handles the subscriber at the RNC or BSS. The NRI that was chosen for this subscriber is shown and this is useful to know when this SGSN is configured with more than one NRI.
Network Sharing Capability	Specifies the MS support for network shearing. When network sharing feature is enabled, it is possible that the MS is a supporting MS or a non-supporting MS. The three possible values the MS Network Sharing Support feature can hold are: - Not Applicable (Network Sharing is not enabled) - Not Supported (Network Sharing is enabled; MS does not support this feature.) - Supported (Network Sharing is enabled; MS supports this feature.)
Access Type	Access type that the subscriber is using. Following are some examples of access type, pdsn- simple-ip, ha-mobile-ip or ggsn-pdp-type-ipv4.
Access Tech	Access technology used by the subscriber. Following are some example s of access technology WCDMA, UTRAN, FEMTO UTRAN.
Callid	Displays subscriber's call identification number.
State	The call state. Possible states are **C**: connected, **c**: Connecting, **d**: Disconnecting.
RFSP Id in Use	Displays the value of the RFSD Id. used.
Connect Time	Time of connection in Day Month d hh:mm:ss yyyy format.
Network Type	Type of network. Following are some of the examples of network type IP, Mobile IP, L2TP.
Idle Time	Time period in hh:mm:ss format, for this duration the subscriber session has been idle, either in active or in dormant state.
User Location (RAI)	Location of the user in the type of network. This is the Routing Area Identifier (RAI) provided during the registration with the GW service. The RAI signifies the routing area belonging to the GW service.
Serving PLMN	Identification of serving Public Land Mobile Network (PLMN).
Global RNC-Id	Displays information related to Global Radio Network Controller (RNC) settings used by CS core network for a GW service on a chassis. It is configured under PLMN Id.
VLR Number	Total number of VLRs associated with this application.
ISR-Activated	**S4-SGSN only**: Indicates if the Idle-Mode Signaling Reduction (ISR) feature is enabled (True) or disabled (False) on the SGSN.
MME Ctrl Teid	**S4-SGSN only**: If the **ISR-Activated** field reads **True**, this field provides the MME Control Tunnel Endpoint Identifier (Teid). The Ctrl TEID is the specific S3 tunnel on the MME being used for this ISR-activated subscriber.

Field	Description
MME IP Address	**S4-SGSN only**: If the **ISR-Activated** field reads **True**, this field provides the IP address of the MME associated with this ISR-activated subscriber.
GEA/1	Total number of currently attached subscribers that are affecting MS network capability by using GPRS Encryption Algorithm (GEA)/1 encryption.
GEA/2	Total number of currently attached subscribers that are affecting MS network capability by using GEA/2 encryption.
GEA/3	Total number of currently attached subscribers that are affecting MS network capability by using GEA/3 encryption.
GEA/4	Total number of currently attached subscribers that are affecting MS network capability by using GEA/4 encryption.
GEA/5	Total number of currently attached subscribers that are affecting MS network capability by using GEA/5 encryption.
GEA/6	Total number of currently attached subscribers that are affecting MS network capability by using GEA/6 encryption.
GEA/7	Total number of currently attached subscribers that are affecting MS network capability by using GEA/7 encryption.
LCS VA Capability	Specifies availability of Location Service (LCS) Value Added (VA) capability.
Split PG Cycle Code	Value of Split PG Cycle parameter, for the Discontinuous Reception (DRX).
SPLIT on CCCH	Availability of split on CCCH parameter for Discontinuous Reception (DRX).
APN	Access Point Name associated with the user name or subscriber.
NSAPI	subscriber's Network Service Access Point Identifier (NSAPI).
Context Initiated By	Session context initiator for example an MS.
Direct Tunnel	Specifies whether a direct tunnel between RAN and GGSN is established, not established or torn down by the SGSN.
Fast Path	Specifies whether the fast path is established so that SGSN can perform other signaling procedures and higher services or such fast path is not established.
Charging Characteristics	Associated charging characteristics profile for example hot or normal or pre-paid or flat billing.
Charging Characteristics Selection Mode	Selection mode of associated charging characteristics for example APN.
Charging Id	Contains a unique identifier that can be used for correlating charging records and events.
APN Selection Mode	Type of associated APN selection method. For example an APN selection mode can be chosen by SGSN, sent by MS or subscribed.

Field	Description
Bearer Control Mode	BCM mode is applicable to all PDP contexts within the activated PDP Address/APN pair and is stored common to all PDPs of a bundle. All PDPs in the bundle will display the same information. This parameter represents the latest Bearer Control Mode (BCM) information received, by an SGSN in a UMTS network from a GGSN, in Create PDP Context Response or Update PDP Context Request/Response messages. Value for this field is either "MS only" or "MS/NW" (also known as mixed mode) in accordance with section 7.7.83 of 3GPP TS 29.060 R9.
EUTRAN Service Handover	Indicates if the system is configured to include the E-UTRAN Service Handover Information Element (IE) in RAB Assignment Request and Relocation Request RANAP messages.
Requested and Negotiated QoS	A Quality of Service Profile (QoS) profile for the GPRS is defined using service parameters such as: - Reliability class - Delay class - Traffic class - Max sdu size - Max bit rate uplink - Max bit rate downlink - Residual bit error rate - Sdu error rate - Traffic handling priority - Transfer delay - Guaranteed bit rate uplink - Guaranteed bit rate downlink - Precedence class - Peak throughput - Mean throughput Using these parameters an MS requests the network with specific values for the QoS profile parameters and the network provides the negotiated values of the profile parameters. There can be a difference between the values of the QoS parameters requested by the Mobile Station (MS), and those negotiated with the network.
Reliability Class (Requested QoS)	It is a QoS attribute associated with reliability. It considers reliability attributes such as delivery order, traffic handling priority as well as allocation and retention priority.
Delay Class (Requested QoS)	It is a QoS attribute associated with traffic flow, the delay class indicates network transient as well as transfer delay.

Field	Description
Traffic Class (Requested QoS)	It is a QoS attribute indicating various categories of traffic. For example a traffic class can be, Conversational, Streaming, Background, Interactive 1, Interactive 2 or Interactive 3.
Max sdu Size (Requested QoS)	It is a QoS attribute that indicates maximum allowable size of Service Data Units (SDUs).
Max Bit Rate Uplink (Requested QoS)	It is a QoS attribute indicating maximum allowable rate in **kbps** for sending the data from an MS to network. This is a requested QoS parameter indicating the upper limits requested by the subscriber or the default values provided as per the QoS profile.
Max Bit Rate Downlink (Requested QoS)	It is a QoS attribute indicating maximum allowable rate in **kbps** for sending the data from the network to an MS.
Residual Bit Error Rate (Requested QoS)	It is a QoS attribute indicating reliability based on residual Bit Error Rate (BER). For specific traffic class such as conversational, streaming, interactive or background certain range of residual BER is required.
Sdu Error Rate (Requested QoS)	It is a QoS attribute indicating reliability based on Service Delivery Unit (SDU) error rate. For specific traffic class such as conversational, steaming, interactive or background certain range of Sdu Error Rate is required.
Traffic Handling Priority (Requested QoS)	It is a QoS attribute indicating the importance or priority of handling SDUs belonging to a specific PDP context as compared to any other PDP context.
Transfer Delay (Requested QoS)	It is a QoS attribute. It indicates the delay encountered in ms while delivering about 95% SDUs in the life time of a given bearer service.
Guaranteed Bit Rate Uplink (Requested QoS)	It is a QoS attribute. It is a rate that indicates the guaranteed number of bits delivered by the MS to the SGSN in a specific time frame divided by the duration.
Guaranteed Bit Rate Downlink (Requested QoS)	It is a QoS attribute. It is a rate that indicates the guaranteed number of bits delivered by the SGSN to the MS in a specific time frame, divided by the duration.
Precedence Class (Requested QoS)	It is a QoS attribute that indicates the service precedence supported by the SGSN by discarding packets based on the basis of requested and negotiated precedence between MS and UTRN. For example a precedence class can have values such as high, normal and low.
Peak Throughput (Requested QoS)	It is a QoS attribute that indicates configured maximum allowed throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between SGSN and MS.
Mean Throughput (Requested QoS)	It's a QoS attribute that indicates configured mean throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between SGSN and MS.
Reliability Class (Negotiated QoS)	It is a QoS attribute associated with reliability. It considers reliability attributes such as delivery order, traffic handling priority as well as allocation and retention priority.
Delay Class (Negotiated QoS)	It is a QoS attribute associated with traffic flow, the delay class indicates network transient as well as transfer delay.

Field	Description
Traffic Class (Negotiated QoS)	It is a QoS attribute indicating various categories of traffic. For example a traffic class can be, Conversational, Streaming, Background, Interactive 1, Interactive 2 or Interactive 3.
Max sdu Size (Negotiated QoS)	It is a QoS attribute that indicates maximum allowable size of Service Data Units (SDUs).
Max Bit Rate Uplink(Negotiated QoS)	It is a QoS attribute indicating maximum allowable rate in kbps for sending the data from an MS to network.
Max Bit Rate Downlink (Negotiated QoS)	It is a QoS attribute indicating maximum allowable rate in kbps for sending the data from the network to an MS.
Residual Bit Error Rate (Negotiated QoS)	It is a QoS attribute indicating reliability based on residual Bit Error Rate (BER). For specific traffic class such as conversational, streaming, interactive or background certain range of residual BER is required.
Sdu Error Rate (Negotiated QoS)	It is a QoS attribute indicating reliability based on Service Delivery Unit (SDU) error rate. For specific traffic class such as conversational, steaming, interactive or background certain range of Sdu Error Rate is required.
Traffic Handling Priority (Negotiated QoS)	It is a QoS attribute indicating the importance or priority of handling SDUs belonging to a specific PDP context as compared to any other PDP context.
Transfer Delay (Negotiated QoS)	It is a QoS attribute. It indicates the delay encountered in ms while delivering about 95% SDUs in the life time of a given bearer service.
Guaranteed Bit Rate Uplink (Negotiated QoS)	It is a QoS attribute. It is a rate that indicates the guaranteed number of bits delivered by the MS to the SGSN in a specific time frame divided by the duration.
Guaranteed Bit Rate Downlink (Negotiated QoS)	It is a QoS attribute. It is a rate that indicates the guaranteed number of bits delivered by the SGSN to the MS in a specific time frame, divided by the duration.
Precedence Class (Negotiated QoS)	It is a QoS attribute that indicates the service precedence supported by the SGSN by discarding packets based on the basis of requested and negotiated precedence between MS and UTRN. For example a precedence class can have values such as high, normal and low.
Peak Throughput (Negotiated QoS)	It is a QoS attribute that indicates configured maximum allowed throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between SGSN and MS.
Mean Throughput (Negotiated QoS)	It's a QoS attribute that indicates configured mean throughput rate. This attribute along with other attributes such as precedence, delay and reliability classes can be used for shaping traffic between SGSN and MS.
Downlink traffic-rate-limit	The limit or maximum allowable value for rate of traffic from UTRAN to the MS. This limit can be enabled or disabled.
Uplink traffic-rate-limit	The limit or maximum allowable value for the rate of traffic from MS to UTRAN. This limit can be enabled or disabled.
Input Packets	Number of packets received for example management packets or pass packets.

Field	Description
Input Bytes	Number of bytes received.
Input Packets Dropped	Number of packets that were dropped while receiving data for this subscriber session.
Input Bytes Dropped	Number of bytes dropped while receiving data for this subscriber session.
Input Packets Dropped due to LORC	Number of packets that were dropped while receiving that data due to Loss Of Radio Coverage (LORC).
Input Bytes Dropped due to LORC	Number of bytes that were dropped while receiving that data due to Loss Of Radio Coverage (LORC).
Output Packets Dropped	Number of packets that were dropped while transmitting data for this subscriber session. It includes packets blocked by Access Control Lists (ACLs).
Output Bytes Dropped	Number of bytes that were dropped while transmitting data for this subscriber session.
Output Packets Dropped due to LORC	Number of packets that were dropped while UE was out of coverage area or radio coverage was lost for a subscriber. This is applicable when SGSN notifies update PDP contexts for QoS charge. With GTP-C extension for Loss Of Radio Coverage (LORC) and GGSN is enabled for overcharging protection for subscriber due to LORC.
Pk Rate From User (bps)	Peak or maximum data rate, in bits per second for the data that is sent by the subscriber to the network during last sampling period. The sampling period is 30 seconds.
Pk Rate to User (bps)	Peak or maximum data rate, in bits per second for the data that is received by the subscriber from the network during last sampling period. The sampling period is 30 seconds.
Sust Rate From User (bps)	Sustainable rate of packet transmission by the subscriber to the network, in bits per seconds. The sampling period is 30 seconds.
Sust Rate to User (bps)	Sustainable speed or rate of packet reception by the subscriber from the network, in bits per seconds. The sampling period is 30 seconds.
Ave Rate From User (bps)	Mean or average data rate, in bits per second for the data that is sent from the subscriber to the network for last three sampling periods. The sampling period is 30 seconds.
Ave Rate to User (bps)	Mean or average data rate, in bit per second for the data that is received by the subscriber from the network for last three sampling periods. The sampling period is 30 seconds.
Current PTMSI	Current value of Packet Temporary Mobile Subscriber Identifier (P – TMSI), an identifier allocated to UE by SGSN.
Current PTMSI Acked by MS	Specifies whether the current P-TMSI is acknowledged by the mobile station.
Any Previous PTMSI	Specifies presence or absence of any previous P-TMSI.
MNRG Flag	Current status of Mobile Not Reachable for GPRS (MNRG) flag. This flag indicates whether the MS activates are being reported to HLR or not. Possible values for this flag are true or false.
Subscriber offload status	Indicates the subscriber offload status.

