

Bulk Statistics Configuration Mode Commands

Refer to the *Common Syntax Options* section in this chapter for information about formatting the output of bulk statistics.

Important Unless otherwise indicated, all statistics are counters. For statistics with the Int32 data type, the roll-over to zero limit is 4,294,967,295. For statistics with the Int64 data type, the roll-over to zero limit is 18,446,744,073,709,551,615.

Command Modes

The Bulk Statistics Configuration Mode is used to manage the options for the collection, formatting and delivery of system statistics to remote nodes.

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Important The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).

Important In release 20.0 and higher Trusted StarOS builds, FTP is not supported. SFTP is the recommended file transfer protocol. For additional information, refer to the *System Administration Guide*.

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Overview

Schema Format String Syntax

The following defines common syntax block options. These options appear in similar commands and are detailed here for easy reference.

The schema format string is used to define the structure of generated bulk statistics data. The string may contain static text, dynamic content, and bulk statistic variables, or any combination.

Static text includes any ASCII characters that are of a fixed value. Static text may also include control characters by using Escape character sequences. Supported Escape character shortcuts are "\n" for new line and "\t" for tab.

Enclosing an alphanumeric string within double quotation marks (") allows you to include spaces in the string.

Variables within the format string must be enclosed within "% and %", for example, "%var%". The actual variables supported are command-dependent and are described in the *Statistics and Counters Reference* (prior to Release 20.0) and in the *Statistics and Counters* spreadsheet (Release 20.0 and higher).

Schema Format String Length

The maximum length for a schema format specified via the CLI command cannot be more than 3599 characters long. However, the format should be broken into multiple lines using backslash such that each line is less than 1024 characters in length. The syntax is shown below.

<*schema_type*> **schema** <*schema_name*> **format** <*schema_format*>

Where:

- <*schema_name*> can be a maximum of 31 alphanumeric characters.
- <*schema_format*> can be a maximum of 3599 characters, including spaces within double quotation marks (" ").

Bulk Statistic Variables

For a list of the statistical variables (%var%) available for use in creating a schema format for each schema type:

- Run the Exec mode **show bulkstats variables** *schema_type* command.
- See the *Statistics and Counters Overview* chapter of the *Statistics and Counters Reference* (StarOS releases prior to 20.0) or the *Statistics and Counters Reference* spreadsheet (release 20.0 and higher) .

aal2 schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures the ATM adaptation layer 2 (AAL2) bulk statistics schema within an ATM virtual connection by the HNB-GW.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

aal2 schema *schema_name* **[active-only] format** *schema_format*
no aal2 schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for ATM adaptation layer 2 (AAL2) bulk statistics collection. Multiple AAL2 schemas can be created to further categorize HNB-GW-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple AAL2 schemas, re-issue the **aal2 schema** *schema_name* command using a different schema name.

You can also use this command to restrict the AAL2 schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *aal2stats1* that records the number of AAL2 uplink packets transmitted and AAL2 downlink packets received by Access Link Control Application Part (ALCAP) service on HNB-GW:

```
aal2 schema aal2stats1 format "%uplink-pkts-tx%" "%downlink-pkts-rx%"
```

alcap schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures the Access Link Control Application Part (ALCAP) bulk statistics schema for an ALCAP service on an HNB-GW node.

Product HNB-GW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
alcap schema schema_name [ active-only ] format schema_format
no alcap schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for Access Link Control Application Part (ALCAP) service bulk statistics collection on HNB-GW node. Multiple ALCAP schemas can be created to further categorize at AAL2 channel-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple ALCAP schemas, re-issue the **alcap schema** *schema_name* command using a different schema name.

You can also use this command to restrict the ALCAP schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *alcap1stats1* that records the number of AAL2 channels in connecting and connected state on ALCAP service:

```
alcap schema alcaplstats1 format "%num-aal2-channels-in-connecting%"
"%num-aal2-channels-in-connected-state%"
```

apn schema

Configures the Access Point Name (APN) bulk statistics schema.

Product GGSN

Privilege Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

apn schema *schema_name* **[active-only] format** *schema_format*
no apn schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for APN bulk statistics collection. Multiple APN schemas can be created to further categorize APN-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple APN schemas, re-issue the **apn schema** *schema_name* command using a different schema name.

You can also use this command to restrict the APN schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *apn1stats1* that records the number of sessions currently facilitated by the APN:

```
apn schema apn1stats1 format "%sess-curr%"
```

asngw schema

Configures Access Service Gateway (ASN-GW) bulk statistics schema.

Product

ASN-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

asngw schema *schema_name* **[active-only] format** *schema_format*
no asngw schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for ASN-GW bulk statistics collection. Multiple ASN-GW service schemas can be created to further categorize ASN-GW service bulk statistics. All of the schemas are processed at each collection interval. To create multiple ASN-GW service schemas, re-issue the **asngw schema** *schema_name* command using a different schema name.

You can also use this command to restrict the ASN-GW schema statistics to those gathered on the Active ICSR chassis.

Example

To create an ASN-GW schema named *asngw_statistics* that specifies a schema format of:

- VPN context name: *vpnname*
- VPN Context Identifier: *vpnid*
- ASN-GW Service name: *servname*
- ASN-GW Service identifier: *servid*
- Peer IP address: *peeripaddr*

Use the following command:

```
asngw schema asngw_statistics format "VPN name: %vpnname%\nVPN ID:
%vpnid%\nASN-GW Service Name: %servname%\nASN-GW Service Identifier:
%servid%\nPeer IP Address: %peeripaddr%"
```

bcmcs schema

Configures Broadcast and Multicast Service (BCMCS) bulk statistics schema.

Product

PDSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

bcmcs schema *schema_name* **[active-only] format** *schema_format*
no bcmcs schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for BCMCS bulk statistics collection. Multiple BCMCS schemas can be created to further categorize BCMCS-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple BCMCS schemas, re-issue the **bcmcs schema** *schema_name* command using a different schema name.

You can also use this command to restrict the BCMCS schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *bcmcs1stats1* that records the number of sessions currently facilitated by BCMCS:

```
bcmcs schema bcmcs1stats1 format "%sess-curr%"
```

card schema

Configures card bulk statistics schema. These are statistics for circuit cards installed in the ASR 5500 chassis.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
card schema schema_name [ active-only ] format schema_format
no card schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for card bulk statistics collection. Multiple card schemas can be created to categorize card-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple card schemas, re-issue the **card schema** *schema_name* command using a different schema name.

You can also use this command to restrict the card schema statistics to those gathered on the Active ICSR chassis.

Important Not supported on all platforms

Example

The following command creates a schema named *card1stats1* that records the number of processes for all installed cards:

```
card schema card1stats1 format "%slot%-%numproc%"
```

To create a card-level schema named *cardresourcestats* that specifies a schema format of:

- Chassis slot number: *slot*
- Available Memory: *memtotal* Memory Used (%): *memused*
- Available CPU (%): *cpuidle*

Use the following command:

```
card schema cardresourcestats format "Chassis slot number:
%slot%\nAvailable Memory: %memtotal%\tMemory Used (%): %memused%\nAvailable
 CPU (%): %cpuidle%"
```

closedrp schema

Configures Closed R-P bulk statistics schema.

Product

PDSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

closedrp schema *schema_name* **[active-only] format** *schema_format*
no closedrp schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for Closed R-P statistics collection. Multiple Closed R-P schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **closedrp schema** *schema_name* command using a different schema name.

You can also use this command to restrict the Closed R-P schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *closedrp1stats1* that records the number of active subscriber sessions and the number of sessions that failed or were disconnected due to the maximum tunnel limit being reached:

```
schema closedrp1stats1 format "%sess-curactive%-%sess-maxtunnel%"
```

To create a schema named *closedrpresourcestats* that specifies a schema format of:

- Number of Successful Session Connections: *sess-successful*
- Number of Session Attempts That Failed: *sess-failed*
- Number of Sessions Currently Active: *sess-curative*

Use the following command:

```
closedrp schema closedrpresourcestats format "Number of Successful Session
 Connections: %sess-successful%\nNumber of Session Attempts That Failed:
 %sess-failed%\nNumber of Sessions Currently Active: %sess-curative%"
```

context schema

Configures context bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

context schema *schema_name* **[active-only] format** *schema_format*
no context schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For the complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for Context bulk statistics collection. Multiple context schemas can be created to categorize context statistics. All of the schemas are processed at each collection interval. To create multiple context schemas, re-issue the **context schema** *schema_name* command using a different schema name.

You can also use this command to restrict the Context schema statistics to those gathered on the Active ICSR chassis.

Example

To create a Firewall context schema named *sfw_context_stats1* that specifies a schema format of:

- Total packets received by firewall: *sfw-total-rxpackets*
- Total packets sent by firewall: *sfw-total-txpackets*
- Total ICMP packets discarded by firewall: *fw-icmp-discardpackets*

Use the following command:

```
context schema sfw_context_stats1 format "Packets received Rx:
%sfw-total-rxpackets%\nPackets Sent Tx:: %sfw-total-txpackets%\nICMP
Packets discarded: %fw-icmp-discardpackets%"
```

cs-network-ranap schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures the Radio Access Network Application Part (RANAP) bulk statistics schema in a Circuit Switched (CS) network associated with an HNB-GW node.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

cs-network-ranap schema *schema_name* **[active-only] format** *schema_format*
no cs-network-ranap schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for RANAP procedure related bulk statistics collection in a CS network associated with HNB-GW in a Femto UMTS network. Multiple CS Networks RANAP schemas can be created to further categorize at CS network or HNB-GW-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple CS Networks RANAP schemas, re-issue the **cs-network-ranap schema** *schema_name* command using a different schema name.