Field	Description
PDP Context Id (PDP Subscription)	Identifies the PDP context for PDP subscription data.
APN (PDP Subscription)	Identifies the Access Point Name (APN) associated with this PDP subscription.
PDP Type (PDP Subscription)	Category of PDP context. For example it can be IPv4, IPv6 or PPP.
PDP Address Type (PDP Subscription)	Category or type of PDP address allocation. For example the address type can be static or dynamic.
Ext PDP Address Type (PDP Subscription)	Category or type of address allocation for external PDP address. For example it can be static or dynamic.
Charging Characteristics (PDP Subscription)	Category of charging characteristics associated with this PDP subscription. For example it can be normal billing or hot billing.
VPLMN Address Allowed (PDP Subscription)	Specifies whether the address of Visited Public Land Mobile Network is allowed or not allowed.
Reliability Class (PDP Subscription)	Reliability class associated with the PDP subscription. It considers reliability attributes such as delivery order, traffic handling priority, as well as allocation and retention priority. For example reliability class for PDP subscription can be unacknowledged GTP, LLC, acknowledged RLC or protected data.
Delay Class (PDP Subscription)	Defined category of network transient delay for the PDP subscription data. For example class 4.
Precedence Class (PDP Subscription)	Service precedence delay supported by SGSN by discarding or allowing packets based on the precedence class for the PDP subscription. For example the precedence class for PDP subscription can be high priority.
Peak Throughput (PDP Subscription)	Configured maximum allowed throughput rate for the PDP subscription. Along with other fields such as reliability, delay or precedence class, it can be used for traffic shaping.
Mean Throughput (PDP Subscription)	Configured mean throughput rate for the PDP subscription. Along with other fields such as reliability, delay or precedence class, it can be used for traffic shaping.
Allocation/Retention Priority (PDP Subscription)	Allocation, retention priority indicates the reliability of the PDP subscription data. For example for various traffic classes such as conversational, streaming, interactive and background, this priority can be defined as 1, 2 or 3.
Delivery of Erroneous SDUs (PDP Subscription)	Status of the delivery of erroneous Service Delivery Units (SDUs) for the PDP subscription. For example it indicates whether the delivery of erroneous SDU's is detected or not.
Traffic Class (PDP Subscription)	Category of traffic associated with this PDP subscription. Traffic is broadly categorized as Conversational, streaming, Background and Interactive.
Max SDU Size (PDP Subscription)	Maximum allowable size of Service Data Units (SDUs) in octets, which is associated with this PDP subscription data.
Max Bit Rate Uplink (PDP Subscription)	Maximum allowable rate in kbps for sending that data from an MS to network, that is associated with the PDP subscription.Indicates maximum allowable rate in kbps for sending that data from an MS to network, that is associated with the PDP subscription.

Field	Description
Max Bit Rate Downlink (PDP Subscription)	Maximum allowable rate in kbps for sending the data from network to the MS, which is associated with the PDP subscription.
Residual Bit Error Rate (PDP Subscription)	Reliability based on residual Bit Error Rate (BER) associated with PDP subscription. For specific traffic class such as conversational, streaming, interactive or background, certain range of residual BER is required.
SDU Error Rate (PDP Subscription)	Reliability class based on Service Delivery Unit (SDU) error rate associated with the PDP subscription. For specific traffic class such as Conversational, Streaming, Interactive or background, certain range of SDU error rate is required.
Traffic Handling Priority (PDP Subscription)	Priority or importance of handling SDUs belonging to a specific context associated with the PDP subscription.
Transfer Delay (PDP Subscription)	Delay encountered in ms, while delivering about 95% of SDUs associated with the PDP context, in the life time of the bearer service.
Guaranteed Bit Rate Uplink (PDP Subscription)	Guaranteed number of bits delivered by MS to network in kbps for the associated PDP context.
Guaranteed Bit Rate Downlink (PDP Subscription)	Guaranteed number of bits delivered by network to MS, in kbps for the associated PDP context.
SSAF	Indicates if the SSAF flag is set during the CSFB procedure.
EMM Combined UE Waiting Flag	Indicates if the EMM combined UE waiting flag is set during the CSFB procedure.
Higher Than 16 Mbps	Displays the MM context value of the "higher bit rates than 16 Mbps" flag as either Allowed or Not Allowed or Unknown.
Subscription Type	Displays the configured subscription type as either "EPS" or "GPRS".
Evolved Allocation/Retention Priority	Displays the Evolved Allocation/Retention Priority parameters.
Priority level	Indicates the configured priority level of the E-ARP.
Pre-emption Vulnerability	Displays the configured pre-emption vulnerability value, the value is configured as either "0" or "1".
Pre-emption Capability	Displays the configured pre-emption capability value, the value is configured as either "0" or "1".
AMBR	Displays the Aggregate Maximum Bit Rate (AMBR) in bits per second.
Negotiated APN-AMBR UL	Displays the negotiated APN-AMBR value in uplink direction.
Negotiated APN-AMBR DL	Displays the negotiated APN-AMBR value in downlink direction.
Max-Requested-Bandwidth-UL	Displays the maximum requested bandwidth in uplink direction.
Max-Requested-Bandwidth-DL	Displays the maximum requested bandwidth in downlink direction.
Applied UE-AMBR DL	Displays the AMBR value applicable to the UE in downlink direction.

show subscribers sgsn-only summary

Table 633: show subscribers sgsn-only summary Command Output Descriptions

Field	Description
Total Subscribers	
Total Connected Subscribers	
Total Idle Subscribers	
Total Detached Subscribers	
Total Active Subscribers	
Total Subscribers using HLR	The total number of SGSN subscribers authorized via the home location register (HLR).
Total Subscribers using HSS	The total number of SGSN subscribers authorized via the home subscriber server (HSS).
Total PDP contexts	
pdp-type-ipv4	
pdp-type-ppp	
pdp-type-ipv6	
PDP contexts with direct tunnel	**Description**: This proprietary statistic indicates the total number of PDP contexts activated with direct tunnel. **Triggers**: Increments when PDP context with direct tunnel feature is activated for a subscriber. **Availability**: per RNC, per RA, per SGSN service
LCS Subscription	
GMLC List	Counter to display GMLC List information.
GMLC Address	Displays GMLC Address.
LCS Privacy Exception List	Displays the LCS privacy exception list.
LCS Privacy Class	Displays the LCS Privacy Class information.
SS Code	Displays the SS Code.
SS Status	Displays the SS Status.
Notification to MS User	Displays the notifications to MS user.
External Client List	Counter to display the external client list.
External Client Id	Counter to display the external client Id.

Field	Description
GMLC Restriction	Displays the GMLC Restriction.
PLMN Client List	Counter to display the PLMN Client List.
PLMN	Displays the PLMN Id.
Service List	Counter to display the Service List.
Service Type Id	Counter to display the Service Type Id.
MOLR List	Displays the MOLR List.
MOLR Class	Displays the MOLR Class.
Ext PDP Type	Displays the PDP type.
Ext PDP Address Type	Displays the Ext. PDP Address Type only if Ext-PDP-Type is 'IPV4-V6'.
Ext PDP address	Displays the Ext. PDP Address only if Ext-PDP-Type is 'IPV4-V6'.
PGW Allocation Type	The PDN Allocation Type field in the EPS Subscription section of the "show subscribers sgsn-only full" and "show subscribers gprs-only full" commands has been renamed to avoid confusing this field with the PDP Address Allocation Type. The field has been renamed PGW Allocation Type.

show subscribers sgsn-only partial qos negotiated

Table 634: show subscribers sgsn-only partial qos negotiated Command Output Descriptions

Field	Description
QoS	Indicates the type of action for QoS. Possible values are: - QoS Requested (Re) - QoS Negotiated (Neg)
Traffic Class	Specifies the class of traffic. Possible values are: - Conversational (Conv) - Streaming (Strm) - Background (Back) - Interactive (Intr) - Unknown (Unkn)

Field	Description
Value	Specifies the status of QoS and subscriber. Possible values are: - Subscribed (Subs) - Reserved (Resv) - Best Effort (Best) - Negotiated (Nego)
IMSI	Indicates the International Mobile Subscriber identity of subscriber.
NSAPI	Indicates the Network Service Access Point Identifier of the subscriber.
Peak Thruput octet/h	The peak throughput in octets per hour for this subscriber.
Mean Thruput octet/h	The mean throughput in octets per hour for this subscriber.
MAX SDU Size	The maximum size of service data unit (SDU) in KB.
MBR UP kbps	The maximum bit rate in kilobit per second allowed for this subscriber for upload.
MBR Down kbps	The maximum bit rate in kilobit per second allowed for this subscriber for download.
GBR UP kbps	The guaranteed bit rate in kilobit per second allowed for this subscriber for upload.
GBR Down kbps	The guaranteed bit rate in kilobit per second allowed for this subscriber for download.

show subscribers sgw-address

Table 635: show subscribers sgw-address Command Output Descriptions

Field	Description
vvvvvv	Displays service and session state information. This column provides a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using. See
	The second character represents the **Access Technology**. See
	The third character represents the **Call State**. See
	The fourth character represents the **Access CSCF Status** of the session. The possible network types are: **A** - Attached **N** - Not Attached **.** (period) - Not Applicable
	The fifth character represents the **Link Status** of the session. The possible idle states are: **A** - Online/Active **D** - Dormant/Idle
	The sixth character represents the session **Network Type**. See
CALLID	Displays the subscriber's call identification (callid) number.
MSID	Displays the subscriber's mobile station identification (MSID) number.
USERNAME	Displays the subscriber's username.
IP	Displays the IP address assigned to the subscriber.
TIME-IDLE	Displays the amount of time that the subscriber session has been idle either in an active or dormant state.

show subscribers summary without-dynamic-rule without-override-control rulename <rule_name>



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 636: show subscribers summary Command Output Descriptions

Field	Description
Total Subscribers	

Field	Description
	Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them: Type of subscribers and packet/flow status are: - pdsn-simple-ipv4 - pdsn-simple-ipv6 - pdsn-mobile-ip - ha-mobile-ipv6 - hsgw-ipv6 - hsgw-ipv4 - hsgw-ipv4-ipv6 - pgw-pmip-ipv6 - pgw-pmip-ipv4 - pgw-pmip-ipv4-ipv6 - pgw-gtp-ipv6 - pgw-gtp-ipv4 - pgw-gtp-ipv4-ipv6 - sgw-gtp-ipv6 - sgw-gtp-ipv4 - sgw-gtp-ipv4-ipv6 - sgw-pmip-ipv6 - sgw-pmip-ipv4 - sgw-pmip-ipv4-ipv6 - mme - ipsg-rad-snoop - ipsg-rad-server - ha-mobile-ip - ggsn-pdp-type-ppp - ggsn-pdp-type-ipv4 - lns-l2tp - ggsn-pdp-type-ipv6 - ggsn-mbms-ue-type-ipv4 - pdif-simple-ipv4 - pdif-simple-ipv6 - pdif-mobile-ip

Field	Description
	- pdg-direct-ip

Field	Description
Total Subscribers *(cont.)*	

Field	Description
	- pdg-ttg - femto-ip - epdg-pmip-ipv6 - epdg-pmip-ipv4 - epdg-pmip-ipv4-ipv6 - sgsn - sgsn-pdp-type-ppp - sgsn-pdp-type-ipv4 - sgsn-pdp-type-ipv6 - sgsn-pdp-type-ipv4-ipv6 - type not determined - sgsn-subs-type-g - nsgsn-subs-type-s4 - sgsn-pdp-type-g - nsgsn-pdp-type-s4 - asngw-simple-ipv4 - asngw-simple-ipv6 - asngw-mobile-ip - asngw-non-anchor - asngw-auth-only - phsgw-simple-ipv4 - phsgw-simple-ipv6 - phsgw-mobile-ip - phsgw-non-anchor - cdma 1x rtt sessions - cdma evdo sessions - cdma evdo rev-a sessions - cdma 1x rtt active - cdma evdo active - cdma evdo rev-a active - asnpc-idle-mode - phspc-sleep-mode - hnbgw

Field	Description
	- hnbgw-iu - bng - pcc

Field	Description
Total Subscribers *(cont.)*	

Field	Description
	- in bytes dropped - out bytes dropped - in packet dropped - out packet dropped - in packet dropped zero mbr - out packet dropped zero mbr - ipv4 ttl exceeded - ipv4 bad hdr - ipv4 bad length trim - ipv4 frag failure - ipv4 frag sent - ipv4 in-acl dropped - ipv4 out-acl dropped - ipv4 in-mcast pkt dropped - ipv4 in-bcast pkt dropped - ipv6 bad hdr - ipv6 bad length trim - ipv6 in-acl dropped - i pv6 out-acl dropped - i pv4 in-css-down dropped - ipv4 out-css-down dropped - ipv4 out xoff pkt dropped - ipv6 out xoff pkt dropped - ipv4 xoff bytes dropped - ipv6 xoff bytes dropped - ipv4 out no-flow dropped - ipv4 early pdu rcvd - ipv4 icmp packets dropped - ipv6 input ehrpd-access drop - ipv6 output ehrpd-access drop - dormancy count - handoff count - pdsn fwd dynamic flows

Field	Description
	- pdsn rev dynamic flows
	- fwd static access-flows - rev static access-flows - pdsn fwd packet filters - pdsn rev packet filters - traffic flow templates
Active	Displays the total number all type of Active subscribers on the chassis.
Dormant	Displays the total number all type of Dormant subscribers on the chassis.

show subscribers tft

Table 637: show subscribers tft Command Output Descriptions

Field	Description
Username	Specifies the name of the subscriber.
callid	Displays the subscriber's call identification number (callid).
msid	Displays the subscriber's mobile station identification (MSID).
Number of TFTs	Displays the number of Traffic Flow Templates (TFTs).
MS IP Address	Displays the MS IP address.
Number of Packet Filters	Displays the number of Packet Filters.
Filter Evaluation Precedence 1:	
Flow Id	Displays the flow ID for the first precedence.
Flow Direction	Displays the flow direction (FORWARD or REVERSE) for the first precedence.
Flow State	Displays the flow state and A10 mapping for the first precedence.
Packet Filter Type	Displays the type of Packet Filter for the first precedence.
Filter Components Follows	
Ipv4 Source Addr/Mask	Displays the IP address and mask for the Ipv4 source address.
Filter Evaluation Precedence 2:	
Flow Id	Displays the flow ID for the second precedence.
Flow Direction	Displays the flow direction (FORWARD or REVERSE) for the second precedence.