You can also use this command to restrict the RANAP schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *cs_ranap1stats1* that records the total number of Iu Release Request messages transmitted and total number of Iu Release Command message received by the HNB-GW node:

```
cs-network-ranap schema cs_ranaplstats1 format "%iu-rel-req-tx%"
"%iu-rel-cmd-rx%"
```

cs-network-rtp schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures the Real-Time Transport Protocol (RTP) bulk statistics schema in a Circuit Switched (CS) network associated with an HNB-GW node.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

cs-network-rtp schema *schema_name* **[active-only] format** *schema_format*
no cs-network-rtp schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for RTP procedure related bulk statistics collection in a CS network associated with HNB-GW in a Femto UMTS network. Multiple CS Networks RTP schemas can be created to further categorize at CS network or HNB-GW-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple CS Networks RTP schemas, re-issue the **cs-network-rtp schema** *schema_name* command using a different schema name.

You can also use this command to restrict the RTP schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *cs_rtp1stats1* that records the total number of RTP Downlink Packets received and RTP Uplink Packets transmitted by HNB-GW node in an associated CS network:

```
cs-network-rtp schema cs_rtplstats1 format "%rtp-uplink-pkts-tx%"
"%rtp-downlink-pkts-rx%"
```

cs-network-sccp schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures the Signalling Connection Control Part (SCCP) bulk statistics schema in a Circuit Switched (CS) network associated with an HNB-GW node.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

cs-network-sccp schema *schema_name* **[active-only] format** *schema_format*
no cs-network-sccp schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SCCP connection related bulk statistics collection in a CS network associated with HNB-GW in a Femto UMTS network. Multiple CS Networks SCCP schemas can be created to further categorize at CS network or HNB-GW-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple CS Networks SCCP schemas, re-issue the **cs-network-sccp schema** *schema_name* command using a different schema name.

You can also use this command to restrict the SCCP schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *cs_sccp1stats1* that records the total number of SCCP connection requests received by HNB-GW and responses sent to CN node in an associated CS network:

```
cs-network-sccp schema cs_sccplstats1 format "%sccp-conn-req-rx%"
"%sccp-conn-req-tx%"
```

dcca schema

Configures Diameter Credit Control Application (DCCA) bulk statistics schema. This command is available only in StarOS 9.0 and later releases.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

dcca schema *schema_name* **[active-only] format** *schema_format*
no dcca schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for DCCA bulk statistics collection.

You can also use this command to restrict the DCCA schema statistics to those gathered on the Active ICSR chassis.

dcca-group schema

This command configures Diameter Credit Control Application (DCCA) group bulk statistics schema.

Please note that the DCCA-group related bulk statistics are copied from the "system" schema to this schema "dcca-group".

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

dcca-group schema *schema_name* **[active-only] format** *schema_format*
no dcca-group schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for DCCA group bulk statistics collection.

You can also use this command to restrict the DCCA group schema statistics to those gathered on the Active ICSR chassis.

default

Restores the system default for the option specified.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

default { limit | receiver mode | remotefile format | sample-interval | transfer-interval }

limit

Restores the memory utilization limit system default: 1000 kilobytes.

receiver mode

Restores the behavior for sending files to the receivers to the default value.

Default: secondary-on-failure

remotefile format

Restores the format of remote bulkstats file names to the default value.

Default: "%date%-%time%"

sample-interval

Restores the system default for the local polling interval for statistic sampling.

Default: 15 minutes

transfer-interval

Restores the system default for the time between transfer of data files to receivers.

Default: 480 minutes

Usage Guidelines

Restore the default values when troubleshooting the system. Setting values to the system defaults places them in well known states as starting points for monitoring for problems.

Example

```
default limit
default transfer-interval
```

diameter-acct schema

Configures Diameter Accounting bulk statistics schema. This command is available only in StarOS 11.0 and later releases.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

diameter-acct schema *schema_name* **[active-only] format** *schema_format*
no diameter-acct schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for Diameter Accounting bulk statistics collection.

You can also use this command to restrict the Diameter Accounting schema statistics to those gathered on the Active ICSR chassis.

diameter-auth schema

Configures Diameter Authentication bulk statistics schema. This command is available only in StarOS 11.0 and later releases.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

diameter-auth schema *schema_name* **[active-only] format** *schema_format*
no diameter-auth schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for Diameter Authentication bulk statistics collection.

You can also use this command to restrict the Diameter Authentication schema statistics to those gathered on the Active ICSR chassis.

dlci-util schema

Configures the collection of statistics for the DLCI-Util (DLCI utilization) schema.

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

dlci-util schema *schema_name* **[active-only] format** *schema_format*
no dlci-util schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the format of the collected DLCI utilization statistics by identifying the statistics variables and ordering the variables for presentation within the bulk statistics messages.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for the DLCI-Util schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for DLCI-Util bulk statistics collection in the generated stats report files.. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple schemas can be created to categorize DLCI-Util bulk statistics. All of the schemas are processed at each collection interval. To create multiple DLCI-Util schemas, re-issue the **dlci-util schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the DLCI-Util schema statistics to those gathered on the Active ICSR chassis.

Example

Include the bulk statistic variable names to create a schema named *dlciutilstats_sgsn1* that specifies collection of statistics (a schema format) for:

- card
- port
- path
- DS1/E1
- DLCI
- DLCI utilization snapshot for received packets

- DLCI utilization for received packets in the last 5 minutes
- DLCI utilization for received packets in the last 15 minutes

Use the following command:

```
gprs schema gprsstats_sgsn1 format "Card: %card%\nPort: %port%\nDLCI in
path: %dlci_util_path%\nDS1/E1: %dlci_util_ds1e1%\nDLCI ID:
%dlci_util_dlci_no%\nCurrent Rx: %dlci_util_dlci_curr_rx%\nRx in 5 minutes:
 %dlci_util_dlci_5min_rx%\nRx in 15 minutes: %dlci_util_dlci_15min_rx%\n"
```

dpca schema

Configures Diameter Policy Control Application (DPCA) bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

dpca schema *schema_name* **[active-only] format** *schema_format*
no dpca schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for DPCA bulk statistics collection.

You can also use this command to restrict the DPCA schema statistics to those gathered on the Active ICSR chassis.

ecs schema

Configures Enhanced Charging Service (ECS) bulk statistics schema.

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

ecs schema *schema_name* **[active-only] format** *schema_format*
no ecs schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for ECS bulk statistics collection. Multiple ECS schemas can be created to categorize ECS bulk statistics. All of the schemas are processed at each collection interval. To create multiple ECS schemas, re-issue the **ecs schema** *schema_name* command using a different schema name.

You can also use this command to restrict the ECS schema statistics to those gathered on the Active ICSR chassis.

egtpc schema

Configures the enhanced GTP-C statistics schema for naming conventions of data files.

Product

MME

P-GW

S-GW

SAEGW

SGSN

Privilege

Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

egtpc schema *schema_name* **[active-only] format** *schema_format*
no egtpc schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for enhanced GTP-C bulk statistics collection. Multiple eGTP-C service schemas can be created to categorize eGTP-C service bulk statistics. All of the schemas are processed at each collection interval. To create multiple eGTP-C service schemas, re-issue the **egtpc schema** *schema_name* command using a different schema name.

You can also use this command to restrict the GTP-C schema statistics to those gathered on the Active ICSR chassis.

Example

For an eGTP-C-level schema named *egtpcservicestats* that specifies a schema format of:

- Tunnel - Create Session Request Sent: *tun-sent-cresess*
- Tunnel - Create Session Request Received: *tun-recv-cresess*

Use the following command:

```
egtpc schema egtpcservicestats format "Number of GTP Tunnel Requests Sent:
 %tun-sent-cresess%\nNumber of GTP Tunnel Requests Received:
%tun-recv-cresess%\n"
```

epdg-handoff-disc schema

Configures bulkstats schema for transferring LTE to Wi-Fi Ho disconnect reasons statistics.

Product

ePDG

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

epdg-handoff-disc schema *schema_name* **format** *schema_format* **[active-only]**
epdg-handoff-disc schema *schema_name* **[active-only] format** *schema_format*
no epdg-handoff-disc schema *schema_name*

epdg-handoff-disc schema

Configures bulkstats schema for transferring LTE to Wi-Fi HO disconnect reason statistics.

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for transferring LTE to Wi-Fi HO disconnect reason statistics.

end

Exits the current configuration mode and returns to the Exec mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description **end**

Usage Guidelines Use this command to return to the Exec mode.

exit

Exits the current mode and returns to the parent configuration mode.

Product

All

Privilege

Security Administrator, Administrator

Syntax Description

exit

Usage Guidelines

Use this command to return to the parent configuration mode.

fa schema

Configures Foreign Agent (FA) bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

fa schema *schema_name* **[active-only] format** *schema_format*
no fa schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for FA bulk statistics collection. Multiple FA service schemas can be created to categorize FA service bulk statistics. All of the schemas are processed at each collection interval. To create multiple FA service schemas, re-issue the **fa schema** *schema_name* command using a different schema name.

You can also use this command to restrict the FA schema statistics to those gathered on the Active ICSR chassis.

Example

To create a FA-level schema named *faservicestats* that separates the *date*, *time*, and *vpnname* by tabs, enter the following command:

```
fa schema faservicestats format %date%\t%time%\t%vpnname%
```

The schema format appears as follows:

```
date      time      vpnname
```

file

Enters the Bulk Statistics File Configuration Mode which supports the configuration of "files" used for grouping bulk statistic configuration information.

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description **[no] file** *number*

no

Removes a previously configured bulk statistic file.

number

Specifies a number for the bulkstatistics file as an integer from 1 through 4. This number is how the file is recognized by the system.

Usage Guidelines

Bulk statistics "files" are used to group bulk statistic schema, delivery options, and receiver configuration. Because multiple "files" can be configured, this functionality provides greater flexibility in that it allows you to configure different schemas to go to different receivers. A Maximum of four files can be assigned for bulk statistics collection.

Executing this command allows you to enter the Bulk Statistics File Configuration Mode. This mode supports all of the commands from the Bulk Statistics Configuration mode except **limit, sample-interval** and **transfer-interval**. (these commands are configured globally for all "files".)



Important Use of bulk statistics "files" is optional. If you do not wish to configure bulk statistic "files", you can perform a standard configuration using the commands in the Bulk Statistic Configuration Mode. Note, however, that the system logically assigns "file 1" to the standard configuration. Therefore, if you wish to configure bulk statistics "files" at a later time, "file 1" will already be used.