Field	Description
Flow State	Displays the flow state and A10 mapping for the second precedence.
Packet Filter Type	Displays the type of Packet Filter for the second precedence.
Filter Components Follows	
Ipv4 Source Addr/Mask	Displays the IP address and mask for the Ipv4 source address.
Total TFTs matching specified criteria:	Displays the total number of matching TFTs.

show subscribers summary rulename <rule_name>



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 638: show subscribers summary Command Output Descriptions

Field	Description
Total Subscribers	

Field	Description
	Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them: Type of subscribers and packet/flow status are: - pdsn-simple-ipv4 - pdsn-simple-ipv6 - pdsn-mobile-ip - ha-mobile-ipv6 - hsgw-ipv6 - hsgw-ipv4 - hsgw-ipv4-ipv6 - pgw-pmip-ipv6 - pgw-pmip-ipv4 - pgw-pmip-ipv4-ipv6 - pgw-gtp-ipv6 - pgw-gtp-ipv4 - pgw-gtp-ipv4-ipv6 - sgw-gtp-ipv6 - sgw-gtp-ipv4 - sgw-gtp-ipv4-ipv6 - sgw-pmip-ipv6 - sgw-pmip-ipv4 - sgw-pmip-ipv4-ipv6 - mme - ipsg-rad-snoop - ipsg-rad-server - ha-mobile-ip - ggsn-pdp-type-ppp - ggsn-pdp-type-ipv4 - lns-l2tp - ggsn-pdp-type-ipv6 - ggsn-mbms-ue-type-ipv4 - pdif-simple-ipv4 - pdif-simple-ipv6 - pdif-mobile-ip

Field	Description
	- pdg-direct-ip

Field	Description
Total Subscribers *(cont.)*	

Field	Description
	- pdg-ttg - femto-ip - epdg-pmip-ipv6 - epdg-pmip-ipv4 - epdg-pmip-ipv4-ipv6 - sgsn - sgsn-pdp-type-ppp - sgsn-pdp-type-ipv4 - sgsn-pdp-type-ipv6 - sgsn-pdp-type-ipv4-ipv6 - type not determined - sgsn-subs-type-g - nsgsn-subs-type-s4 - sgsn-pdp-type-g - nsgsn-pdp-type-s4 - asngw-simple-ipv4 - asngw-simple-ipv6 - asngw-mobile-ip - asngw-non-anchor - asngw-auth-only - phsgw-simple-ipv4 - phsgw-simple-ipv6 - phsgw-mobile-ip - phsgw-non-anchor - cdma 1x rtt sessions - cdma evdo sessions - cdma evdo rev-a sessions - cdma 1x rtt active - cdma evdo active - cdma evdo rev-a active - asnpc-idle-mode - phspc-sleep-mode - hnbgw

Field	Description
	- hnbgw-iu - bng - pcc

Field	Description
Total Subscribers *(cont.)*	

Field	Description
	- in bytes dropped - out bytes dropped - in packet dropped - out packet dropped - in packet dropped zero mbr - out packet dropped zero mbr - ipv4 ttl exceeded - ipv4 bad hdr - ipv4 bad length trim - ipv4 frag failure - ipv4 frag sent - ipv4 in-acl dropped - ipv4 out-acl dropped - ipv4 in-mcast pkt dropped - ipv4 in-bcast pkt dropped - ipv6 bad hdr - ipv6 bad length trim - ipv6 in-acl dropped - i pv6 out-acl dropped - i pv4 in-css-down dropped - ipv4 out-css-down dropped - ipv4 out xoff pkt dropped - ipv6 out xoff pkt dropped - ipv4 xoff bytes dropped - ipv6 xoff bytes dropped - ipv4 out no-flow dropped - ipv4 early pdu rcvd - ipv4 icmp packets dropped - ipv6 input ehrpd-access drop - ipv6 output ehrpd-access drop - dormancy count - handoff count - pdsn fwd dynamic flows

Field	Description
	- pdsn rev dynamic flows
	- fwd static access-flows - rev static access-flows - pdsn fwd packet filters - pdsn rev packet filters - traffic flow templates
Active	Displays the total number all type of Active subscribers on the chassis.
Dormant	Displays the total number all type of Dormant subscribers on the chassis.

show subscribers summary without-dynamic-rule



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 639: show subscribers summary without-dynamic-rule Command Output Descriptions

Field	Description
Total Subscribers	

Field	Description
	Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them: Type of subscribers and packet/flow status are: - pdsn-simple-ipv4 - pdsn-simple-ipv6 - pdsn-mobile-ip - ha-mobile-ipv6 - hsgw-ipv6 - hsgw-ipv4 - hsgw-ipv4-ipv6 - pgw-pmip-ipv6 - pgw-pmip-ipv4 - pgw-pmip-ipv4-ipv6 - pgw-gtp-ipv6 - pgw-gtp-ipv4 - pgw-gtp-ipv4-ipv6 - sgw-gtp-ipv6 - sgw-gtp-ipv4 - sgw-gtp-ipv4-ipv6 - sgw-pmip-ipv6 - sgw-pmip-ipv4 - sgw-pmip-ipv4-ipv6 - mme - ipsg-rad-snoop - ipsg-rad-server - ha-mobile-ip - ggsn-pdp-type-ppp - ggsn-pdp-type-ipv4 - lns-l2tp - ggsn-pdp-type-ipv6 - ggsn-mbms-ue-type-ipv4 - pdif-simple-ipv4 - pdif-simple-ipv6 - pdif-mobile-ip

Field	Description
	- pdg-direct-ip

Field	Description
Total Subscribers *(cont.)*	

Field	Description
	- pdg-ttg - femto-ip - epdg-pmip-ipv6 - epdg-pmip-ipv4 - epdg-pmip-ipv4-ipv6 - sgsn - sgsn-pdp-type-ppp - sgsn-pdp-type-ipv4 - sgsn-pdp-type-ipv6 - sgsn-pdp-type-ipv4-ipv6 - type not determined - sgsn-subs-type-g - nsgsn-subs-type-s4 - sgsn-pdp-type-g - nsgsn-pdp-type-s4 - asngw-simple-ipv4 - asngw-simple-ipv6 - asngw-mobile-ip - asngw-non-anchor - asngw-auth-only - phsgw-simple-ipv4 - phsgw-simple-ipv6 - phsgw-mobile-ip - phsgw-non-anchor - cdma 1x rtt sessions - cdma evdo sessions - cdma evdo rev-a sessions - cdma 1x rtt active - cdma evdo active - cdma evdo rev-a active - asnpc-idle-mode - phspc-sleep-mode - hnbgw

Field	Description
	- hnbgw-iu - bng - pcc

Field	Description
Total Subscribers *(cont.)*	

Field	Description
	- in bytes dropped - out bytes dropped - in packet dropped - out packet dropped - in packet dropped zero mbr - out packet dropped zero mbr - ipv4 ttl exceeded - ipv4 bad hdr - ipv4 bad length trim - ipv4 frag failure - ipv4 frag sent - ipv4 in-acl dropped - ipv4 out-acl dropped - ipv4 in-mcast pkt dropped - ipv4 in-bcast pkt dropped - ipv6 bad hdr - ipv6 bad length trim - ipv6 in-acl dropped - i pv6 out-acl dropped - i pv4 in-css-down dropped - ipv4 out-css-down dropped - ipv4 out xoff pkt dropped - ipv6 out xoff pkt dropped - ipv4 xoff bytes dropped - ipv6 xoff bytes dropped - ipv4 out no-flow dropped - ipv4 early pdu rcvd - ipv4 icmp packets dropped - ipv6 input ehrpd-access drop - ipv6 output ehrpd-access drop - dormancy count - handoff count - pdsn fwd dynamic flows

Field	Description
	- pdsn rev dynamic flows
	- fwd static access-flows - rev static access-flows - pdsn fwd packet filters - pdsn rev packet filters - traffic flow templates
Active	Displays the total number all type of Active subscribers on the chassis.
Dormant	Displays the total number all type of Dormant subscribers on the chassis.

show subscribers summary without-override-control



Important In Release 20 and later, HNBGW is not supported. For more information, contact your Cisco account representative.

Table 640: show subscribers summary without-override-control Command Output Descriptions

Field	Description
Total Subscribers	

Field	Description
	Displays the total number of subscribers active or dormant on system. This counter also displays the packet and flow status and reasons for them: Type of subscribers and packet/flow status are: - pdsn-simple-ipv4 - pdsn-simple-ipv6 - pdsn-mobile-ip - ha-mobile-ipv6 - hsgw-ipv6 - hsgw-ipv4 - hsgw-ipv4-ipv6 - pgw-pmip-ipv6 - pgw-pmip-ipv4 - pgw-pmip-ipv4-ipv6 - pgw-gtp-ipv6 - pgw-gtp-ipv4 - pgw-gtp-ipv4-ipv6 - sgw-gtp-ipv6 - sgw-gtp-ipv4 - sgw-gtp-ipv4-ipv6 - sgw-pmip-ipv6 - sgw-pmip-ipv4 - sgw-pmip-ipv4-ipv6 - mme - ipsg-rad-snoop - ipsg-rad-server - ha-mobile-ip - ggsn-pdp-type-ppp - ggsn-pdp-type-ipv4 - lns-l2tp - ggsn-pdp-type-ipv6 - ggsn-mbms-ue-type-ipv4 - pdif-simple-ipv4 - pdif-simple-ipv6 - pdif-mobile-ip

Field	Description
	- pdg-direct-ip

Field	Description
Total Subscribers *(cont.)*	

Field	Description
	- pdg-ttg - femto-ip - epdg-pmip-ipv6 - epdg-pmip-ipv4 - epdg-pmip-ipv4-ipv6 - sgsn - sgsn-pdp-type-ppp - sgsn-pdp-type-ipv4 - sgsn-pdp-type-ipv6 - sgsn-pdp-type-ipv4-ipv6 - type not determined - sgsn-subs-type-g - nsgsn-subs-type-s4 - sgsn-pdp-type-g - nsgsn-pdp-type-s4 - asngw-simple-ipv4 - asngw-simple-ipv6 - asngw-mobile-ip - asngw-non-anchor - asngw-auth-only - phsgw-simple-ipv4 - phsgw-simple-ipv6 - phsgw-mobile-ip - phsgw-non-anchor - cdma 1x rtt sessions - cdma evdo sessions - cdma evdo rev-a sessions - cdma 1x rtt active - cdma evdo active - cdma evdo rev-a active - asnpc-idle-mode - phspc-sleep-mode - hnbgw

Field	Description
	- hnbgw-iu - bng - pcc

Field	Description
Total Subscribers *(cont.)*	

Field	Description
	- in bytes dropped - out bytes dropped - in packet dropped - out packet dropped - in packet dropped zero mbr - out packet dropped zero mbr - ipv4 ttl exceeded - ipv4 bad hdr - ipv4 bad length trim - ipv4 frag failure - ipv4 frag sent - ipv4 in-acl dropped - ipv4 out-acl dropped - ipv4 in-mcast pkt dropped - ipv4 in-bcast pkt dropped - ipv6 bad hdr - ipv6 bad length trim - ipv6 in-acl dropped - i pv6 out-acl dropped - i pv4 in-css-down dropped - ipv4 out-css-down dropped - ipv4 out xoff pkt dropped - ipv6 out xoff pkt dropped - ipv4 xoff bytes dropped - ipv6 xoff bytes dropped - ipv4 out no-flow dropped - ipv4 early pdu rcvd - ipv4 icmp packets dropped - ipv6 input ehrpd-access drop - ipv6 output ehrpd-access drop - dormancy count - handoff count - pdsn fwd dynamic flows

Field	Description
	- pdsn rev dynamic flows
	- fwd static access-flows - rev static access-flows - pdsn fwd packet filters - pdsn rev packet filters - traffic flow templates
Active	Displays the total number all type of Active subscribers on the chassis.
Dormant	Displays the total number all type of Dormant subscribers on the chassis.

show subscribers subscription full

Table 641: show subscribers subscription full Command Output Descriptions

Field	Description
Username	The subscriber name.
Status	Indicates the session status.
Access Type	Indicates the session type for this subscriber. See **Common Attributes** in this chapter.
Network Type	Indicates the network service used for the subscriber session. See **Common Attributes** in this chapter.
Access Tech	Indicates the accessing technology. See **Common Attributes** in this chapter.
callid	The subscriber's call identification number (callid).
msid	The subscriber's mobile station identification (MSID).
Card/Cpu	The card and CPU ID.
Sessmgr Instance	The session manager instances.
state	The session state. The possible values are: - Connected - Connecting - Disconnecting - Unknown
idle time	The time period that the subscriber session has been idle, either in an active or dormant state.

Field	Description
idle time left	The idle time period left before timeout.
session time left	The session time left for the subscriber.

show subscribers user-plane-only callid *callid_value* drop-statistics

The output of the **show subscriber user-plane-only callid *callid_value* drop-statistics** command displays the following fields:

Field	Description
Callid	The subscriber's call identification number (callid).
Interface Type	Indicates the type of interface.
Packet Drop Data Statistics:	
NAT packets processing failure:	
NAT on demand handling	The total number of NAT packets dropped due to on-demand handling.
ICMP Packet translation	The total number of NAT packets dropped due to ICMP packet translations.
FIREWALL packets processing failure:	
Policy not found	The total number of Firewall packets dropped due to missing policy.
No Matching GX rule found	The total number of Firewall packets dropped due to unmatched Gx rules.
Flow apply action:	
Discard	The total number of packets dropped due to discard action.
Readdress Failure	The total number of packets dropped due to readdress failure.
Packet exceeds the MTU size	The total number of packets dropped due to excess MTU size.
Failure in processing FAR Buffer packets	The total number of packets dropped due to failure in processing the FAR buffer.

Field	Description
FAR Apply Action Drop	The total number of packets dropped due to FAR apply action.
Traffic Steering Failure	The total number of packets dropped due to traffic steering failure.
QER Gate Status Closed	The total number of packets dropped due to QER gate status closure.
Content-filtering Discard Action	The total number of packets dropped due to content-filtering discard action.
IP Header Validation Failed	The total number of packets dropped due to IP header validation failure.
ADF level failure:	
DL TFT mismatch	The total number of packets dropped due to DL TFT mismatch.
URL Blacklisting Discard Action	The total number of packets dropped due to URL blacklisting discard action.
QGR Flow Action SGQ Discard	The total number of packets dropped due to QGR flow action - SGQ discard.
QGR Policer Drops	The total number of packets dropped due to QGR policer drops.
Total subscribers matching specified criteria	The total number of subscribers matching the specified criteria.

show subscribers user-plane-only callid *callid_value* flows flow-id *flow_id*

The output of the **show subscribers user-plane-only callid *callid_value* flows flow-id *flow_id*** command displays the following fields:

Field	Description
Callid	The subscriber's call identification number (callid).
Interface Type	Indicates the type of interface.
IP address	Displays the IP address of the server(s).
Flow ID	Flow ID for this output.
Uplink pkts	Total number of packets uplinked.