Caution If the Web Element Manager application is used to collect and process (XML parsing, graphing, etc.) bulk statistics data, "file 1" is used by the Web Element Manager's default bulk statistics collection information and schemas. To avoid errors in processing by the Web Element Manager, do not configure "file 1" via the CLI. However, it is possible to configure files 1 through 4 using the system's CLI, regardless of whether or not the Web Element Manager is configured as a receiver. In this case, the bulk statistics data is written to the server but not processed by the Web Element Manager application.

Example

The following command creates a bulk statistics file numbered 2 and enters the Bulk Statistics File Configuration Mode:

```
file 2
```

flow-kpi schema

Configures the Flow KPI bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

flow-kpi schema *schema_name* **[active-only] format** *schema_format*
no flow-kpi schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for Flow KPI bulk statistics collection.

You can also use this command to restrict the Flow KPI schema statistics to those gathered on the Active ICSR chassis.

fng schema

Configures Femto Network Gateway (FNG) bulk statistics schema.

Product

FNG

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

fng schema *schema_name* **format** *schema_format*
no fng schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

footer

Configures the footer string placed at the end of the generated bulk statistics data files.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
footer format schema_format
no footer format
```

no

Clears the footer format string which results in the default file footer being used in generated data files.

format *schema_format*

Specifies the footer format string for use in generated data files.

schema_format must be an alphanumeric string from 1 through 2047 characters. The format string syntax is described in the Schema Format String Syntax, on page 4 section. Default: "" (an empty footer)

The following variables are supported:

Table 1: footer Command Format String Variables

Variable	Description	Data Type
date	The date that the collection file was created in YYYYMMDD format where YYYY represents the year, MM represents the month and DD represents the day.	String
host	The system hostname that created the file	String
ipaddr	The default management (local context) IP address in ###.###.###.### format. An empty string is inserted if no address is available.	String
sysuptime	The uptime (in seconds) of the system that created the file.	32-bit signed
time	The time that the collection file was created in HHMMSS format where HH represents the hours, MM represents the minutes, and SS represents the seconds.	String

Usage Guidelines

Define a unique footer in data files which allows for easy identification of which system generated the data file or any other useful information. The use of the variables is suggested so as to allow for a uniform footer across all systems. The hostname variable should be used to identify the source of the data in the footer and all remaining items can be formatted consistently across all chassis.

Example

The following commands define different footer formats:

```
footer format northStreet
footer format "Created on: %date%-%time% by %host%"
no footer format
```

gather-on-standby

Controls whether or not statistics are gathered when a system is in the standby state.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
[ no | default ] gather-on-standby
```

no

Does not gather bulk statistics when the system is in the standby state.

default

Resets this command to its default action of gathering bulk statistics when the system is in the standby state.

Usage Guidelines

Use this command to configure a system to either gather or not gather statistics when the system is in the standby state. This is useful for systems configured for Interchassis Session Recovery (ICSR). See the *System Administration Guide* for more details on this feature.

If a chassis transitions to standby state and it has accumulated but not yet transferred bulk statistics data, the previously accumulated data is transferred at the first opportunity. However, no additional statistics gathering takes place.

Example

The following command disables gathering statistics when the system is in the standby state:

```
no gather-on-standby
```

The following command enables the gathering of statistics when the system is in the standby state:

```
gather-on-standby
```

gprs schema

Configures the collection of statistics for the GPRS schema.

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

gprs schema *schema_name* **[active-only] format** *schema_format*
no gprs schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 to 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the format of the collected GPRS statistics by identifying the statistics variables and ordering the variables for presentation within the bulk statistics messages.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for the GPRS schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for GPRS bulk statistics collection in the generated stats report files.. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple GPRS schemas can be created to categorize GPRS bulk statistics. All of the schemas are processed at each collection interval. To create multiple GPRS schemas, re-issue the **gprs schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the GPRS schema statistics to those gathered on the Active ICSR chassis.

Example

Include the bulk statistic variable names to create a GPRS schema named *gprsstats_sgsn1* that specifies collection of statistics (a schema format) for:

- context name
- GPRS service name
- number of LLC packets dropped

Use the following command:

```
gprs schema gprsstats_sgsn1 format "Context Name: %vpnname%\nGPRS Service
 Name: %servname%\nTotal LLC Packets Dropped: %bssgp-total-usr-req-drop%\n"
```

gtpc schema

Configures GPRS Tunneling Protocol-Control (GTPC) message statistics schema.

Product

GGSN

P-GW

S-GW

SAEGW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

gtpc schema *schema_name* **[active-only] format** *schema_format*
no gtpc schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for GTPC bulk statistics collection. Multiple GTPC schemas can be created to categorize GTPC bulk statistics. All of the schemas are processed at each collection interval. To create multiple GTPC schemas, re-issue the **gtpc schema** *schema_name* command using a different schema name.

You can also use this command to restrict the GTPC schema statistics to those gathered on the Active ICSR chassis.

Example

To create a GTPC-level schema named *gtpc_stats* that specifies a schema format of:

- Context Name: *vpnname*
- GGSN Service Name: *servname*
- Total PDP Contexts Processed: *setup-total*

Use the following command:

```
gtpc schema gtpc_stats format "Context Name: %vpnname%\nGGSN Service Name:
 %servname%\nTotal PDP Contexts Processed: %setup-total%\n"
```

gtpp schema

Configures GPRS Tunneling Protocol-Prime (GTPP) statistics schema.

Product

GGSN

SGSN

P-GW

S-GW

SAEGW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

gtpp schema *schema_name* **[active-only] format** *schema_format*
no gtpp schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for GTPP bulk statistics collection. Multiple GTPP schemas can be created to categorize GTPP bulk statistics. All of the schemas are processed at each collection interval. To create multiple GTPP schemas, re-issue the **gtpp schema** *schema_name* command using a different schema name.

You can also use this command to restrict the GTPP schema statistics to those gathered on the Active ICSR chassis.

Example

To create a GTPP schema named *gtpp_statistics* that specifies a schema format of:

- Time: *time*
- Total Redirection Requests Received: *redir-rcvd*

Use the following command:

```
gtpp schema gtpp_statistics format "Time: %time%\tTotal Redirection
Requests Received: %redir-rcvd%\n"
```

gtpu schema

Configures GTP-U bulk statistics schema.

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Product

GGSN

HNB-GW

P-GW

S-GW

SAEGW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

gtpu schema *schema_name* **[active-only] format** *schema_format*
no gtpu schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the format of the collected GTP-U statistics by identifying the statistics variables and ordering the variables for presentation within the bulk statistics messages.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for GTP-U bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple GTP-U schemas can be created to categorize GTP-U bulk statistics. All of the schemas are processed at each collection interval. To create multiple GTP-U schemas, re-issue the **gtpu schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the GTP-U schema statistics to those gathered on the Active ICSR chassis.

ha schema

Configures Home Agent (HA) bulk statistics schema.

Product

HA

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

ha schema *schema_name* **[active-only] format** *schema_format*
no ha schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for HA bulk statistics collection. Multiple HA service schemas can be created to categorize HA service bulk statistics. All of the schemas are processed at each collection interval. To create multiple HA service schemas, re-issue the **ha schema** *schema_name* command using a different schema name.

You can also use this command to restrict the HA schema statistics to those gathered on the Active ICSR chassis.

Example

For an HA schema named *haservicestats* that specifies a schema format of:

- Number of HA authentication failures: *reply-haauthfail*
- Number of Mobile Node authentication failures: *reply-mnauthfail*

Use the following command:

```
ha schema haservicestats format "Number of HA authentication failures:
%reply-haauthfail%\nNumber of Mobile Node authentication failures:
%reply-mnauthfail%\n"
```

header

Configures the header string placed at the beginning of the generated bulk statistics data files.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
header format schema_format
no header format
```

no

Clears the header format string which results in the default file header being used in generated data files.

format *schema_format*

Specifies the header format string for use in generated data files.

schema_format must be an alphanumeric string of 1 through 2047 characters. The format string syntax is described in the Schema Format String Syntax, on page 4 section. Default: "" (an empty header)

The following variables are supported:

Table 2: header Command Format String Variables

Variable	Description	Data Type
date	The UTC date that the collection file was created in YYYYMMDD format where YYYY represents the year, MM represents the month and DD represents the day.	String
date3	The UTC date that the collection file was created in YYMMDD format where YY represents the year, MM represents the month and DD represents the day.	String
host	The system hostname that created the file	String
ipaddr	The default management (local context) IP address in ###.###.###.### format. An empty string is inserted if no address is available.	String

Variable	Description	Data Type
sysuptime	The uptime (in seconds) of the system that created the file.	32-bit signed
time	The time that the collection file was created in HHMMSS format where HH represents the hours, MM represents the minutes, and SS represents the seconds.	String

Usage Guidelines

Define a unique header in data files which allows for easy identification as to which system generated the data file or any other useful information.

Using the variables described above allows for a uniform header across all systems. The hostname variable should be used to identify the source of the data in the header and all remaining items can be formatted consistently across all chassis.

Example

The following commands define different header formats:

```
header format northStreet
header format "Created on: %date%-%time% by %host%"
no header format
```

hnbgw-hnbap schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for HNB-Application Part (HNB-AP) message statistics collection in HNB-GW session instance.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-hnbap schema *schema_name* **format** *schema_format*
no hnbgw-hnbap schema *schema_name*

no

Removes the configured HNB-GW-HNB-AP schema.

schema_name

Specifies a name for the HNB-GW-HNB-AP schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for HNB-AP statistics collection. Multiple HNB-AP schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-hnbap schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *hnbap1stats1* that records the number of registered UEs and registered HNBs along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-hnbap schema hnbap1stats1 format
"%vpnname%-%vpnid%-%servname%-%registered-hnb%-%registered-ue%"
```

To create a schema named *hnbapuestats* that specifies a schema format of:

- Number of UEs with CS and PS Core Network Connections: *ue-with-ps-cs-conn*
- Number of UEs in Idle Condition: *idle-ue*

Use the following command:

```
hnbgw-hnbap schema hnbapuestats format "Number of UEs with CS and PS Core
 Network Connections: %ue-with-ps-cs-conn%\nNumber of UEs in Idle
Condition: %idle-ue%"
```

hnbgw-hnbap-access-closed schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for HNB-Application Part (HNB-AP) message statistics collection in HNB-GW session instance for closed access mode.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-hnbap-access-closed schema *schema_name* **format** *schema_format*
no hnbgw-hnbap-access-closed schema *schema_name*

no

Removes the configured HNB-GW-HNB-AP-ACCESS-CLOSED schema.

schema_name

Specifies a name for the HNB-GW-HNB-AP-ACCESS-CLOSED schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for HNB-AP statistics collection in closed access mode. Multiple HNB-AP-ACCESS-CLOSED schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-hnbap-access-closed schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *hnbapclosed1stats1* that records the number of registered UEs and registered HNBs along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-hnbap-access-closed schema hnbapclosed1stats1 format
"%vpnname%-%vpnid%-%servname%-%registered-hnb%-%registered-ue%"
```

To create a schema named *hnbapaccessclosedueStats* that specifies a schema format of:

- Number of UEs with CS and PS Core Network Connections: *ue-with-ps-cs-conn*

- Number of UEs in Idle Condition: *idle-ue*

Use the following command:

```
hnbgw-hnbap-access-closed schema hnbapacccessclosedуestats format "Number
 of UEs with CS and PS Core Network Connections:
%ue-with-ps-cs-conn%\nNumber of UEs in Idle Condition: %idle-ue%"
```

hnbgw-hnbap-access-hybrid schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for HNB-Application Part (HNB-AP) message statistics collection in HNB-GW session instance for hybrid access mode.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-hnbap-access-hybrid schema *schema_name* **format** *schema_format*
no hnbgw-hnbap-access-hybrid schema *schema_name*

no

Removes the configured HNB-GW-HNB-AP-ACCESS-HYBRID schema.

schema_name

Specifies a name for the HNB-GW-HNB-AP-ACCESS-HYBRID schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines This command defines schemas used for HNB-AP statistics collection in hybrid access mode. Multiple HNB-AP-ACCESS-HYBRID schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-hnbap-access-hybrid schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *hnbaphyb1stats1* that records the number of registered UEs and registered HNBs along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-hnbap-access-hybrid schema hnbaphyb1stats1 format
"%vpnname%-%vpnid%-%servname%-%registered-hnb%-%registered-ue%"
```

To create a schema named *hnbapaccesshybuestats* that specifies a schema format of:

- Number of UEs with CS and PS Core Network Connections: *ue-with-ps-cs-conn*
- Number of UEs in Idle Condition: *idle-ue*

Use the following command:

```
hnbgw-hnbap-access-hybrid schema hnbapacccesshybuestats format "Number
of UEs with CS and PS Core Network Connections:
%ue-with-ps-cs-conn%\nNumber of UEs in Idle Condition: %idle-ue%"
```

hnbgw-hnbap-access-open schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for HNB-Application Part (HNB-AP) message statistics collection in HNB-GW session instance for open access mode.

Product HNB-GW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-hnbap-access-open schema *schema_name* **format** *schema_format*
no hnbgw-hnbap-access-open schema *schema_name*

no

Removes the configured HNB-AP-ACCESS-OPEN schema.

schema_name

Specifies a name for the HNB-AP-ACCESS-OPEN schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for HNB-AP statistics collection in open access mode. Multiple HNB-AP-ACCESS-OPEN schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-hnbap-access-open schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *hnbapopen1stats1* that records the number of registered UEs and registered HNBs along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-hnbap-access-open schema hnbapopen1stats1 format
"%vpnname%-%vpnid%-%servname%-%registered-hnb%-%registered-ue%"
```

To create a schema named *hnbapaccessopenuestats* that specifies a schema format of:

- Number of UEs with CS and PS Core Network Connections: *ue-with-ps-cs-conn*
- Number of UEs in Idle Condition: *idle-ue*

Use the following command:

```
hnbgw-hnbap-access-open schema hnbapacccessopenuestats format "Number of
 UEs with CS and PS Core Network Connections: %ue-with-ps-cs-conn%\nNumber
 of UEs in Idle Condition: %idle-ue%"
```

hnbgw-ranap schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for Radio Access Network-Application Part (RANAP) message statistics collection in HNB-GW session instance.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-ranap schema *schema_name* **format** *schema_format*
no hnbgw-ranap schema *schema_name*

no

Removes the configured HNB-GW-RANAP schema.

schema_name

Specifies a name for the HNB-GW-RANAP schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for RANAP messaging statistics collection. Multiple RANAP schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-ranap schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ranap1stats1* that records the number of CS-Direct-Transfer messages sent and received on RANAP along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-ranap schema ranap1stats1 format
"%vpnname%-%vpnid%-%servname%-%cs-dir-transfer-rx%-%cs-dir-transfer-tx%"
```

To create a schema named *ranappagingstats* that specifies a schema format of:

- Number of paging requests sent on RANAP from CS Core Network Connections: *cs-paging-req-tx*
- Number of paging requests sent on RANAP from PS Core Network Connections: *ps-paging-req-tx*

Use the following command:

```
hnbgw-ranap schema ranappagingstats format "Number of paging requests
sent on RANAP from CS Core Network Connections: %cs-paging-req-tx%\nNumber
 of paging requests sent on RANAP from PS Core Network Connections:
%ps-paging-req-tx%"
```

hnbgw-ranap-access-closed schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for Radio Access Network-Application Part (RANAP) message statistics collection in HNB-GW session instance for closed access mode.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-ranap-access-closed schema *schema_name* **format** *schema_format*
no hnbgw-ranap-access-closed schema *schema_name*

no

Removes the configured HNB-GW-RANAP-ACCESS-CLOSED schema.

schema_name

Specifies a name for the HNB-GW-RANAP-ACCESS-CLOSED schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for RANAP messaging statistics collection in closed access mode. Multiple HNB-GW-RANAP-ACCESS-CLOSED schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-ranap-access-closed schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ranapclosed1stats1* that records the number of CS-Direct-Transfer messages sent and received on RANAP along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-ranap-access-closed schema ranapclosed1stats1 format
"%vpnname%-%vpnid%-%servname%-%cs-dir-transfer-rx%-%cs-dir-transfer-tx%"
```

To create a schema named *ranapclosedpagingstats* that specifies a schema format of:

- Number of paging requests sent on RANAP from CS Core Network Connections: *cs-paging-req-tx*
- Number of paging requests sent on RANAP from PS Core Network Connections: *ps-paging-req-tx*

Use the following command:

```
hnbgw-ranap-access-closed schema ranapclosedpagingtats format "Number of
 paging requests sent on RANAP from CS Core Network Connections:
%cs-paging-req-tx%\nNumber of paging requests sent on RANAP from PS Core
 Network Connections: %ps-paging-req-tx%"
```

hnbgw-ranap-access-hybrid schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for Radio Access Network-Application Part (RANAP) message statistics collection in HNB-GW session instance for hybrid access mode.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-ranap-access-hybrid schema *schema_name* **format** *schema_format*
no hnbgw-ranap-access-hybrid schema *schema_name*

no

Removes the configured HNB-GW-RANAP-ACCESS-HYBRID schema.

schema_name

Specifies a name for the HNB-GW-RANAP-ACCESS-HYBRID schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for RANAP messaging statistics collection in hybrid access mode. Multiple HNB-GW-RANAP-ACCESS-HYBRID schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-ranap-access-hybrid schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ranaphyb1stats1* that records the number of CS-Direct-Transfer messages sent and received on RANAP along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-ranap-access-hybrid schema ranaphyb1stats1 format
"%vpnname%-%vpnid%-%servname%-%cs-dir-transfer-rx%-%cs-dir-transfer-tx%"
```

To create a schema named *ranaphybpagingstats* that specifies a schema format of:

- Number of paging requests sent on RANAP from CS Core Network Connections: *cs-paging-req-tx*
- Number of paging requests sent on RANAP from PS Core Network Connections: *ps-paging-req-tx*

Use the following command:

```
hnbgw-ranap-access-hybrid schema ranaphybpagingtats format "Number of
paging requests sent on RANAP from CS Core Network Connections:
%cs-paging-req-tx%\nNumber of paging requests sent on RANAP from PS Core
 Network Connections: %ps-paging-req-tx%"
```

hnbgw-ranap-access-open schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for Radio Access Network-Application Part (RANAP) message statistics collection in HNB-GW session instance for open access mode.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-ranap-access-open schema *schema_name* **format** *schema_format*
no hnbgw-ranap-access-open schema *schema_name*

no

Removes the configured HNB-GW-RANAP-ACCESS-OPEN schema.

schema_name

Specifies a name for the HNB-GW-RANAP-ACCESS-OPEN schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for RANAP messaging statistics collection in open access mode. Multiple HNB-GW-RANAP-ACCESS-OPEN schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-ranap-access-open schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ranapopen1stats1* that records the number of CS-Direct-Transfer messages sent and received on RANAP along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-ranap-access-open schema ranapopen1stats1 format
"%vpnname%-%vpnid%-%servname%-%cs-dir-transfer-rx%-%cs-dir-transfer-tx%"
```

To create a schema named *ranapopenpagingstats* that specifies a schema format of:

- Number of paging requests sent on RANAP from CS Core Network Connections: *cs-paging-req-tx*
- Number of paging requests sent on RANAP from PS Core Network Connections: *ps-paging-req-tx*

Use the following command:

```
hnbgw-ranap-access-open schema ranapopenpagingtats format "Number of
paging requests sent on RANAP from CS Core Network Connections:
%cs-paging-req-tx%\nNumber of paging requests sent on RANAP from PS Core
 Network Connections: %ps-paging-req-tx%"
```

hnbgw-rtp schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for Real-Time Protocol (RTP) message statistics collection in HNB-GW session instance.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-rtp schema *schema_name* **format** *schema_format*
no hnbgw-rtp schema *schema_name*

no

Removes the configured HNB-GW-RTP schema.

schema_name

Specifies a name for the HNB-GW-RTP schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for RTP messaging statistics collection. Multiple RTP schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-rtp schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *rtp1stats1* that records the number of RTP uplink packets dropped and number of RTCP application report messages received on RTP link along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-rtp schema rtp1stats1 format
"%vpnname%-%vpnid%-%servname%-%rtp-uplink-pkts-dropped%-%rtcp-app-report-rx%"
```

hnbgw-rtp-access-closed schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for Real-Time Protocol (RTP) message statistics collection in HNB-GW session instance for closed access mode.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-rtp-access-closed schema *schema_name* **format** *schema_format*
no hnbgw-rtp-access-closed schema *schema_name*

no

Removes the configured HNB-GW-RTP-ACCESS-CLOSED schema.

schema_name

Specifies a name for the HNB-GW-RTP-ACCESS-CLOSED schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines This command defines schemas used for RTP messaging statistics collection in closed access mode. Multiple HNB-GW-RTP-ACCESS-CLOSED schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-rtp-access-closed schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *rtpclosed1stats1* that records the number of RTP uplink packets dropped and number of RTCP application report messages received on RTP link along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-rtp-access-closed schema rtpclosed1stats1 format
"%vpnname%-%vpnid%-%servname%-%rtp-uplink-pkts-dropped%-%rtcp-app-report-rx%"
```

hnbgw-rtp-access-hybrid schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for Real-Time Protocol (RTP) message statistics collection in HNB-GW session instance for hybrid access mode.

Product HNB-GW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-rtp-access-hybrid schema *schema_name* **format** *schema_format*
no hnbgw-rtp-access-hyrbid schema *schema_name*

no

Removes the configured HNB-GW-RTP-ACCESS-HYBRID schema.

schema_name

Specifies a name for the HNB-GW-RTP-ACCESS-HYBRID schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines This command defines schemas used for RTP messaging statistics collection in hybrid access mode. Multiple HNB-GW-RTP-ACCESS-HYBRID schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-rtp-access-hybrid schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *rtphyb1stats1* that records the number of RTP uplink packets dropped and number of RTCP application report messages received on RTP link along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-rtp-access-hybrid schema rtphyb1stats1 format
"%vpnname%-%vpnid%-%servname%-%rtp-uplink-pkts-dropped%-%rtcp-app-report-rx%"
```

hnbgw-rtp-access-open schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for Real-Time Protocol (RTP) message statistics collection in HNB-GW session instance for open access mode.

Product HNB-GW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-rtp-access-open schema *schema_name* **format** *schema_format*
no hnbgw-rtp-access-open schema *schema_name*

no

Removes the configured HNB-GW-RTP-ACCESS-OPEN schema.

schema_name

Specifies a name for the HNB-GW-RTP-ACCESS-OPEN schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for RTP messaging statistics collection in open access mode. Multiple HNB-GW-RTP-ACCESS-OPEN schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-rtp-access-open schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *rtpopen1stats1* that records the number of RTP uplink packets dropped and number of RTCP application report messages received on RTP link along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-rtp-access-open schema rtpopen1stats1 format
"%vpnname%-%vpnid%-%servname%-%rtp-uplink-pkts-dropped%-%rtcp-app-report-rx%"
```

hnbgw-rua schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for RANAP User Adaptation (RUA) protocol message statistics collection in HNB-GW session instance.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-rua schema *schema_name* **format** *schema_format*
no hnbgw-rua schema *schema_name*

no

Removes the configured HNB-GW-RUA schema.

schema_name

Specifies a name for the HNB-GW-RUA schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for RUA protocol messaging statistics collection. Multiple RUA schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-rua schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *rua1stats1* that records the number of CS-Connect messages received and sent on RUA link along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-rua schema rua1stats1 format
"%vpnname%-%vpnid%-%servname%-%cs-connect-rx%-%cs-connect-tx%"
```

hnbgw-rua-access-closed schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for RANAP User Adaptation (RUA) protocol message statistics collection in HNB-GW session instance in closed access mode.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-rua-access-closed schema *schema_name* **format** *schema_format*
no hnbgw-rua-access-closed schema *schema_name*

no

Removes the configured HNB-GW-RUA-ACCESS-CLOSED schema.

schema_name

Specifies a name for the HNB-GW-RUA-ACCESS-CLOSED schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for RUA protocol messaging statistics collection in closed access mode. Multiple HNB-GW-RUA-ACCESS-CLOSED schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-rua-access-closed schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ruaclosed1stats1* that records the number of CS-Connect messages received and sent on RUA link along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-rua-access-closed schema ruaclosed1stats1 format
"%vpnname%-%vpnid%-%servname%-%cs-connect-rx%-%cs-connect-tx%"
```

hnbgw-rua-access-hybrid schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for RANAP User Adaptation (RUA) protocol message statistics collection in HNB-GW session instance in hybrid access mode.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-rua-access-hybrid schema *schema_name* **format** *schema_format*
no hnbgw-rua-access-hyrbid schema *schema_name*

no

Removes the configured HNB-GW-RUA-ACCESS-HYBRID schema.

schema_name

Specifies a name for the HNB-GW-RUA-ACCESS-HYBRID schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines This command defines schemas used for RUA protocol messaging statistics collection in hyrbid access mode. Multiple HNB-GW-RUA-ACCESS-HYBRID schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-rua-access-hyrbid schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ruahyb1stats1* that records the number of CS-Connect messages received and sent on RUA link along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-rua-access-hybrid schema ruahyb1stats1 format
"%vpnname%-%vpnid%-%servname%-%cs-connect-rx%-%cs-connect-tx%"
```

hnbgw-rua-access-open schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for RANAP User Adaptation (RUA) protocol message statistics collection in HNB-GW session instance in open access mode.

Product HNB-GW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
hnbgw-rua-access-open schema schema_name format schema_format
no hnbgw-rua-access-open schema schema_name
```

no

Removes the configured HNB-GW-RUA-ACCESS-OPEN schema.

schema_name

Specifies a name for the HNB-GW-RUA-ACCESS-OPEN schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines This command defines schemas used for RUA protocol messaging statistics collection in open access mode. Multiple HNB-GW-RUA-ACCESS-OPEN schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-rua-access-open schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ruaopen1stats1* that records the number of CS-Connect messages received and sent on RUA link along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-rua-access-open schema ruaopen1stats1 format
"%vpnname%-%vpnid%-%servname%-%cs-connect-rx%-%cs-connect-tx%"
```

hnbgw-sctp schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures bulk statistics schema for Stream Control Transmission Protocol (SCTP) message statistics collection in HNB-GW session instance.

Product HNB-GW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hnbgw-sctp schema *schema_name* **format** *schema_format*
no hnbgw-sctp schema *schema_name*

no

Removes the configured SCTP schema.

schema_name

Specifies a name for the SCTP schema.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

This command defines schemas used for SCTP protocol messaging statistics collection. Multiple SCTP schemas can be created to further categorize bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **hnbgw-sctp schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *sctp1stats1* that records the number of bytes received from lower layer and number of bytes sent to lower layer over SCTP connection along with Context name, Context Id, and HNB-GW service name:

```
hnbgw-sctp schema sctp1stats1 format
"%vpnname%-%vpnid%-%servname%-%total-bytes-sent-to-lower-layer%-%total-bytes-rcvd-from-lower-layer%%"
```

hsgw schema

Configures HRPD Serving Gateway (HSGW) bulk statistics schema.

Product

HSGW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hsgw schema *schema_name* **format** *schema_format*
no hsgw schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the format of the collected HSGW statistics by identifying the statistics variables and ordering the variables for presentation within the bulk statistics messages.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for HSGW bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple HSGW schemas can be created to categorize HSGW bulk statistics. All of the schemas are processed at each collection interval. To create multiple HSGW schemas, re-issue the **hsgw schema** *schema_name* command using a different schema name each time.

hss schema

Configures Home Subscriber Service (HSS) bulk statistics schema.

Product

MME

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

hss schema *schema_name* **format** *schema_format*
no hss schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for HSS bulk statistics collection. Multiple HSS schemas can be created to further categorize HSS bulk statistics. All of the schemas are processed at each collection interval. To create multiple HSS schemas, re-issue the **hss schema** *schema_name* command using a different schema name.

Example

To create an hss schema named *hss_stats* that specifies a schema format of:

- Message Stats: Number of Cancel Location Request messages sent: *msg-cl-req*
- Message Stats: Number of Cancel Location Answer messages sent: *msg-cl-ans*

Use the following command:

```
hss schema hss_stats format "Message Stats: Number of Cancel Location
Request messages sent: %msg-cl-req%\nMessage Stats: Number of Cancel
Location Answer messages sent: %msg-cl-ans%\n"
```

icsr schema

Configures ICSR (Interchassis Session Recovery) bulkstats schema.

Product All products that support ICSR

Privilege Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

icsr schema *schema_name* **[active-only] format** *schema_format*
no icsr schema *schema_name*

no

Deletes the named schema.

schema_name

Specifies the name of the schema as an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for ICSR bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple ICSR schemas can be created to categorize ICSR bulk statistics. All of the schemas are processed at each collection interval. To create multiple ICSR schemas, re-issue the **icsr schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the ICSR schema statistics to those gathered on the Active ICSR chassis.

imsa schema

Configures IP Multimedia System Authorization (IMSA) bulk statistics schema.

Product

GGSN

HA

HSGW

IPSG

PDSN

P-GW

S-GW

SAEGW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

imsa schema *schema_name* **[active-only] format** *schema_format*
no imsa schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for IMSA bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple IMSA schemas can be created to categorize IMSA bulk statistics. All of the schemas are processed at each collection interval. To create multiple IMSA schemas, re-issue the **imsa schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the IMSA schema statistics to those gathered on the Active ICSR chassis.

ippool schema

Configures IP pool bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

ippool schema *schema_name* **[active-only] format** *schema_format*
no ippool schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for IP pool bulk statistics collection. Multiple IP pool schemas can be created to further categorize IP pool bulk statistics. All of the schemas are processed at each collection interval. To create multiple IP pool schemas, re-issue the **ippool schema** *schema_name* command using a different schema name.