Field	Description
Uplink bytes	Total number of bytes uplinked.
Downlink pkts	Total number of packets downlinked.
Downlink bytes	Total number of bytes downlinked.
Fast Path Info:	
Uplink pkts	Total number of packets uplinked.
Uplink bytes	Total number of bytes uplinked.
Downlink pkts	Total number of packets downlinked.
Downlink bytes	Total number of bytes downlinked.
Total pkts	Total number of uplink packets forwarded.
Uplink Dropped pkts	Total number of packets dropped in uplink flow.
Uplink Stream ID	Total number of packets in uplink stream ID.
Uplink Stream State	Displays the uplink stream state.
Downlink Dropped pkts	Total number of packets dropped in downlink flow.
Downlink Stream ID	Total number of packets in downlink stream ID.
Client-ID	Displays the client-ID.
UE IP address	Displays the UE IP address.
Server IP address	Displays the server IP address.
UE Port	Displays the UE port.
Server Port	Displays the server port.
Protocol	Displays the protocol used.
Service Chain Name	Displays the service chain name.
Uplink Sfp Id	Displays the uplink SFP ID number.
Downlink Sfp Id	Displays the downlink SFP ID number.
Total Number of Active flows	Displays the total number of active flows.
Uplink SGT	Displays the uplink packet Security Group Tag (SGT) value.
Downlink SGT	Displays the downlink packet SGT value.
Matched SGACL	Displays the matched Secure Group Tag-based Access Control Lists (SGACL).

show subscribers user-plane-only callid *callid_value* flows full

The output of the **show subscribers user-plane-only callid *callid_value* flows full** command displays the following fields:

Field	Description
Callid	The subscriber's call identification number (callid).
Interface Type	Indicates the type of interface.
IP address	Displays the IP address of the server(s).
Flow ID	Flow ID for this output.
Uplink pkts	Total number of packets uplinked.
Uplink bytes	Total number of bytes uplinked.
Downlink pkts	Total number of packets downlinked.
Downlink bytes	Total number of bytes downlinked.
Fast Path Info:	
Uplink pkts	Total number of packets uplinked.
Uplink bytes	Total number of bytes uplinked.
Downlink pkts	Total number of packets downlinked.
Downlink bytes	Total number of bytes downlinked.
Total pkts	Total number of uplink packets forwarded.
Uplink Dropped pkts	Total number of packets dropped in uplink flow.
Uplink Stream ID	Total number of packets in uplink stream ID.
Uplink Stream State	Displays the uplink stream state.
Downlink Dropped pkts	Total number of packets dropped in downlink flow.
Downlink Stream ID	Total number of packets in downlink stream ID.
Client-ID	Displays the client ID.
UE IP address	Displays the UE IP address.
Server IP address	Displays the server IP address.
UE Port	Displays the UE port.

Field	Description
Server Port	Displays the server port.
Protocol	Displays the protocol used.
Service Chain Name	Displays the service chain name.
Uplink Sfp Id	Displays the uplink SFP ID number.
Downlink Sfp Id	Displays the downlink SFP ID number.
Total Number of Active flows	Displays the total number of active flows.
Matched Bytes	Total number of matched bytes.
Matched Packets	Total number of matched packets.
Precedence	Specifies the precedence applicable.
Source Interface	Displays the source interface name.
Source Interface Type	Displays the type of source interface.
Uplink SGT	Displays the uplink packet Security Group Tag (SGT) value.
Downlink SGT	Displays the downlink packet SGT value.
Matched SGACL	Displays the matched Secure Group Tag-based Access Control Lists (SGACL).

show subscribers wf1 all

Table 642: show subscribers wf1 all Command Output Descriptions

Field	Description
vvvvvv	Displays service and session state information. This column provides a code consisting of six characters.
	From left-to-right, the first character represents the **Access Type** that the subscriber is using. See
	The second character represents the **Access Technology**. See
	The third character represents the **Call State**. See
	The fourth character represents the **Link Status** of the session. The possible idle states are: - **A**: Online/Active (airlink connected) - **D**: Dormant (airlink not connected) **Note:** Sessions facilitated through PDSN Closed R-P services are always displayed as "Active" due to the fact that PDSN Closed R-P services do not receive dormancy information from the PCF.
	The fifth character represents the session **Network Type**. See
	The sixth character represents the **Access CSCF Status** of the session. The possible network types are: - **A**: Attached - **C**: Call (Unknown Type) - **N**: Not Attached - **v**: Voice Call - **.** (period): Not Applicable - **V**: Video Call
CALLID	Displays the subscriber's call identification (callid) number.
MSID	Displays the subscriber's mobile station identification (MSID) number.
USERNAME	Displays the subscriber's username.
IP	Displays the IP address assigned to the subscriber.
TIME-IDLE	Displays the amount of time that the subscriber session has been idle either in an active or dormant state.

Field	Description
Access Peer Address	The peer that accessed the system to initiate the subscriber session. This is an IP v4 address and a designator to identify the type of peer. The designator may be one of: - **BS**: ASN Base Station - **ASNGW**: Access Service Network Gateway - **PCF**: Packet Control Function - **FA**: Mobile IP Foreign Agent - **SGSN**: Serving GPRS Support Node - **LAC**: L2TP Access Concentrator
Service Address	The service that is processing the subscriber session. This is listed as an IP v4 address and a designator to identify the type of service. The designator may be one of: - **ASNGW**: Access Service Network Gateway - **PDSN**: Packet Data Serving Node - **HA**: Mobile IP Home Agent - **GGSN**: Gateway GPRS Support Node - **LNS**: L2TP Network Server
Network Peer Address	The network peer that the subscriber session connect to. This is listed as an IP v4 address and a designator to identify the type of network peer. The designator may be one of: - **HA**: Mobile IP Home Agent - **LNS**: L2TP Network Server - **IPinIP**: IP-in-IP Tunnel Peer - **GRE**: Generic Routing Encapsulation Peer - **6in4**: IP V6 packets encapsulated in an IP v4 tunnel peer
Connect Time	The date and time that the subscriber session was connected.

Common Attributes

Access Types

- (#) - saegw-gtp-ipv6
- ($) - saegw-gtp-ipv4-ipv6
- (&) - cgw-gtp-ipv4
- (*) - cgw-gtp-ipv4-ipv6
- (@) - saegw-gtp-ipv4
- (^) - cgw-gtp-ipv6
- (+) - samog-eogre

- (2) - sgsn-pdp-type-ipv4-ipv6
- (3) - GILAN
- (4) - sgsn-pdp-type-ip
- (6) - sgsn-pdp-type-ipv6
- (a) - phsgw-simple-ip
- (A) - asngw-simple-i
- (b) - phsgw-mobile-ip
- (B) - asngw-mobile-ip
- (c) - phspc
- (C) - cscf-sip
- (D) - bng-simple-ip
- (e) - ggsn-mbms-ue
- (E) - ha-mobile-ipv6
- (f) - hnbgw-hnb
- (F) - standalone-fa
- (g) - hnbgw-iu
- (G) - IPSG
- (h) - ha-ipsec
- (H) - ha-mobile-ip
- (i) - asnpc
- (I) - ggsn-pdp-type-ipv
- (j) - phsgw-non-anchor
- (J) - asngw-non-anchor
- (k) - PCC
- (K) - pdif-mobile-ip
- (l) - pgw-pmip
- (L) - pdif-simple-ip
- (m) - henbgw-henb
- (M) - pdsn-mobile-ip
- (n) - ePDG
- (N) - lns-l2tp
- (o) - femto-ip
- (O) - sgw-gtp-ipv6
- (p) - sgsn-pdp-type-ppp
- (P) - ggsn-pdp-type-ppp
- (q) - wsg-simple-ip
- (Q) - sgw-gtp-ipv4-ipv6
- (r) - samog-pmip
- (R) - sgw-gtp-ipv4
- (s) - sgsn
- (S) - pdsn-simple-ip
- (t) - henbgw-ue
- (T) - pdg-ssl
- (u) - Unknown
- (U) - pdg-ipsec-ipv4
- (v) - pdg-ipsec-ipv6

- (V) - ggsn-pdp-type-ipv6
- (W) - pgw-gtp-ipv4
- (x) - s1-mme
- (X) - HSGW
- (y) - asngw-auth-only
- (Y) - pgw-gtp-ipv6
- (z) - ggsn-pdp-type-ipv4v6
- (Z) - pgw-gtp-ipv4-ipv6

Access Technologies

- (.) - Other/Unknown
- (A) - CDMA EV-DO REVA
- (B) - PPPoE
- (C) - CDMA Other
- (D) - CDMA EV-DO
- (E) - GPRS GERAN
- (F) - FEMTO UTRAN
- (G) - GPRS Other
- (H) - PHS
- (I) - IP
- (L) - eHRPD
- (M) - WiMax
- (N) - GAN
- (O) - Femto IPSec
- (P) - PDIF
- (Q) - WSG
- (R) - LTE-M
- (S) - HSPA
- (T) - eUTRAN
- (U) - WCDMA UTRAN
- (W) - Wireless LAN
- (X) - CDMA 1xRTT

Call States

- (c) - Connecting
- (C) - Connected
- (d) - Disconnecting
- (r) - CSCF-Registering
- (R) - CSCF-Registered
- (u) - Unknown
- (U) - CSCF-Unregistered

Network Types

- (/) - GTPv1(For SAMOG)
- (+) - GTPv2(For SAMOG)
- (A) - R4 (IP-GRE)
- (C) - GTP
- (G) - GRE
- (i) - IP-in-IP
- (I) - IP
- (L) - L2TP
- (M) - Mobile-IP
- (P) - Proxy-Mobile-IP
- (R) - IPv4+IPv6
- (S) - IPSEC
- (T) - IPv6
- (u) - Unknown
- (v) - PMIPv6(IPv6)
- (V) - IPv6-in-IPv4
- (W) - PMIPv6(IPv4)
- (Y) - PMIPv6(IPv4+IPv6



CHAPTER 145

show support

This chapter describes the outputs of the **show support** command.

- show support collection, on page 2229
- show support collection definitions, on page 2229
- show support details, on page 2230
- show support details icsr, on page 2230
- show support record, on page 2231

show support collection

Table 643: show support collection Command Output Descriptions

Field	Description
ID	ID number of the collection file (0 to 65536).
Name	File name of the compressed collection file, in the format: sdr.<id>.gz.
Size	Size of the file in bytes.
Date/Time	Timestamp of the file, in the format: <day-of-week> <month> <day> <hh:mm:ss> <timezone> <yyyy>.
Total	Total number of SDRs, total byte count, and time span is last <nnn> days <hh> hour(s).

show support collection definitions

Table 644: show support collection definitions Command Output Descriptions

Field	Description
No.	ID number of the collection definition.
Default	Status of the collection definition. Enabled = Included in the default record section; Disabled = Not included in the default record section.

Field	Description
section name	StarOS name of the record.
command line	Actual text of the StarOS CLI command within double quotation marks.

show support details

This command displays the output of all of the CLI command strings in the SDR section. The commands are separated by a string of asterisks (*******) bracketing the textual CLI command. The output can be very lengthy depending on the system configuration.

You have the option when running this command to print the output to a file.

show support details icsr

The **icsr** keyword captures only ICSR-specific infromation needed for debugging. This keyword reduces the **show support details** (SSD) capture time when debugging ICSR timing issues between the Active and Standby chassis, facilitating quicker resolution of the problem.

This command displays the output of the CLI command strings listed below. The commands are separated by a string of asterisks (*******) bracketing the textual CLI command.

You have the option when running this command to print the output to a file.

The **icsr** keyword produces a mini SSD that contains the output of the following **show** commands:

- show srp info
- show srp checkpoint statistics
- show srp checkpoint statistics verbose
- show srp checkpoint statistics debug-info
- show srp checkpoint statistics sessmgr all
- show srp checkpoint statistics sessmgr all debug-info
- show srp checkpoint statistics ipsecmgr all
- show srp checkpoint statistics sessmgr all write-list-stats
- show srp checkpoint info
- show srp monitor
- show srp monitor all
- show srp monitor diameter debug
- show srp statistics
- show srp call-loss statistics
- show srp audit-statistics
- show session subsystem facility sessmgr all debug-info

show support record

This command displays the output of a specified collection record or range of collection records. The commands are separated by a string of asterisks (*******) bracketing the textual CLI command. The output can be very lengthy depending on the system configuration.



CHAPTER 146

show supplementary-service

This chapter describes the output of the **show supplementary-service** command variants.

- show supplementary-service statistics, on page 2233

show supplementary-service statistics

Table 645: show supplementary-service statistics Command Output Descriptions

Field	Description
SS Messages	Supplementary Service messages
3G-Register Rx	Number of Register messages received by SGSN from UE in 3G .
Discarded	Number of Register messages discarded.
3G-Register Tx	Number of Register messages transmitted from SGSN to UE in 3G.
Location Notification	Number of Location Notification messages sent to UE.
Current Location	Number of Location Notification messages sent to UE asking for current location of the UE.
Current/Last known Loc Type	Number of Location Notification messages sent to UE asking for current and last known location.
3G-Facility Rx	Number of Facility messages received from UE.
Discarded	Number of Facility messages discarded.
3G-Facility Tx	Number of Facility message transmitted.
3G-RLC-Rx	Number of Release Complete messages received from UE.
Abort	Number of Release Complete messages received from UE to abort the ongoing LCS procedure.
Return Result	Number of Release Complete message received with Return Result Component.

Field	Description
Verification Response	Number of Release complete messages received with component Return Result for Location Notification's response.
Permission Denied	Number of Location Notification response messages received with the result Permission denied.
Permission Granted	Number of Location Notification response messages received with the result Permission granted.
Reject	Number of Release complete messages received with Reject component.
Decode Error	Number of Release complete messages received with decode error.
3G-RLC-Tx	Number of Release complete messages transmitted.
Abort	Number of Release complete messages transmitted to abort the ongoing LCS procedure.
3G-LCS guard timer expiry	Number of times the guard timer for 3G has expired.



CHAPTER 147

show tacacs

This chapter provides **show tacacs** command output tables.

- show tacacs, on page 2235
- show tacacs client statistics, on page 2236
- show tacacs priv-lvl, on page 2237
- show tacacs session statistics, on page 2238
- show tacacs summary, on page 2240

show tacacs

Table 646: show tacacs Command Output Descriptions

Field	Description
active session #*n*	Numerical identifier of an active TACACS+ session.
login username	The username of the TACACS+ user.
login tty	The physical or logical port identifier for a user login.
time of login	The date and time of the TACACS+ login.
login server priority	The specified priority of the TACACS+ server used for login.
current login status	The current login status for this user (pass/fail).
current session state	The current operational state of the TACACS+ session.

Field	Description
current privilege level	The CLI privilege level assigned to the user (default assignments are shown below): • 0: Inspector (CLI only) • 1: Inspector (CLI and ECSEMS only) • 2: Inspector (FTP only) • 3: Inspector (CLI and FTP only) • 4: Inspector (CLI, FTP, and ECSEMS only) • 5: Operator (CLI only) • 6: Operator (CLI and ECSEMS only) • 7: Operator (FTP only) • 8: Operator (CLI and FTP only) • 9: Operator (CLI, FTP and ECSEMS only) • 10: Administrator (CLI only) • 11: Administrator (CLI and ECSEMS only) • 12: Administrator (FTP only) • 13: Administrator (CLI, FTP and Lawful Intercept only) • 14: Administrator (CLI, FTP and ECEMS only) • 15: Administrator (CLI, FTP, ECEMS and Lawful Intercept)
remote client application	The application type used by the remote client to access StarOS, if known: • telnet • ssh • ftp • console • unknown
remote client ip address	The IP address of the remote client. If the remote client IP address cannot be determined or is unknown, this field will contain all zeros or be blank. For example, logins via the ASR 5x00 console port typically are not assigned an IP address.
last server reply status	The last known server error code returned for this user session.
Total TACACS+ sessions	The total number of TACACS+ sessions that are currently active.

show tacacs client statistics

Table 647: show tacacs client statistics Command Output Descriptions

Field	Description
last login failure time	The timestamp of the most recent failed TACACS+ authentication attempt.

Field	Description
successful connections	The total number of successful TACACS+ connections established with the TACACS+ server.
failed connections	The total number of connection attempts with a TACACS+ server that have failed.
authentication PASS	The total number of connections established with a TACACS+ server that have passed authentication.
authentication FAIL	The total number of authentication connections attempts with a TACACS+ server that have failed.
session starts	The total number of TACACS+ session starts. A session start is defined as the point at which the TACACS+ user has passed authentication.
active sessions	The total number of active TACACS+ sessions.
authorization errors	The total number of TACACS+ authorization errors.
accounting errors	The total number of TACACS+ accounting errors.
non-TACACS+ logins	The total number of non-TACACS+ logins. Note that the system can be configured to allow TACACS+ users to continue on to use non-TACACS+ authentication services if the user fails the TACACS+ login.

show tacacs priv-lvl

Table 648: show tacacs priv-lvl Command Output Descriptions

Field	Description
priv-lvl	TACACS+ priv-level shown as an integer from 1 through 15.
cli	Access to StarOS CLI (yes or no).
ftp	Access to FTP (yes or no).
ecs	Access to Enhanced Charging Service (ECS) commands [yes or no].
li	Access to Lawful Intercept (LI) commands [yes or no].
authorization-level	Specifies the StarOS administrative authorization level for this privilege level: • **administrator** – Allows user to execute Administrator level configuration commands. • **inspector** – Allows user to execute Inspector commands. • **operator** – Allows user to execute Operator commands. • **security-admin** – Allows user to execute Security Administrator commands.

show tacacs session statistics

Table 649: show tacacs session statistics Command Output Descriptions

Field	Description
active session #n	A numerical identifier assigned to an active TACACS+ CLI session.
task id	The software task ID assigned by the client to identify TACACS+ accounting statistics.
task instance	The software task instance ID assigned by the ASR 5000 for each active TACACS+ session.
login username	The username assigned to this TACACS+ session.
login tty	The logical or physical port identifier assigned for a TACACS+ login.
tty connect time	The time at which the TACACS+ connection was established.
session start time	The time and date of the TACACS+ session start time, which is defined as the time at which a TACACS+ user passes TACACS+ authentication.
pre-bytes in	The total number of bytes received from the TACACS+ server before the TACACS+ user was authenticated.
pre-bytes out	The total number of bytes sent to the TACACS+ server before the TACACS+ user was authenticated.
pre-packets in	The total number of packets received from the TACACS+ server before the TACACS+ user was authenticated.
pre-packets out	The total number of packets sent to the TACACS+ server before the TACACS+ user was authenticated.
bytes in	The total number of bytes (pre- and post-authentication) received from the TACACS+ server after the TACACS+ user was authenticated.
bytes out	The total number of bytes sent (pre- and post-authentication) to the TACACS+ server after the TACACS+ user was authenticated.
packets in	The total number of packets (pre- and post-authentication) received from the TACACS+ server for this TACACS+ session.
packets out	The total number of packets (pre- and post-authentication) sent to the TACACS+ server after the TACACS+ user was authenticated.
authen start requestssuccess	The total number of authentication start requests sent to the TACACS+ server that were successful.
authen start requestserror	The total number of authentication start requests sent to the TACACS+ server that were unsuccessful,typically due to a protocol error.

Field	Description
authen cont requestssuccess	The total number of authentication continue requests sent to the TACACS+ server that were successful.
authen cont requestserror	The total number of authentication continue (username and/or password) requests sent to the TACACS+ server that were failed, typically due to a protocol error.
authen start/cont repsuccess	The number of authentication start/continue Reply messages received from the TACACS+ server that were successful.
authen start/cont repfailure	The number of authentication start/continue Reply messages received from the TACACS+ server that failed.
authen start/cont reptimeout	The number of authentication start/continue Reply messages received from the TACACS+ server thattimed out.
author requests success	The number of TACACS+ authorization requests sent to the TACACS+ server that were successful.
author requests failure	The number of TACACS+ authorization requests sent to the TACACS+ server that failed.
author responsessuccess	The number of authorization responses received from the TACACS+ server that were successful.
author responsesfailure	The number of authorization responses received from the TACACS+ server that failed.
author responsestimeout	The number of authorization responses from the TACACS+ server that timed out.
account requestssuccess	The number of accounting requests sent to the TACACS+ server that were successful.
account requests error	The number of accounting requests sent to the TACACS+ server that were unsuccessful, typically due to a protocol error.
account replies success	The number of accounting replies from the TACACS+ server that were successful.
account replies failure	The number of accounting replies from the TACACS+ server that failed.
account replies timeout	The number of accounting replies from the TACACS+ server that timed out.
total active TACACS+sessions	The total number of currently active TACACS+ sessions.

show tacacs summary

The output of this command is identical to show tacacs, on page 2235



CHAPTER 148

show task

This chapter describes the outputs of the **show task** command.

- show task info, on page 2241
- show task memory, on page 2242
- show task resources card, on page 2243
- show task resources facility, on page 2244
- show task resources max, on page 2244
- show task table, on page 2245

show task info

This command displays current information about tasks running on the system.

Table 650: show task info Command Output Descriptions

Field	Description
Task <facility> instance <id>	Identifies the task by its facility name and the instance identifier for which statistics are displayed.
Process <process>	Identifies the process for which statistics are displayed.
Location	The card number, CPU number and process identifier (Pid) for which statistics are displayed.
Parent	The parent task and instance identifier, as well the location where the parent task is running.
CPU usage	The percentage of CPU time actually used versus allocated (allc), as well as the maximum used.
File usage	The number of files actually used versus allocated, as well as the maximum used.
Memory usage	The amount of memory actually used versus allocated, as well as the maximum used. (release 12.x)
Heap Memory usage	The amount of memory initialized at runtime that was dynamically allocated (used) versus originally allocated.

Field	Description
Physical Memory usage	The amount of physical memory used versus allocated.
Virtual Memory usage	The amount of memory managed by the kernel that was actually used versus allocated.
Max usage reset info	Information related to the resetting of maximum usage statistics.
Last reset	Timestamp identifying when maximum usage statistics were last reset.
Last reset reason	The reason why maximum usage statistics were reset.
P2P sessions	Displays the number of P2P sessions used and the maximum number of P2P sessions allowed.
Per Subscriber Firewall sessions	Displays the number of subscriber Firewall sessions used and the maximum number of subscriber Firewall sessions allowed.
Total sessions	Displays the total number of used sessions, the maximum number of sessions allowed, and the number of allocated sessions.
Status	Indicates the status of the configured service sessions.

show task memory

This command displays current statistics for memory.

Table 651: show task memory Command Output Descriptions

Field	Description
cpu	The CPU on the specified card where the task is running (identified by slot_number/CPU_number).
facility	The facility for which statistics are displayed.
task inst	The task instance identifier.
heap memory usage	The amount of memory initialized at runtime that was dynamically allocated (used) versus originally allocated.
physical memory usage	The amount of physical memory actually used versus allocated.
virtual memory usage	The amount of memory managed by the kernel that was actually used versus allocated.

Field	Description
status	The general status of the card, for example, "good". **Important** The starSGSNRMMemWarn trap will only be generated if the memory usage is above the threshold limit for more than the configured amount of time (60 seconds). Refer to the **show task resources** and **show task memory** CLI commands in the *Statistics and Counters Reference* to list the used and maximum allocated resources for all proclets. A trap is generated if the memory usage reaches the Warn state or over. The trap will clear as soon as the resource usage is below the threshold values without any delay.
Total	Summary for all task instances, CPU time, memory, files and sessions.

show task resources card

This command displays current statistics per card.

Table 652: show task resources card Command Output Descriptions

Field	Description
cpu	The CPU on the specified card where the task is running (identified by slot_number/CPU_number).
facility	The facility for which statistics are displayed.
task inst	The task instance identifier.
cputime	The percentage of CPU time actually used versus the allocated time (allc).
memory	The amount of memory actually used versus allocated.
files	The number of files actually used versus allocated.
sessions	The number of sessions used versus allocated, as well as the status of those sessions.
status	The general status of the card, for example, "good". **Important** The starSGSNRMMemWarn trap will only be generated if the memory usage is above the threshold limit for more than the configured amount of time (60 seconds). Refer to the **show task resources** and **show task memory** CLI commands in the *Statistics and Counters Reference* to list the used and maximum allocated resources for all proclets. A trap is generated if the memory usage reaches the Warn state or over. The trap will clear as soon as the resource usage is below the threshold values without any delay.
Total	Summary for all task instances, CPU time, memory, files and sessions.

show task resources facility

This command displays current statistics for the specified facility.

Table 653: show task resources facility Command Output Descriptions

Field	Description
cpu	The CPU on the card where the facility is running (identified by slot_number/CPU_number).
facility	The facility for which statistics are displayed.
task inst	The task instance identifier.
cputime	The percentage of CPU time actually used versus the allocated time (allc).
memory	The amount of memory actually used versus allocated.
files	The number of files actually used versus allocated.
sessions	The number of sessions used versus allocated, as well as the status of those sessions.
Total	Summary for all task instances, CPU time, memory, files and sessions.

show task resources max

This command displays maximum (instead of current) statistics for all facilities.

Table 654: show task resources max Command Output Descriptions

Field	Description
cpu	The CPU on the specified card where the facility is running (identified by slot_number/CPU_number).
facility	The facility for which maximum statistics are displayed.
task inst	The task instance identifier.
cputime	The maximum percentage of CPU time actually used versus the allocated time (allc).
memory	The maximum amount of memory actually used versus allocated.
files	The maximum number of files actually used versus allocated.
sessions	The maximum number of sessions used versus allocated, as well as the status of those sessions.
Total	Summary of maximum statistics for all task instances, CPU time, memory, files and sessions.

show task table

This command displays current statistics for all child and parent facilities running on all cards in the system.

Table 655: show task table Command Output Descriptions

Field	Description
Currently Running Tasks	
cpu	The CPU on the specified card where the facility is running (identified by slot_number/CPU_number).
task facility	The task/facility for which statistics are displayed.
inst	The task instance identifier.
pid	The process identifier.
pri	The priority of the instance.
Parent Tasks	
parent facility	The parent facility of the task for which statistics are displayed.
inst	The instance identifier of the parent facility.
pid	The process identifier of the parent facility.



CHAPTER 149

show tcp-acceleration-profile all

This chapter includes the show **tcp-acceleration-profile all** command output tables.

- show tcp-acceleration-profile all, on page 2247

show tcp-acceleration-profile all

Table 656: show tcp-acceleration-profile all Command Output Descriptions

Field	Description
TCP Acceleration Profile Name	Identifies the TCP acceleration profile name.
Initial Congestion Window	Identifies the Initial Congestion Window size in segments.
Max RTT	Identifies the maximum RTT value.
MSS	Identifies the maximum segment size.
Buffer Size (Downlink)	Identifies the TCP proxy buffer downlink data size in Kilobytes.
Buffer Size (Uplink)	Identifies the TCP proxy buffer uplink data size in Kilobytes.

show tcp-acceleration-profile all



CHAPTER 150

show temperature

This chapter describes the output of the **show temperature** command variants.

- show temperature, on page 2249

show temperature

The **show temperature** command displays the current temperatures for installed cards, as well as the lower and upper fan trays.

Table 657: show temperature Command Output Descriptions

Field	Description
Card	Indicates the slot number location of an installed card.
xx C	Displays the current temperature in Celsius detected by a sensors on the card or fan unit. The maximum temperature limit at which the card is shut down appears in parentheses immediately after the current temperature. Temperature readings will vary by card based on the location of the card within the chassis and the turbulence associated with moving air around, over and through devices on the cards. There are temperature sensors associated with major power consuming devices on each card. When any device on any card exceeds a pre-set temperature limit, the fan speed is increased on both fan trays. When all sensors on all cards are below the threshold, fan speed is proportionally reduced. When the absolute limit is reached for a device on a card, the card is shut down. To display detailed information on device-level temperature sensors, run **show temp verbose**.
Fan Upper	Indicates the temperature in Celsius of the air being exhausted from the chassis. The maximum operating temperature should not exceed +55 degrees C.
Fan Lower	Indicates the temperature in Celsius of the air being pulled into the chassis. The maximum ambient temperature should not exceed +40 degrees C. A temperature reading above +30 degrees C typically indicates that the environmental control system at the installation site may not be capable of handling the heat load of the chassis.

show temperature



CHAPTER 151

show threshold

This chapter describes the output of the **show threshold** command variants.