You can also use this command to restrict the IC IP pool schema statistics to those gathered on the Active ICSR chassis.

Example

To create an IP pool schema named *ippoolstats* that specifies a schema format of:

- Number of IP addresses on hold: *hold*
- Number of free IP addresses: *free*

Use the following command:

```
ippool schema ippoolstats format "Number of IP addresses on hold:
%hold%\nNumber of free IP addresses: %free%\n"
```

ipsg schema

Configures IP Services Gateway (IPSG) bulk statistics schema.

Product

IPSG

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

ipsg schema *schema_name* **format** *schema_format*
no ipsg schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define the schemas used for IPSG bulk statistics collection. Multiple IPSG schemas can be created to categorize IPSG bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **ipsg schema** *schema_name* command using a different schema name.

Example

To create an IPSG schema named *ipsgstats* that specifies a schema format of:

- Context name: *vpnname*
- Service name: *servname*
- Total responses sent: *total-rsp-sent*

Use the following command:

```
ipsg schema ippoolstats format "Context name: %vpnname%\nService name:
%servname%\nTotal responses sent: %total-rsp-sent%\n"
```

lac schema

Configures LAC (L2TP Access Concentrator) bulk statistics schema.

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
lac schema schema_name [ active-only ] format schema_format
no lac schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for LAC bulk statistics collection. Multiple LAC schemas can be created to categorize LAC bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **lac schema** *schema_name* command using a different schema name.

You can also use this command to restrict the LAC schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *lac1stats1* that records the number of active subscriber sessions and the number of sessions that failed or were disconnected due to the maximum tunnel limit being reached:

```
lac schema lac1stats1 format "%sess-curactive%-%sess-maxtunnel%"
```

To create a schema named *lacresourcestats* that specifies a schema format of:

- Number of Successful Session Connections: *sess-successful*
- Number of Session Attempts That Failed: *sess-failed*
- Number of Sessions Currently Active: *sess-curative*

Use the following command:

```
lac schema lacresourcestats format "Number of Successful Session
Connections: %sess-successful%\nNumber of Session Attempts That Failed:
%sess-failed%\nNumber of Sessions Currently Active: %sess-curative%"
```

limit

Configures the maximum amount of system memory bulk statistics may utilize.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

limit *kilobytes*

kilobytes

Specifies the maximum amount of memory (in kilobytes) that may be used for bulk statistics as an integer from 1 through 32000. The default value is 7500 KB for the ASR 5500 and 6000 KB for the VPC-SI.

Usage Guidelines

Use this command to configure the amount of memory to use on the SPC/SMC/MIO to store bulk statistics. It is mandatory to specify the memory limit for this command.

Adjust bulk statistics memory usage when considering the sampling interval adjustments.



Caution Bulk statistics are stored in Random Access Memory (RAM) on the SPC/SMC/MIO. In the event of power loss or system failure, the statistics will be lost. If the maximum storage limit has been reached before the system's configured transfer-interval is reached, the oldest information stored in the collection will be overwritten.

Example

```
limit 2048
```

link-aggr schema

Configures Link Aggregation bulk statistic schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

link-aggr schema *schema_name* **[active-only] format** *schema_format*
no link-aggr schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for Link Aggregation bulk statistics collection. Multiple LMA service schemas can be created to categorize Link Aggregation service bulk statistics. All of the schemas are processed at each collection interval. To create multiple Link Aggregation service schemas, re-issue the **link-aggr schema** *schema_name* command using a different schema name.

You can also use this command to restrict the Link Aggregation schema statistics to those gathered on the Active ICSR chassis.

lma schema

Configures the Local Mobility Anchor (LMA) statistics schema for the naming conventions of data files.

Product

P-GW

SAEGW

Privilege

Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

lma schema *schema_name* **[active-only] format** *schema_format*
no lma schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for LMA bulk statistics collection. Multiple LMA service schemas can be created to categorize LMA service bulk statistics. All of the schemas are processed at each collection interval. To create multiple LMA service schemas, re-issue the **lma schema** *schema_name* command using a different schema name.

You can also use this command to restrict the LMA schema statistics to those gathered on the Active ICSR chassis.

Example

For an LMA-level schema named *lmaservicestats* that specifies a schema format of:

- Binding Update Received: *bindupd*
- Binding Update Received - Denied: *bindupd-denied*

Use the following command:

```
lma schema lmaservicestats format "Number of Binding Updates Received:
%bindupd%\nNumber of Binding Updates Received and Denied:
%bindupd-denied%\n"
```

lns schema

Configures LNS (L2TP Network Server) bulk statistics schema.

Product

LNS

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

lns schema *schema_name* **[active-only] format** *schema_format*
no lns schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the format of the collected LNS statistics by identifying the statistics variables and ordering the variables for presentation within the bulk statistics messages.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for LNS bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple LNS schemas can be created to categorize LNS bulk statistics. All of the schemas are processed at each collection interval. To create multiple LNS schemas, re-issue the **lns schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the LNS schema statistics to those gathered on the Active ICSR chassis.

mag schema

Configures the Mobile Access Gateway (MAG) statistics schema for naming conventions of data files.

Product

HSGW

S-GW

SAEGW

Privilege

Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

mag schema *schema_name* **format** *schema_format*
no mag schema *schema_name*

no

Removes the specified schema from MAG bulk statistics generation.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for MAG bulk statistics collection. Multiple MAG service schemas can be created to categorize MAG service bulk statistics. All of the schemas are processed at each collection interval. To create multiple MAG service schemas, re-issue the **mag schema** *schema_name* command using a different schema name.

Example

For a MAG-level schema named *magservicestats* that specifies a schema format of:

- Binding Update Sent: *bindupd*
- Binding Acknowledgement Received: *bindack*

Use the following command:

```
mag schema magservicestats format "Number of Binding Updates Sent:
%bindupd%\nNumber of Binding Acknowledgements Received: %bindack%\n"
```

mipv6ha schema

Configures MIPv6 HA (home Agent) bulk statistics schema.

Product HA

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
mipv6ha schema schema_name [ active-only ] format schema_format
no mipv6ha schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for MIPv6 HA bulk statistics collection. Multiple MIPv6 HA bulk statistics schemas can be created to categorize MIPv6 HA bulk statistics. All of the schemas are processed at each collection interval. To create multiple MIPv6 HA service schemas, re-issue the **mipv6ha schema** *schema_name* command using a different schema name.

You can also use this command to restrict the MIPv6 HA schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *mipv6haservicestats* that records the number of authorization attempt failures due to access rejects from AAA:

```
mipv6ha schema mipv6haservicestats format "%aaa-actauthfail%"
```

mme schema

Configures MME (Mobility Management Entity) bulk statistics schema.

Product MME

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
mme schema schema_name [ active-only ] format schema_format
no mme schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for MME bulk statistics collection. Multiple MME bulk statistics schemas can be created to categorize MME bulk statistics. All of the schemas are processed at each collection interval. To create multiple MME service schemas, re-issue the **mme schema** *schema_name* command using a different schema name.

You can also use this command to restrict the MME schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *mmeservice_s1ap_cfg_transfers* that records the total number of S1AP - transmit data - configuration transfers:

```
mme schema mmeservice_s1ap_cfg_transfersformat "s1ap-trnsdata-cfg-tfr
```

mon-di-net

Configures the collection of statistics for the Mon-DI-Net schema. This schema collects network latency and packet loss statistics for the internal DI-network used between cards in a VPC-DI deployment. This funtionality applies only to the VPC-DI platform.

Product All

Privilege Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

mon-di-net schema *schema_name* **[active-only] format** *schema_format*
no mon-di-net schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for Monitor DI Network (mon-di-net) bulk statistics collection. See also the **show cloud monitor di-network detail** Exec mode command to display similar information.

You can also use this command to restrict the schema statistics to those gathered on the Active ICSR chassis.

mvs schema

Configures MVS (Mobile Videoscape) bulk statistics schema.

Important In release 20.0, MVG is not supported. This command must not be used in release 20.0. For more information, contact your Cisco account representative.

Product

MVG

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

mvs schema *schema_name* **[active-only] format** *schema_format*
no mvs schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference.*

Usage Guidelines

Use this command to define schemas for MVS bulk statistics collection. Multiple LMA service schemas can be created to categorize MVS bulk statistics. All of the schemas are processed at each collection interval. To create multiple MVS schemas, re-issue the **mvs schema** *schema_name* command using a different schema name.

You can also use this command to restrict the MVS schema statistics to those gathered on the Active ICSR chassis.

nat-realm schema

Creates and configures Network Address Translation (NAT) realm statistics schema.

Product

NAT

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

nat-realm schema *schema_name* **format** *schema_format*
no nat-realm schema *schema_name*

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for NAT Realm bulk statistics collection. Multiple NAT realm schemas can be created to further categorize NAT realm level bulk statistics. All of the schemas are processed at each collection interval. To create multiple NAT Realm schemas, re-issue the **nat-realm schema** *schema_name* command using a different schema name.

Example

The following command creates a NAT realm schema with the VPN name, realm name, and flows information:

```
nat-realm schema realm1 format "%vpnname% %realmname% %nat-rlm-flows%"
```

p2p schema

Creates and configures P2P (Peer-to-Peer) statistics schema.

Product

ADC

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

p2p schema *schema_name* **[active-only] format** *schema_format*
no p2p schema *schema_name*

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for P2P bulk statistics collection. Multiple P2P schemas can be created to further categorize P2P-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple P2P schemas, re-issue the **p2p schema** *schema_name* command using a different schema name.