- show threshold, on page 2251

show threshold

Table 658: show threshold Command Output Descriptions

Field	Description
Threshold operation model	The configured thresholding model.
Configured thresholds	Lists thresholds that were configured by the user (i.e. those that are not enabled as part of the system's default configuration). For each threshold listed, the scope, polling interval, and threshold values are displayed.
Active thresholds	Lists thresholds that are currently being monitored. Note that configured thresholds must be enabled using the **threshold monitoring** command before they're considered active. For each threshold listed, the scope, polling interval, ip-pool-usable, ip-pool-usable-final, and threshold values are displayed.
Enabled threshold groups: (name, scope)	Displays configured threshold groups and their scope (what the threshold is applied to (i.e. specific ports, IP pool groups, or system wide).
Non-default poll intervals	Displays all polling intervals whose user-configured values differ from the default values. **NOTE:** All threshold default values can be viewed using the **show thresholds default** command.
No outstanding alarm / Outstanding Alarms	Displays whether there are any outstanding (alarms for which no clear alarm was received) alarms or not. If outstanding alarms exist, they will be listed in this field.

show threshold



CHAPTER 152

show uidh-server

This chapter describes the output of the **show uidh-server** command variants.

- show uidh-server name , on page 2253
- show uidh-server statistics, on page 2254

show uidh-server name

Table 659: show uidh-server name Command Output Descriptions

Field	Description
Name	Indicates the UIDH Server name.
Context Name	Indicates the UIDH server context name.
Remote-address	Specifies the UIDH server's remote address.
Remote-port	Specifies the UIDH server's remote port address.
Local-address	Specifies the UIDH server's local address.
Refresh-interval	Specifies the UIDH server's refresh interval.
Response-timeout	Specifies the UIDH server's response timeout value.
ACSMgr Instance	Specifies the ACS manager instance with the UIDH server.
Total connections up	Specifies the total connections active with the UIDH server.
Total ACSManager Instances	Specifies the total ACS manager instance with the UIDH server.
Total Connections UP	Specifies the total number connections active with the UIDH server.

show uidh-server statistics

Table 660: show uidh-server statistics Command Output Descriptions

Field	Description
Active UIDH Client Connections	Indicates currently active client connections with the UIDH server.
Current Opt-In Subscribers	Indicates the current Opt-In subscribers.
Total UIDH Request	Indicates the total number of UIDH requests.
Initial	Specifies the total number of initial UIDH requests transmitted
Refresh	Specifies the total number of UIDH Refresh Requests transmitted.
Total UIDH OptIn Response	Indicates the total number of UIDH Opt-In response.
Initial	Specifies the total of UIDH OPT-In (subscribers that have opted for UIDH service) response for the Initial Requests.
Refresh	Specifies the total of UIDH OPT-In (subscribers that have opted for UIDH service) response for Refresh Requests.
Total UIDH OptOut Response	Indicates the total number of Opt-out response.
Initial	Specifies the total of UIDH OPT-Out (subscribers that have opted out from the UIDH service) response received for Initial Requests.
Refresh	Specifies the total of UIDH OPT-Out (subscribers that have opted out from the UIDH service) response received for Refresh Requests.
UIDH Failure	Indicates the UIDH Failure.
Request Timeout	Specifies the total number of UIDH Requests that have expired on reaching the timeout value.
Initial	Specifies the total number of initial UIDH Requests that have expired on reaching the timeout value.
Refresh	Specifies the total number of refresh UIDH requests that have expired on reaching the timeout value.
Error Response Code	Indicates the UIDH Failure with an error response code.

Field	Description
Initial	Specifies the total of Failure Code UIDH response received for Initial Requests.
Refresh	Specifies the total of Failure Code UIDH response received for Refresh Requests.
Invalid Length	
Initial	
Refresh	
Request Enqueue Failed	
Initial	
Refresh	
Total UIDH Insertions	Indicates the total number of UIDH insertions in a HTTP request.
UIDH Whitelist Statistics	
URL Host Lookups	Specifies the number of URL Host lookups
URL Host Lookup Failed	Specifes the number of URL Host lookups that resulted in failure.
URL Host Matches	Specifies the number of URL Hosts matched.
URL Host Lookup Bypass	Specifies the number of URL Host Lookups bypassed



CHAPTER 153

show url-blockedlisting

This chapter includes the **show url-blacklisting** command output tables.

- show url-blockedlisting database all, on page 2257
- show url-blockedlisting database facility acsmgr instance, on page 2258
- show url-blockedlisting url, on page 2258

show url-blockedlisting database all

Table 661: show url-blockedlisting database all Command Output Descriptions

Field	Description
URL Blockedlisting Static Rating Databases:	
Last Upgrade Status	Indicates status of the last database upgrade.
Path	Indicates the database path, and the status—ACTIVE/NOT LOADED.
Database Status	Indicates status of the database.
Number of URLs in DB	The total number of URLs present in the database.
Type	Indicates the database type.
Version	Indicates the database version.
Creation Time	Indicates the database creation time.
Comment	Indicates additional information.
Last Access Time	Indicates the last access timestamp.
Last Modification Time	Indicates the last modification timestamp.
Last Status Change Time	Indicates the last status change timestamp.

show url-blockedlisting database facility acsmgr instance

Table 662: show url-blockedlisting database facility acsmgr instance Command Output Descriptions

Field	Description
URL-Blockedlisting ACSMgr Instance Based Database Configuration:	
ACSMgr Instance	The ACSMgr instance number.
BL DB Load Status	The Blockedlisting database's load status.
BL DB Version	The Blockedlisting database's version number.
Number of URLs	The total number of URLs present in the Blockedlisting database.
Checksum	Indicates checksum details. The Blockedlisting database has only one page, so the checksum is of the only page present in the database.

show url-blockedlisting url

Table 663: show url-blockedisting url Command Output Descriptions

Field	Description
URL	Indicates the URL.
URL Hash	Indicates the URL hash.
URL Category	Indicates the URL category.
Haspath	Indicates the haspath status.



CHAPTER 154

show upf

- show upf-load-control-profile, on page 2259
- show upf-overload-control-profile, on page 2259

show upf-load-control-profile

The output of the **show upf-load-control-profile [name *name* | all]** command displays the following fields:

Field	Description
UPF Load Control Profile:	
UPF Load Control Profile Name	Displays the UPF's load control profile name.
Inclusion Frequency • Change Factor • Advertisement Interval	Displays the inclusion frequency of the UPF load control profile along with the information about the change factor and advertisement interval.

show upf-overload-control-profile

The output of the **show upf-overload-control-profile [name *name* | all]** command displays the following fields:

Field	Description
UPF Overload Control Profiles:	
UPF Overload Control Profile Name	Displays the UPF overload control profile name.
System Thresholds	
CPU Lower Limit	Displays the configured lower limit for CPU load.
CPU Upper Limit	Displays the configured upper limit for CPU load.
Memory Lower Limit	Displays the configured lower limit for Memory load.

Field	Description
Memory Upper Limit	Displays the configured upper limit for Memory load.
Session Count Lower Limit	Displays the configured lower limit for system session count.
Session Count Upper Limit	Displays the configured upper limit for system session count.
VPP Thresholds	
CPU Lower Limit	Displays the configured lower limit for VPP CPU load.
CPU Upper Limit	Displays the configured upper limit for VPP CPU load.
Inclusion Frequency	
Change Factor	Displays the configured change factor.
Advertisement Interval	Displays the configured advertisement interval.
Validity Period	Displays the configured validity period.



CHAPTER 155

show user-plane-service

This chapter includes the **show user-plane-service** command output tables.

- show user-plane-service statistics drop-counter, on page 2261
- show user-plane-service all, on page 2263
- show user-plane-service name, on page 2264
- show user-plane-service gtpu local-addresses, on page 2266
- show user-plane-service gtpu statistics local-address, on page 2266
- show user-plane-service sgacl name sgacl-name, on page 2268
- show user-plane-service sgt-column dsgt *dsgt-value*, on page 2268
- show user-plane-service sgt-column summary, on page 2268
- show user-plane-service s-nssai statistics [all | id], on page 2268
- show user-plane-service statistics all, on page 2269
- show user-plane-service statistics name, on page 2272
- show user-plane-service statistics rat all, on page 2275
- show user-plane-service statistics charging-action [name | all], on page 2278
- show user-plane-service statistics rulebase [name | all], on page 2279
- show user-plane-service statistics sgacl all, on page 2279

show user-plane-service statistics drop-counter

The output of the **show user-plane-service statistics drop-counter** command displays the following fields:

Field	Description
Packet Drop Data Statistics:	
NAT packets processing failure:	
NAT on demand handling	The total number of NAT packets failed due to on-demand handling.
IP allocation is in progress	The total number of NAT packets failed due to IP allocation in progress.
ICMP Packet translation	The total number of NAT packets failed due to ICMP packet translations.

Field	Description
FIREWALL packets processing failure:	
Policy not found	The total number of Firewall packets failed due to missing policy.
No Matching GX rule found	The total number of Firewall packets failed due to unmatched Gx rules.
Flow apply action:	
Discard	The total number of packets dropped due to discard action.
Readdress Failure	The total number of packets dropped due to readdress failure.
Packet exceeds the MTU size	The total number of packets dropped due to excess MTU size.
Failure in processing FAR Buffer packets	The total number of packets dropped due to failure in processing the FAR buffer.
FAR Apply Action Drop	The total number of packets dropped due to FAR apply action.
Traffic Steering Failure	The total number of packets dropped due to traffic steering failure.
QER Gate Status Closed	The total number of packets dropped due to QER gate status closure.
Content-filtering Discard Action	The total number of packets dropped due to content-filtering discard action.
IP Header Validation Failed	The total number of packets dropped due to IP header validation failure.
ADF level failure:	
UL TEID/QFI key mismatch	The total number of packets dropped due to UL TEID/QFI key mismatch.
DL TFT mismatch	The total number of packets dropped due to DL TFT mismatch.
DL QFI mismatch	The total number of packets dropped due to DL QFI mismatch.
URL Blacklisting Discard Action	The total number of packets dropped due to URL blacklisting discard action.
DDN buffer overflow drop packets	The total number of packets dropped due to DDN buffer overflow.

Field	Description
APN AMBR Packets Drop	The total number of packets dropped due to APN AMBR.
ITC Packets Drop	The total number of ITC dropped packets.
ACL Drop	The total number of ACL dropped packets.
CC Dropped Packets	The total number of CC dropped packets.
FastPath Misc Drops:	
Overload Protection	The total number of packets dropped due to overload protection.
Invalid Client	The total number of packets dropped due to invalid client.
Stream ID 0	The total number of packets dropped due to 0 stream ID.
Invalid Stream ID	The total number of packets dropped due to invalid stream ID.
OHR Mismatch Packet Drops	The total number of packets dropped due to outer header removal mismatch.
SGACL Packet Drops	Total number of SGACL packets dropped.
SGACL No Policy Packet Drops	Total number of SGACL packets not dropped.
No Default SGT cell Packet Drops	Total number of no default SGT cell packets dropped. **Note** This field is obsolete.

show user-plane-service all

The output of the **show user-plane-service all** command displays the following fields:

Field	Description
Service name	The name of the configured user plane service.
Service ID	The user plane service identifier.
Context	The context in which the service is configured.
Status	The status of the user plane service.
UPF Ingress GTPU Service	Displays the type of UPF Ingress GTPU Service.

Field	Description
UPF Ingress N3 Interface Type GTPU Service	Displays the type of UPF Ingress N3 Interface Type GTPU Service.
UPF Ingress N9 Interface Type GTPU Service	Displays the type of UPF Ingress N9 Interface Type GTPU Service.
UPF Ingress S5U Interface Type GTPU Service	Displays the type of UPF Ingress S5U Interface Type GTPU Service.
UPF Ingress S8U Interface Type GTPU Service	Displays the type of UPF Ingress S8U Interface Type GTPU Service.
UPF Egress GTPU Service	Displays the type of UPF Egress GTPU Service.
SGW Ingress GTPU Service	Displays the type of SGW Ingress GTPU Service.
SGW Egress GTPU Service	Displays the type of SGW Egress GTPU service.
Control Plane Tunnel GTPU Service	Displays the name of control plane tunnel GTPU service.
Sx Service	Displays the type of Sx Service.
Control Plane Group	Displays the type of control plane group.
Fast-Path service	Indicates the status of the fast-path service.
Load Control Parameters	Displays the Load Control related parameters.
Capacity	Displays the Load Control capacity.
NRF Management Service	Displays the name of Network Resource Functions (NRF) management service.
Nf-Instance-Id	Displays the value of Network function (NF) instance ID for NRF.
Session Priority Profile	Displays the name Session priority profile.
Ise Server Profile	Displays the name of the ISE server profile.
UPF Load Control Profile	Displays the load control profile name of the UPF.
UPF Overoad Control Profile	Displays the overload control profile name of the UPF.

show user-plane-service name

The output of the **show user-plane-service name** ***service_name*** command displays the following fields:

Field	Description
Service name	The name of the configured user plane service.
Service ID	The user plane service identifier.
Context	The context in which the service is configured.
Status	The status of the user plane service.
UPF Ingress GTPU Service	Displays the type of UPF Ingress GTPU Service.
UPF Ingress N3 Interface Type GTPU Service	Displays the type of UPF Ingress N3 Interface Type GTPU Service.
UPF Ingress N9 Interface Type GTPU Service	Displays the type of UPF Ingress N9 Interface Type GTPU Service.
UPF Ingress S5U Interface Type GTPU Service	Displays the type of UPF Ingress S5U Interface Type GTPU Service.
UPF Ingress S8U Interface Type GTPU Service	Displays the type of UPF Ingress S8U Interface Type GTPU Service.
UPF Egress GTPU Service	Displays the type of UPF Egress GTPU Service.
SGW Ingress GTPU Service	Displays the type of SGW Ingress GTPU Service.
SGW Egress GTPU Service	Displays the type of SGW Egress GTPU service.
Control Plane Tunnel GTPU Service	Displays the name of control plane tunnel GTPU service.
Sx Service	Displays the type of Sx Service.
Control Plane Group	Displays the type of control plane group.
Fast-Path service	Indicates the status of the fast-path service.
Load Control Parameters	Displays the Load Control related parameters.
Capacity	Displays the Load Control capacity.
NRF Management Service	Displays the name of Network Resource Functions (NRF) management service.
Nf-Instance-Id	Displays the value of Network function (NF) instance ID for NRF.
Session Priority Profile	Displays the name Session priority profile.
Ise Server Profile	Displays the name of the ISE server profile.
UPF Load Control Profile	Displays the UPF load control profile name.
UPF Overoad Control Profile	Displays the UPF overload control profile name.

show user-plane-service gtpu local-addresses

Table 664: show user-plane-service gtpu local-addresses Command Output Descriptions

Field	Description
Service Name	The name of the configured user plane service.
Address List	The IP addresses used to transmit/receive GTP-U packets.
GTPv1 Sessions	The number of active GTP-1 sessions.

show user-plane-service gtpu statistics local-address

Table 665: show user-plane-service gtpu statistics local-address table Command Output Descriptions

Field	Description
Session Stats	
Current	The total number of current sessions set up using GTPU service.
Current (IMS-media)	The total number of current (IMS-media) sessions set up using GTPU service
Total Setup	The total number of sessions set up using GTPU service.
Total Setup (IMS-media)	The total number of sessions set up (IMS-media) using GTPU service.
Current gtpu v0 sessions	The total number of current GTP-0 sessions.
Current gtpu v1 sessions	The total number of current GTP-1 sessions.
Total Data Stats	
Uplink Packets	The total number of uplink packets.
Uplink Bytes	The total number of uplink bytes.
Downlink Packets	The total number of downlink packets.
Downlink Bytes	The total number of downlink bytes.
Packets Discarded	The total number of discarded packets.
Bytes Discarded	The total number of discarded bytes.
Uplink Packets (IMS-media)	The total number of uplink packets (IMS-media).
Uplink Bytes (IMS-media)	The total number of uplink bytes (IMS-media).
Downlink Packets (IMS-media)	The total number of downlink packets (IMS-media).

Field	Description
Downlink Bytes (IMS-media)	The total number of downlink bytes (IMS-media).
Packets Discarded (IMS-media)	The total number of discarded packets (IMS-media).
Bytes Discarded (IMS-media)	The total number of discarded bytes (IMS-media).
QoS Stats	
Uplink Packets	The total number of QCI <n> uplink packets.
Uplink Bytes	The total number of QCI <n> uplink bytes.
Downlink Packets	The total number of QCI <n> downlink packets.
Downlink Bytes	The total number of QCI <n> downlink bytes.
Packets Discarded	The total number of discarded QCI <n> packets.
Non-Std QCI(Non-GBR)	
Uplink Packets	The total number of non-standard QCI, non-GBR uplink packets.
Uplink Bytes	The total number of non-standard QCI, non-GBR uplink bytes.
Downlink Packets	The total number of non-standard QCI, non-GBR downlink packets.
Downlink Bytes	The total number of non-standard QCI, non-GBR downlink bytes.
Packets Discarded	The total number of discarded non-standard QCI, non-GBR packets.
Path Management Messages	
Echo Request Rx	The total number of GTPU echo requests received.
Echo Response Rx	The total number of GTPU echo responses received.
Echo Request Tx	The total number of GTPU echo requests transmitted.
Echo Response Tx	The total number of GTPU echo responses transmitted.
SuppExtnHdr Tx	Total GTPU messages with supported extension headers transmitted.
Peer Stats	
Total GTPU Peers	Total number of GTPU Peers available in the system.
Total GTPU Peers with Stats	The total number of GTPU Peers available in the system with statistics.
Tunnel Management Messages	
Error Indication Tx	The number of Error Indication messages transmitted.
Error Indication Rx	The number of Error Indication messages received.
Error Indication Rx Discarded	The total number of error indications discarded.

show user-plane-service sgacl name sgacl-name

Table 666: show user-plane-service sgacl name Command Output Descriptions

Field	Description
SGACL Name	Displays the name of the Secure Group Tag-based Access Control List (SGACL).
SGACL Definitions	Displays the ACL definitions.
protocol	Displays the protocol field for SGACL (IPV4, IPV6, or IP_AGNOSTIC.
Total SGACL(s) found	Displays the total number of SGACLs found.

show user-plane-service sgt-column dsgt *dsgt-value*

Table 667: show user-plane-service sgt-column dsgt dsgt_value Command Output Descriptions

Field	Description
D-SGT	Displays the Destination SGT (D-SGT) value.
S-SGT	Displays the Source SGT (S-SGT) value.
SGACL Name Version	Displays the version of the SGACL name.
SGACL name	Displays the SGACL name.
Total SGT column(s) found	Displays the total number of the SGT columns.

show user-plane-service sgt-column summary

Table 668: show user-plane-service sgt-column summary Command Output Descriptions

Field	Description
D-SGT Columns fetched	Displays the fetched Destination SGT (D-SGT) columns.
D-SGT Version	Displays the version of the D-SGT.
Total D-SGT column(s) found	Displays the total number of the D-SGT columns.

show user-plane-service s-nssai statistics [all | id]

The output of the **show user-plane-service s-nssai statistics [all | id]** command displays the following fields:

Field	Description
S-NSSAI	Indicates the S-NSSAI value.
Active Subscribers	Displays the number of active subscribers.
Total Subscribers	Displays the total number of subscribers.

show user-plane-service statistics all

The output of the **show user-plane-service statistics all** command displays the following fields:

Field	Description
UPF Overload Stats:	
Current State	The current load or overload state of the UPF.
Overload Mode Count	The total number of times the UPF reached the overload condition.
Self-protection Mode Count	The total number of times the UPF reached the self-protection mode.
Last Detected Overload state	Timestamp of when UPF was last in the Overload state.
Last Detected Out-of Overload state	Timestamp of when UPF was last out of the Overload state.
Last Reported (System) Overload Factor:	
CPU	Timestamp of when UPF last reported overloaded based on CPU load.
Memory	Timestamp of when UPF last reported overloaded based on Memory load.
Session Capacity	Timestamp of when UPF last reported overloaded based on Session Capacity.
Last Reported (VPP CPU) Overload Factor	Timestamp of when UPF last reported overloaded based on CPU load.
Last Reported Reduction Metric	Timestamp of when UPF last reported reduction metric.
Session Stats:	
Sx-Sessions Removed in Self-Protection Mode	The number of Sx-Sessions removed in self-protection mode
Non-Priority Sx Messages:	

Field	Description
Sx-Establishment Requests Received in Overload Mode	The total number of times UPF received the Sx Session Establishment Request while in self-protection mode.
Sx-Establishment Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx Session Establishment Request while in self-protection mode.
Sx-Modification Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx-Session Modification Request while in self-protection mode.
Unclassified Sx Messages:	
Sx-Establishment Requests Received in Overload Mode	The total number of times UPF received the Sx Session Establishment Request while in self-protection mode.
Sx-Establishment Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx Session Establishment Request while in self-protection mode.
Sx-Modification Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx-Session Modification Request while in self-protection mode.
IMS Sx Messages:	
Sx-Establishment Requests Received in Overload Mode	The total number of times UPF received the Sx Session Establishment Request while in overload mode.
Sx-Establishment Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx Session Establishment Request while in self-protection mode.
Sx-Modification Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx-Session Modification Request while in self-protection mode.
Sx-Establishment Requests Allowed in Self-protection Mode	The total number of times UPF allowed the Sx Session Establishment Requests while in self-protection mode.
Sx-Modification Requests Allowed in Self-protection Mode	The total number of times UPF allowed the Sx Session Modification Requests while in self-protection mode.
WPS/Emergency Sx Messages:	
Sx-Establishment Requests Received in Overload Mode	The total number of times UPF received the Sx Session Establishment Request while in overload mode.
Sx-Establishment Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx Session Establishment Request while in self-protection mode.
Sx-Modification Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx-Session Modification Request while in self-protection mode.

Field	Description
Sx-Establishment Requests Allowed in Self-protection Mode	The total number of times UPF allowed the Sx Session Establishment Requests while in self-protection mode.
Sx-Modification Requests Allowed in Self-protection Mode	The total number of times UPF allowed the Sx Session Modification Requests while in self-protection mode.
Data Stats:	
Overload Mode:	
WPS/Emergency New Flows Allowed	The total number of new WPS or Emergency flows allowed while in overload mode.
WPS/Emergency New Flows Dropped	The total number of new WPS or Emergency flows dropped while in overload mode.
Non WPS/Emergency New Flows Allowed	The total number of new non-WPS or Emergency flows allowed while in overload mode.
Non WPS/Emergency New Flows Dropped	The total number of new non-WPS or Emergency flows dropped while in overload mode.
Unclassified New Flows Dropped	The total number of new unclassified packets dropped while in overload mode.
Total Packets Dropped	The total number of packets dropped while in overload mode.
Self-Protection Mode:	
WPS/Emergency New Flows Allowed	The total number of new WPS or Emergency flows allowed while in self-protection mode.
WPS/Emergency New Flows Dropped	The total number of new WPS or Emergency flows dropped while in self-protection mode.
Non WPS/Emergency New flows Allowed	The total number of new non-WPS or Emergency flows allowed while in self-protection mode.
Non WPS/Emergency New Flows Dropped	The total number of new non-WPS or Emergency flows dropped while in self-protection mode.
Unclassified New Flows Dropped	The total number of new unclassified packets dropped while in self-protection mode.
Total Packets Dropped	The total number of packets dropped while in self-protection mode.
UPF Load Stats:	
Current (system) Load Factor	

Field	Description
CPU	The last reported load factor of the UPF based on CPU load.
Memory	The last reported load factor of the UPF based on Memory load.
Session Capacity	The last reported load factor of the UPF based on Session Capacity load.
Last Reported Sequence Number	The last reported sequence number.

show user-plane-service statistics name

The output of the **show user-plane-service statistics name** command displays the following fields:

Field	Description
UPF Overload Stats:	
Current State	The current load or overload state of the UPF.
Overload Mode Count	The total number of times the UPF reached the overload condition.
Self-protection Mode Count	The total number of times the UPF reached the self-protection mode.
Last Detected Overload state	Timestamp of when UPF was last in the Overload state.
Last Detected Out-of Overload state	Timestamp of when UPF was last out of the Overload state.
Last Reported (System) Overload Factor:	
CPU	Timestamp of when UPF last reported overloaded based on CPU load.
Memory	Timestamp of when UPF last reported overloaded based on Memory load.
Session Capacity	Timestamp of when UPF last reported overloaded based on Session Capacity.
Last Reported (VPP CPU) Overload Factor	Timestamp of when UPF last reported overloaded based on CPU load.
Last Reported Reduction Metric	Timestamp of when UPF last reported reduction metric.
Session Stats:	

Field	Description
Sx-Sessions Removed in Self-Protection Mode	The number of Sx-Sessions removed in self-protection mode
Non-Priority Sx Messages:	
Sx-Establishment Requests Received in Overload Mode	The total number of times UPF received the Sx Session Establishment Request while in self-protection mode.
Sx-Establishment Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx Session Establishment Request while in self-protection mode.
Sx-Modification Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx-Session Modification Request while in self-protection mode.
Unclassified Sx Messages:	
Sx-Establishment Requests Received in Overload Mode	The total number of times UPF received the Sx Session Establishment Request while in self-protection mode.
Sx-Establishment Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx Session Establishment Request while in self-protection mode.
Sx-Modification Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx-Session Modification Request while in self-protection mode.
IMS Sx Messages:	
Sx-Establishment Requests Received in Overload Mode	The total number of times UPF received the Sx Session Establishment Request while in overload mode.
Sx-Establishment Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx Session Establishment Request while in self-protection mode.
Sx-Modification Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx-Session Modification Request while in self-protection mode.
Sx-Establishment Requests Allowed in Self-protection Mode	The total number of times UPF allowed the Sx Session Establishment Requests while in self-protection mode.
Sx-Modification Requests Allowed in Self-protection Mode	The total number of times UPF allowed the Sx Session Modification Requests while in self-protection mode.
WPS/Emergency Sx Messages:	
Sx-Establishment Requests Received in Overload Mode	The total number of times UPF received the Sx Session Establishment Request while in overload mode.
Sx-Establishment Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx Session Establishment Request while in self-protection mode.

Field	Description
Sx-Modification Requests Rejected in Self-protection Mode	The total number of times UPF rejected the Sx-Session Modification Request while in self-protection mode.
Sx-Establishment Requests Allowed in Self-protection Mode	The total number of times UPF allowed the Sx Session Establishment Requests while in self-protection mode.
Sx-Modification Requests Allowed in Self-protection Mode	The total number of times UPF allowed the Sx Session Modification Requests while in self-protection mode.
Data Stats:	
Overload Mode:	
WPS/Emergency New Flows Allowed	The total number of new WPS or Emergency flows allowed while in overload mode.
WPS/Emergency New Flows Dropped	The total number of new WPS or Emergency flows dropped while in overload mode.
Non WPS/Emergency New flows Allowed	The total number of new non-WPS or Emergency flows allowed while in overload mode.
Non WPS/Emergency New Flows Dropped	The total number of new non-WPS or Emergency flows dropped while in overload mode.
Unclassified New Flows Dropped	The total number of new unclassified packets dropped while in overload mode.
Total Packets Dropped	The total number of packets dropped while in overload mode.
Self-Protection Mode:	
WPS/Emergency New Flows Allowed	The total number of new WPS or Emergency flows allowed while in self-protection mode.
WPS/Emergency New Flows Dropped	The total number of new WPS or Emergency flows dropped while in self-protection mode.
Non WPS/Emergency New flows Allowed	The total number of new non-WPS or Emergency flows allowed while in self-protection mode.
Non WPS/Emergency New Flows Dropped	The total number of new non-WPS or Emergency flows dropped while in self-protection mode.
Unclassified New Flows Dropped	The total number of new unclassified packets dropped while in self-protection mode.
Total Packets Dropped	The total number of packets dropped while in self-protection mode.
UPF Load Stats:	

Field	Description
Current (system) Load Factor	
CPU	The last reported load factor of the UPF based on CPU load.
Memory	The last reported load factor of the UPF based on Memory load.
Session Capacity	The last reported load factor of the UPF based on Session Capacity load.
Last Reported Sequence Number	The last reported sequence number.

show user-plane-service statistics rat all

The output of the **show user-plane-service statistics rat all** command displays the following fields:

Field	Description
Current Subscribers:	
5G NR	The subscriber is 5G NR.
EUTRAN	The subscriber is EUTRAN.
WLAN	The subscriber is WLAN.
GERAN	The subscriber is GERAN.
UTRAN	The subscriber is UTRAN.
NR REDCAP	The subscriber is NR REDCAP.
NR REDCAP	The subscriber is NR EREDCAP.
Data Statistics:	
5G NR Uplink:	
Total Packets	Total number of uplink packets.
Total Bytes	Total number of uplink bytes.
Total Dropped Packets	Total number of dropped uplink packets.
Total Dropped Bytes	Total number of dropped uplink bytes.
5G NR Downlink:	
Total Packets	Total number of downlink packets.
Total Bytes	Total number of downlink bytes.