You can also use this command to restrict the P2P schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *p2pstats* to record the total number of bytes detected in uplink and downlink direction:

```
p2p schema p2pstats format "%p2p-uplnk-bytes-name% %p2p-uplnk-bytes-value%
 %p2p-dwlnk-bytes-name% %p2p-dwlnk-bytes-value%"
```

pcc-af schema

Configures Policy and Charging Control-Application Function (PCC-AF) service bulk statistics schema.

Product

IPCF

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

pcc-af schema *schema_name* **format** *schema_format*
no pcc-af schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for PCC-AF service bulk statistics collection. Multiple PCC-AF service schemas can be created to categorize PCC-AF service bulk statistics. All of the schemas are processed at each collection interval. To create multiple PCC-AF service schemas, re-issue the **pcc-af schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *pcc_af1stats1* that records the total number of Rx STR messages received and total number of Rx AAR Accept messages sent along with Context name, Context Id, and PCC-AF service name:

```
pcc-af schema pcc_af1stats1 format
"%vpnname%-%vpnid%-%servname%-%total-rx-ccai-accept-sent%-%total-rx-aar-accept-sent%"
```

pcc-policy schema

Configures Policy and Charging Control-Policy (PCC-Policy) service bulk statistics schema.

Product

IPCF

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

pcc-policy schema *schema_name* **format** *schema_format*
no pcc-policy schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for PCC-Policy service bulk statistics collection. Multiple PCC-Policy service schemas can be created to categorize PCC-Policy service bulk statistics. All of the schemas are processed at each collection interval. To create multiple PCC-Policy service schemas, re-issue the **pcc-policy schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *pcc_plcy1stats1* that records the total number of Gx messages sent and total number of Gx CCR messages received along with Context name, Context Id, and PCC-Policy service name:

```
pcc-policy schema pcc_plcy1stats1 format
"%vpnname%-%vpnid%-%servname%-%total-gx-outbound-msgs%-%total-gx-ccr-rcvd%"
```

pcc-profile schema

Configures Policy and Charging Control Profile (PCC-Profile) bulk statistics schema.

Product

IPCF

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

pcc-profile schema *schema_name* **format** *schema_format*
no pcc-profile schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for PCC-Profile bulk statistics collection. Multiple PCC-Profile schemas can be created to categorize PCC-Profile bulk statistics. All of the schemas are processed at each collection interval. To create multiple PCC-Profile schemas, re-issue the **pcc-profile schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *pcc_profile1stats1* that records the total number of SGSN changes and QoS changes occured for paricular PCC profile along with Context name, Context Id, and PCC-Service name:

```
pcc-profile schema pcc_profile1stats1 format
"%vpnname%-%vpnid%-%servname%-%total-sgsn-change%-%total-qos-change%"
```

pcc-sp-endpt schema

Configures the bulkstats schema at the Sp interface endpoint for PCC procedures with Subscriber Service Controller/Subscriber Policy Register (SSC/SPR).

Product

IPCF

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

pcc-sp-endpt schema *schema_name* **format** *schema_format*
no pcc-sp-endpt schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for PCC-Sp-Endpoint bulk statistics collection. Multiple PCC-Sp-Endpoint schemas can be created to categorize PCC-Sp-Endpoint bulk statistics. All of the schemas are processed at each collection interval. To create multiple PCC-Sp-Endpoint schemas, re-issue the **pcc-sp-endpt schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *pcc_sp1stats1* that records the total number of SPRMgr Sh session close and open requests received from PCCMgr and processed by PCC-Sp-Endpoint along with Context name, Context Id, and PCC-Sp-Endpoint name:

```
pcc-sp-endpt schema pcc_svc1stats1 format
"%vpnname%-%vpnid%-%endpt-name%-%req-open%-%req-close%"
```

pcc-service schema

Configures Policy and Charging Control-Service (PCC-Service) bulk statistics schema.

Product

IPCF

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

pcc-service schema *schema_name* **format** *schema_format*
no pcc-service schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for PCC-Service bulk statistics collection. Multiple PCC-Service schemas can be created to categorize PCC-Service bulk statistics. All of the schemas are processed at each collection interval. To create multiple PCC-Service schemas, re-issue the **pcc-service schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *pcc_svc1stats1* that records the total number of Gx and Gy request processed by PCC-Service along with Context name, Context Id, and PCC-Service name:

```
pcc-service schema pcc_svc1stats1 format
"%vpnname%-%vpnid%-%servname%-%total-gx-processed%-%total-gy-processed%"
```

pdif schema

Configures Packet Data Interworking Function (PDIF) bulk statistics schema.

Product PDIF

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
pdif schema schema_name format schema_format
no pdif schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for PDIF bulk statistics collection. Multiple PDIF schemas can be created to categorize PDIF bulk statistics. All of the schemas are processed at each collection interval. To create multiple schemas, re-issue the **pdif schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *pdifschema1* for the category current active ipv4 sessions:

```
pdif schema pdifschema1 format %sess-curactip4%
```

pgw schema

Configures Packet Data Network Gateway (P-GW) bulk statistics schema.

Product P-GW

SAEGW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
pgw schema schema_name [ active-only ] format schema_format
no pgw schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for P-GW bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple P-GW schemas can be created to categorize P-GW bulk statistics. All of the schemas are processed at each collection interval. To create multiple P-GW schemas, re-issue the **pgw schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the P-GW schema statistics to those gathered on the Active ICSR chassis.

port schema

Configures port bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
port schema schema_name [ active-only ] format schema_format
no port schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for port bulk statistics collection. Multiple port schemas can be created to categorize port-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple port schemas, re-issue the **port schema** *schema_name* command using a different schema name.

You can also use this command to restrict the port schema statistics to those gathered on the Active ICSR chassis.

Important The *card* variable in the Port schema is not supported on all platforms

Example

To create a port-level schema named *portstats1* that separates the *card/port*, *bcast_inpackets*, and *bcast-outpackets* variables by hyphens ("-"), enter the following command:

```
port schema portstats1 format "%card%/%port% - %bcast_inpackets% -
%bcast_outpackets%"
```

ppp schema

Configures Point-to-Point Protocol (PPP) bulk statistics schema.

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

ppp schema *schema_name* **[active-only] format** *schema_format*
no ppp schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for point-to-point protocol bulk statistics collection. Multiple PPP-service schemas can be created to categorize PPP-service bulk statistics. All of the schemas are processed at each collection interval. To create multiple PPP-service schemas, re-issue the **ppp schema** *schema_name* command using a different schema name.

You can also use this command to restrict the PPP schema statistics to those gathered on the Active ICSR chassis.

Example

To create a ppp-level schema named *pppstats* that specifies a schema format of:

- CHAP: (Challenge Handshake Authentication Protocol)
- Auth. Attempts: *auth-attempt-chapAuth*. Successes: *auth-success-chap*
- PAP: (Password Authentication Protocol)
- Auth. Attempts: *auth-attempt-papAuth*. Successes: *auth-success-pap*

Use the following command:

```
ppp schema pppstats format "CHAP:\nAuth. Attempts:
%auth-attempt-chap%\tAuth. Successes: %auth-success-chap%\nPAP:\nAuth.
Attempts: %auth-attempt-pap%\tAuth. Successes: %auth-success-pap%\n"
```

ps-network-gtpu schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures the GTP-U bulk statistics schema in a Packet Switched (PS) network associated with an HNB-GW node.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

ps-network-gtpu schema *schema_name* **format** *schema_format*
no ps-network-gtpu schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for GTP-U connection related bulk statistics collection in a PS network associated with HNB-GW in a Femto UMTS network. Multiple PS Networks GTP-U schemas can be created to further categorize at PS network or HNB-GW-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple PS Networks GTPU schemas, re-issue the **ps-network-gtpu schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ps_gtpu1stats1* that records the total number of GTP-U packets received by HNB-GW from CN and sent to CN node in an associated PS network:

```
ps-network-gtpu schema ps_gtpu1stats1 format "%gtpu-pkt-rx%"
"%gtpu-pkt-tx%"
```

ps-network-ranap schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures the Radio Access Network Application Part (RANAP) bulk statistics schema in Packet Switched (PS) network associated with an HNB-GW node.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

ps-network-ranap schema *schema_name* **format** *schema_format*
no ps-network-ranap schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for RANAP procedure related bulk statistics collection in a PS network associated with HNB-GW in a Femto UMTS network. Multiple PS Networks RANAP schemas can be created to further categorize at PS network or HNB-GW-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple PS Networks RANAP schemas, re-issue the **ps-network-ranap schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ps_ranap1stats1* that records the total number of Iu Release Request messages transmitted and total number of Iu Release Command message received by HNB-GW node:

```
ps-network-ranap schema ps_ranaplstats1 format "%iu-rel-req-tx%"
"%iu-rel-cmd-rx%"
```

ps-network-sccp schema

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures the Signalling Connection Control Part (SCCP) bulk statistics schema in a Packet Switched (PS) network associated with an HNB-GW node.

Product HNB-GW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
ps-network-sccp schema schema_name format schema_format
no ps-network-sccp schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SCCP connection related bulk statistics collection in a PS network associated with HNB-GW in a Femto UMTS network. Multiple PS Networks SCCP schemas can be created to further categorize at PS network or HNB-GW-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple PS Networks SCCP schemas, re-issue the **ps-network-sccp schema** *schema_name* command using a different schema name.

Example

The following command creates a schema named *ps_sccp1stats1* that records the total number of SCCP connection requests received by HNB-GW and responses sent to CN node in an associated PS network:

```
ps-network-sccp schema ps_sccplstats1 format "%sccp-conn-req-rx%"
"%sccp-conn-req-tx%"
```

radius schema

Configures RADIUS bulk statistics schema.

Product

PDSN

GGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

radius schema *schema_name* **[active-only] format** *schema_format*
no radius schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters that is case sensitive.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for RADIUS bulk statistics collection. Multiple RADIUS schemas can be created to categorize RADIUS bulk statistics. All of the schemas are processed at each collection interval. To create multiple RADIUS schemas, re-issue the **radius schema** *schema_name* command using a different schema name.

You can also use this command to restrict the RADIUS schema statistics to those gathered on the Active ICSR chassis.