Field	Description
Total Dropped Packets	Total number of dropped downlink packets.
Total Dropped Bytes	Total number of dropped downlink bytes.
EUTRAN:	
EUTRAN Uplink:	
Total Packets	Total number of uplink packets.
Total Bytes	Total number of uplink bytes.
Total Dropped Packets	Total number of dropped uplink packets.
Total Dropped Bytes	Total number of dropped uplink bytes.
EUTRAN Downlink:	
Total Packets	Total number of downlink packets.
Total Bytes	Total number of downlink bytes.
Total Dropped Packets	Total number of dropped downlink packets.
Total Dropped Bytes	Total number of dropped downlink bytes.
WLAN:	
WLAN Uplink:	
Total Packets	Total number of uplink packets.
Total Bytes	Total number of uplink bytes.
Total Dropped Packets	Total number of dropped uplink packets.
Total Dropped Bytes	Total number of dropped uplink bytes.
WLAN Downlink:	
Total Packets	Total number of downlink packets.
Total Bytes	Total number of downlink bytes.
Total Dropped Packets	Total number of dropped downlink packets.
Total Dropped Bytes	Total number of dropped downlink bytes.
GERAN:	
GERAN Uplink:	
Total Packets	Total number of uplink packets.
Total Bytes	Total number of uplink bytes.

Field	Description
Total Dropped Packets	Total number of dropped uplink packets.
Total Dropped Bytes	Total number of dropped uplink bytes.
GERAN Downlink:	
Total Packets	Total number of downlink packets.
Total Bytes	Total number of downlink bytes.
Total Dropped Packets	Total number of dropped downlink packets.
Total Dropped Bytes	Total number of dropped downlink bytes.
UTRAN:	
UTRAN Uplink:	
Total Packets	Total number of uplink packets.
Total Bytes	Total number of uplink bytes.
Total Dropped Packets	Total number of dropped uplink packets.
Total Dropped Bytes	Total number of dropped uplink bytes.
UTRAN Downlink:	
Total Packets	Total number of downlink packets.
Total Bytes	Total number of downlink bytes.
Total Dropped Packets	Total number of dropped downlink packets.
Total Dropped Bytes	Total number of dropped downlink bytes.
NR REDCAP:	
NR REDCAP Uplink:	
Total Packets	Total number of uplink packets.
Total Bytes	Total number of uplink bytes.
Total Dropped Packets	Total number of dropped uplink packets.
Total Dropped Bytes	Total number of dropped uplink bytes.
NR REDCAP Downlink:	
Total Packets	Total number of downlink packets.
Total Bytes	Total number of downlink bytes.
Total Dropped Packets	Total number of dropped downlink packets.

Field	Description
Total Dropped Bytes	Total number of dropped downlink bytes.
NR EREDCAP:	
NR EREDCAP Uplink:	
Total Packets	Total number of uplink packets.
Total Bytes	Total number of uplink bytes.
Total Dropped Packets	Total number of dropped uplink packets.
Total Dropped Bytes	Total number of dropped uplink bytes.
NR EREDCAP Downlink:	
Total Packets	Total number of downlink packets.
Total Bytes	Total number of downlink bytes.
Total Dropped Packets	Total number of dropped downlink packets.
Total Dropped Bytes	Total number of dropped downlink bytes.
Unknown:	
Unknown Uplink:	
Total Packets	Total number of uplink packets.
Total Bytes	Total number of uplink bytes.
Total Dropped Packets	Total number of dropped uplink packets.
Total Dropped Bytes	Total number of dropped uplink bytes.
Unknown Downlink:	
Total Packets	Total number of downlink packets.
Total Bytes	Total number of downlink bytes.
Total Dropped Packets	Total number of dropped downlink packets.
Total Dropped Bytes	Total number of dropped downlink bytes.

show user-plane-service statistics charging-action [name | all]

The output of the **show user-plane-service statistics charging-action [name | all]** command displays the following fields:

Field	Description
X-Header Bytes Injected	Indicates the number of X-Header bytes injected.
X-Header Packets Injected	Indicates the number of X-Header packets injected.
X-Header Bytes Removed	Indicates the number of X-Header bytes removed.
X-Header Packets Removed	Indicates the number of X-Header packets removed.

show user-plane-service statistics rulebase [name | all]

The output of the **show user-plane-service statistics rulebase [name | all]** command displays the following header enrichment field:

Field	Description
HTTP header buffering limit reached	Indicates when the HTTP buffering limit is reached.

show user-plane-service statistics sgacl all

Table 669: show user-plane-service statistics sgacl all Command Output Descriptions

Field	Description
ACL Name	Specifies the name of the access control list.
Pkts-Down	Specifies the total number of downlink packets for subscriber matching SGACL.
Bytes-Down	Specifies the total number of downlink bytes for subscriber matching SGACL.
Pkts-Up	Specifies the total number of dropped packets for subscriber matching SGACL. **Note** This field is added for as part of the CLI for completeness. However, the counters are always 0 as currently SGACL is applied only for downlink packets.
Bytes-Up	Specifies the total number of uplink bytes for a subscriber. **Note** This field is added for as part of the CLI for completeness. However, the counters are always 0 as currently SGACL is applied only for downlink packets.
Pkts dropped	Specifies the total number of dropped packets.
Total SGACL(s)	Specifies the total number of SGACLs for a subscriber.



CHAPTER 156

show version

This chapter describes the outputs of the **show version** command.

- show version verbose, on page 2281

show version verbose

This command displays information about the StarOS software currently running on the system.

Table 670: show version verbose Command Output Descriptions

Field	Description
Image Version:	Identifies the StarOS version running on this platform.
Image Branch Version:	*StarOS releases prior to 16.1 only:* Identifies the StarOS version using its CDETS branch numbering scheme. Format = NNN.NNN(NNN). For example "015.000(001)".
Image Build Number:	*StarOS release 16.1 onwards:* Displays build number or build type (text string).
Image Description:	Brief text string that describes this build. For example, "Deployment_Build".
Image Date:	The date the software image was generated. Format = DoW MMM DD hh:mm:ss TZ YYYY. For example, "Tue Apr 23 00:45:12 EDT 2013".
Boot Image:	The pathname for the bootable image that is currently running. For example, "/flash/<image_filename>.bin".
Source Commit ID:	A 40-character string that corresponds to the Git commit identifier (SHA-1 hash) for the build.
Kernel Version:	The StarOS kernel version number. For example, "2.6.38-staros-v3-51074-deb-64".
Kernel Machine Type:	The StarOS machine (CPU) type. For example, "x86_64" (64-bit version of the Intel x86 instruction set).



Important When you run the **show version** command without the **verbose** keyword, Kernel Version and Kernel Machine Type are not displayed.



CHAPTER 157

show wsg

This chapter shows the outputs for the **show wsg-lookup** and **show wsg-service** commands.

- show wsg-lookup, on page 2283
- show wsg-service all/name, on page 2284
- show wsg-service statistics, on page 2284

show wsg-lookup

Table 671: show wsg-lookup Command Output Descriptions

Field	Description
priority 1 source-netmask <value> destination-netmask <value>	Priority 1: source and destination netmasks.
priority 2 source-netmask <value> destination-netmask <value>	Priority 2: source and destination netmasks.
priority 3 source-netmask <value> destination-netmask <value>	Priority 3: source and destination netmasks.
priority 4 source-netmask <value> destination-netmask <value>	Priority 4: source and destination netmasks.
priority 5 source-netmask <value> destination-netmask <value>	Priority 5: source and destination netmasks.
priority 6 source-netmask <value> destination-netmask <value>	Priority 6: source and destination netmasks.

show wsg-service all/name

Table 672: show wsg-service all/name Command Output Descriptions

Field	Description
Service name	Name of the WSG service.
Context	Name of context associated with the WSG service.
Bind	Bound to interface: Done or None.
Max Sessions	Maximum number of sessions.
IP address	IP address associated with this service.
UDP Port	UDP port number.
MTY	Maximum Transmission Unit in bytes.
Service State	Current state of this WSG service.
Crypto-template	Name of the crypto template associated with this WSG service.
deployment-mode	1 = Remote Access; 2 = Site-to-Site (S2S)
peer-list	Name of peer list or "N/A." If a name is displayed the SecGW acts as an IKE initiator.
initiator-mode-duration	Interval in seconds that SecGW waits for a response after initiating a call setup request to an IKE peer. Default is 10. Requires peer-list name to be enabled.
responder-mode-duration	Interval in seconds that SecGW waits for a call request from an IKE peer before switching to initiator mode. Default is 10. Requires peer-list name to be enabled.
Duplicate session detection	Status of duplicate session detection feature: Disabled or Enabled.

show wsg-service statistics

Table 673: show wsg-service statistics Command Output Descriptions

Field	Description
Session Stats:	
Current sessions total	Total number of sessions in progress including transient sessions.
Simple-IP IPv4 current	Number of current Simple-IPv4 sessions.

Field	Description
Simple-IP IPv6 current	Number of current Simple-IPv6 sessions.
Data-Clients	Total number of subscriber sessions originating from data clients.
Active current	Total number of currently active sessions.
Dormant current	Total number of currently dormant sessions.
Active IPv4 current	Total number of currently active IPv4 sessions.
Active IPv6 current	Total number of currently active IPv6 sessions.
Dormant IPv4 current	Total number of currently dormant IPv4 sessions.
Dormant IPv6 current	Total number of currently dormant IPv6 sessions.
Total Simple-IP	Total number of Simple-IP sessions.
Simple-IP-fallback attmpts	Total number of Simple-IP fallback attempts.
Successes	Number of successful Simple-IP fallback sessions.
Failures	Number of failed Simple-IP fallback sessions.
Simple-IP-Fallback failure reasons:	
No Mobile-IP RRQ Rx	Mobile-IP RRQ request not received.
Not Allowed	Simple-IP fallback not allowed by configuration.
Tagged Pool Address	Address is in a pool and tagged not to allow Simple-IP fallback.
Misc.	Fallback failures due to other reasons.
Simple-IP attempts	Total number of Simple-IP session attempts.
Total setup success	Number of successful Simple-IP attempts.
Total Attempts Failed	Number of failed Simple-IP attempts.
Total disconnected	Total number of disconnected sessions.
Disconnected locally	Number of sessions disconnected locally.
Disconnected remotely	Number of sessions disconnected remotely.
Disconnect remotely before connect	Number of sessions disconnected remotely before the session was fully connected.
Session Disconnect reason:	
Remote disc. ipsec	Number of sessions disconnected because of remote party (mobile) hang-up.

Field	Description
Admin disconnect	Number of sessions disconnected by the Admin.
Idle timeout	Number of sessions disconnected because the Idle timer has timed out.
Absolute timeout	Number of sessions disconnected because the Absolute timer has timed out.
Long duration timeout	Number of sessions disconnected because the Long Duration timer has timed out.
Session setup timeout	Number of sessions disconnected because the Session Setup timer has timed out.
No resource	Number of sessions disconnected because the system has run out of resources (flows, memory, etc.).
Auth failure	Number of sessions disconnected because of an authentication failure.
Flow add failure	Number of sessions disconnected because flow could not be added on NPU.
Invalid dest-context	Number of sessions disconnected because the destination context coming from AAA server is invalid.
Source address violation	Number of sessions disconnected because the source IP address is invalid.
Duplicate Request	Number of sessions disconnected because of a duplicate request when there is already a session with the same NAI.
MAC validation failure	Number of sessions disconnected because the HSS cannot validate MAC address from remote user.
Addr assign failure	Number of sessions disconnected because no address has been assigned.
Miscellaneous reasons	Number of Mobile-IP sessions disconnected for other reasons.
Data Stats:	
Total Bytes Sent	Total number of bytes sent.
Total Packets Sent	Total number of packets sent.
Total Bytes Rcvd	Total number of bytes received.
Total Packets Rcvd	Total number of packets received.
Total Pckts Violations	Total number of packets received from UEs and destined for the Internet that do not match any of the configured traffic selectors.

Field	Description
EAP Server Stats:	
Total Received	Total number of EAP Success+ EAP Challenge + EAP Failures, coming from EAP server.
Success Received	Number of EAP successes received.
Challenge Received	Number of EAP challenges received.
Failures Received	Number of EAP failures received.
Discarded	Number of EAP server messages discarded.
Total Sent	Total number of EAP server messages sent.
Initial Requests	Number of initial EAP requests.
Requests Forwarded	Number of EAP requests forwarded.
EAP Mobile Stats:	
Total Received	Total number of EAP Requests coming from mobile subscriber.
Discarded	Number of EAP mobile messages discarded.



CHAPTER 158

show x2gw-service

This chapter describes the output of the **show x2gw-service** command variants.

• show x2gw, on page 2289

show x2gw

Table 674: show x2gw Command Output Descriptions

Field	Description
Context Name	The name of the system context in which the CGF is configured.
Primary Accounting server address	The IP address of the CGF.
port	The TCP port over which GTPP messaging is performed.
priority	The configured priority of the CGF.
State	The status of the CGF as Active or Inactive.
Group	The GTPP server group name in which this server is configured.



INDEX

F

FoC 1156–1157
free of charge service 1156–1157

I

ims-authorization 1312

M

mipv6ha 1450

P

preservation mode 1156–1157

S

show active-charging credit-control statistics 795
show diameter osid-info sessmgr all Command Output 800
show diameter osid-info sessmgr Command Output 800
show diameter peers full Command Output 802
show ims-authorization service 1312
show mipv6ha statistics 1450
show mipv6ha-service all 1448
show pdg-service all command, output description 1605, 1615
show rohc,show rohc statistics 1758