Example

To create a RADIUS schema named *radius_statistics* that specifies a schema format of:

- Server: *ipaddr*
- Authentication Requests Sent: *auth-req-sent*
- Accounting Requests Sent: *acc-req-sent*

Use the following command:

```
radius schema radius_statistics format "Server: %ipaddr%\nAuthentication
 Requests Sent: %auth-req-sent%\nAccounting Requests Sent: %acc-req-sent%"
```

radius-group schema

Configures RADIUS group bulk statistics schema.

Product

PDSN

GGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

radius-group schema *schema_name* **[active-only] format** *schema_format*
no radius-group schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters that is case sensitive.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for RADIUS group bulk statistics collection. Multiple RADIUS group schemas can be created to categorize RADIUS group bulk statistics. All of the schemas are processed at each

collection interval. To create multiple RADIUS group schemas, re-issue the **radius-group schema** *schema_name* command using a different schema name.

You can also use this command to restrict the RADIUS group schema statistics to those gathered on the Active ICSR chassis.

Example

To create a RADIUS group schema named *radius_statistics* that specifies a schema format of:

- Server: *ipaddr*
- Authentication Requests Sent: *auth-req-sent*
- Accounting Requests Sent: *acc-req-sent*

Use the following command:

```
radius-group schema radius_statistics format "Server:
%ipaddr%\nAuthentication Requests Sent: %auth-req-sent%\nAccounting
Requests Sent: %acc-req-sent%"
```

readdress-server schema

Configures the Readdress Server bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

readdress-server schema *schema_name* **[active-only] format** *schema_format*
no readdress-server schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for Readdress Server bulk statistics collection.

receiver

Configures a host system to receive bulkstats information through Trivial File Transfer Protocol (TFTP), File Transfer Protocol (FTP) or SSH File Transfer Protocol (SFTP).

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
receiver { mode { redundant | secondary-on-failure } | ip_address { primary
 | secondary } [ mechanism { { ftp login user_name [ encrypted ] password
pwd } | sftp login user_name user_name { public-key | [ encrypted ] password
 pwd } | tftp } } ] }
no receiver ip_address
```

no

Removes the receiver specified from the list of receivers where data files are sent.

mode { redundant | secondary-on-failure }

Determines how bulkstats are delivered to the primary and secondary receivers.

Default: **secondary-on-failure**

redundant: Files are transferred to both the primary and secondary receivers. If either transfer is not currently possible, the file is transferred when possible. The system continues to hold in memory as much data as possible until the data has been successfully transferred to both receivers. Data is only discarded if the in-memory data reaches the configured limit. Refer to the **limit** command.

secondary-on-failure: Files are transferred to the secondary receiver if the primary receiver fails. In-memory data is erased once the data is transferred to either the primary or secondary receiver. This is the default behavior.

ip_address

Specifies the IP address of the receiver of interest using IPv4 dotted-decimal notation.

primary | secondary

Primary and secondary are used to indicate the order in which receivers are connected. The secondary is used when the primary is unreachable.

primary: indicates the receiver is the primary receiver of data.

secondary: indicates the receiver is the secondary receiver of data.

mechanism { { { ftp login *user_name* [encrypted] password *pwd* } | sftp login user_name *user_name* { public-key | [encrypted] password *pwd* } | tftp }

Specifies the method by which data is transferred to the receiver.

ftp login *user_name* **[encrypted] password** *pwd*: the FTP protocol shall be used for data file transfer. *user_name* specifies the user to provide for remote system secure logins and must be an alphanumeric string of 1 through 31 characters. The password to use for remote system authentication is specified as *pwd* and must be from 1 to 31 characters or 1 to 64 characters if the **encrypted** keyword is also specified.

sftp login user_name *user_name* **{ public-key | [encrypted] password** *pwd* **}**: the SFTP protocol shall be used for data file transfer. *user_name* specifies the user to provide for remote system secure logins and must be an alphanumeric string of 1 through 31 characters. The password to use for remote system authentication is specified as *pwd* and must be from 1 to 31 characters or 1 to 64 characters if the **encrypted** keyword is also specified. **public-key** specifies the public key used for SFTP public key authentication for bulkstats transfer.

tftp: the TFTP protocol is to be used to transfer files.

The **encrypted** keyword is intended only for use by the system while saving configuration scripts. The system displays the **encrypted** keyword in the configuration file as a flag that the variable following the **password** keyword is the encrypted version of the plain text password. Only the encrypted password is saved as part of the configuration file.

Usage Guidelines

Use TFTP methods to reduce transfer times if excessive system resources are being used across the network for transfer of data.

FTP transfer method allows for login which then provides system logging within the enabled FTP logs.

The initial connection is attempted to the primary receiver. If the primary receiver is unreachable for any reason, the secondary receiver is used. If the secondary receiver is also unreachable, the system retries after a delay period where it again attempts to connect to the primary receiver followed by the secondary receiver as necessary.

Important For redundant receivers, configuration changes to the receivers are applied to all existing and all subsequent data sets pending transfer. If no receiver is configured, bulk statistics will be collected and stored on the system until the maximum amount of memory is used; they will not be transferred to the receiver(s). When the storage limit has been reached the oldest information is overwritten. When a receiver is configured for the primary and secondary target, this command will use both receivers as default if no receiver is specified.

Example

```
receiver 10.2.3.4 primary mechanism tftp
receiver 10.2.3.5 secondary
no receiver 10.2.3.4
```

remotefile

Configures the naming convention with support for multiple file format to multiple receivers when storing the data files on the remote receiver(s).

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
remotefile format schema_format [ both-receivers | primary-receiver |
secondary-receiver ]
no remotefile format
```

no

Resets the remote file naming convention to the system default.

format *schema_format*

Specifies the naming convention format to use.

schema_format must be an alphanumeric string of 1 through 127 characters. The format string syntax is described in the Schema Format String Syntax, on page 4 section. Default: "%date%-%time%"

Important The remote file naming format should only use static text and bulk statistic variables to avoid any possible file creation issues on the receivers.

The following variables are supported:

Table 3: remote file Command Naming Format Variables

Variable	Description	Data Type
date	The UTC date that the collection file was created in YYYYMMDD format where YYYY represents the year, MM represents the month and DD represents the day.	String
date3	The UTC date that the collection file was created in YYMMDD format where YY represents the year, MM represents the month and DD represents the day.	String
host	The system hostname that created the file	String
sysuptime	The uptime (in seconds) of the system that created the file.	32-bit signed
time	The time that the collection file was created in HHMMSS format where HH represents the hours, MM represents the minutes, and SS represents the seconds.	String

both-receivers | primary-receiver | secondary-receiver

Sets the remote file creation target to both receivers, primary receiver or secondary receiver. Default: Both receivers.

Usage Guidelines

Set the remote file naming format to ensure consistent data file naming across a network or adjusting a single system's format for easy identification.

This command specifies whether the format should be used in conjunction with both receivers, only the primary receiver, or only the secondary receiver.

Important For redundant receivers, the filenames for the output data files are applied when the information is first gathered. If the name format is modified, the change takes effect for the next data set. The current data set name remains unchanged. even if has not yet been transferred.

Example

```
remotefile format simpleFormat
remotefile format "%host%-%date%-%time%"
remotefile format "%host%-%date%-%time%" both-receivers
remotefile format "%host%-%date%" primary-receiver
no remotefile format
```

rlf schema

Configures the aggregated information for Rate Limiting Function (RLF) context statistics schema.

Product

GGSN

P-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

rlf schema *schema_name* **format** *schema_format*
no rlf schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for RLF bulk statistics collection. Multiple RLF schemas can be created to categorize RLF bulk statistics. All of the schemas are processed at each collection interval. To create multiple RLF schemas, re-issue the **rlf schema** *schema_name* command using a different schema name.

Example

To create an RLF-level schema named *rlfstats* that specifies a schema format of:

- Date: *date*
- Time: *time*
- Number of Authentication Denials: *deny-auth*

Use the following command:

```
rlf schema rlfstats format "Date: %date%\nTime: %time%\nNumber of
Authentication Denials: %deny-auth%\n"
```

rlf-detailed schema

Configures the detailed instance level information for RLF context statistics schema.

Product

GGSN

P-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

rlf-detailed schema *schema_name* **format** *schema_format*
no rlf-detailed schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for detailed RLF bulk statistics collection. Multiple rlf-detailed schemas can be created to categorize RLF detailed bulk statistics. All of the schemas are processed at each collection interval. To create multiple rlf-detailed schemas, re-issue the **rlf-detailed schema** *schema_name* command using a different schema name.

Example

To create an rlf-detailed level schema named *rlfdetailedstats* that specifies a schema format of:

- Date: *date*
- Time: *time*
- Number of Authentication Denials: *deny-auth*

Use the following command:

```
rlf-detailed schema rlfstats format "Date: %date%\nTime: %time%\nNumber
of Authentication Denials: %deny-auth%\n"
```

rp schema

Configures R-P bulk statistics schema.

Product

PDSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
rp schema schema_name [ active-only ] format schema_format
no rp schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for R-P bulk statistics collection. Multiple PDSN service schemas can be created to categorize PDSN service bulk statistics. All of the schemas are processed at each collection interval. To create multiple PDSN service schemas, re-issue the **rp schema** *schema_name* command using a different schema name.

You can also use this command to restrict the R-P schema statistics to those gathered on the Active ICSR chassis.

Example

To create an PDSN-level schema named *pdsnservicestats* that specifies a schema format of:

- Date: *date*
- Time: *time*
- Number of Authentication Denials: *deny-auth*

Use the following command:

```
rp schema rpservicestats format "Date: %date%\nTime: %time%\nNumber of
Authentication Denials: %deny-auth%\n"
```

rulebase schema

Configures Enhanced Charging Service (ECS) Rulebase bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

rulebase schema *schema_name* **[active-only] format** *schema_format*
no rulebase schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for ECS Rulebase bulk statistics collection.

You can also use this command to restrict the Rulebase schema statistics to those gathered on the Active ICSR chassis.

saegw schema

Configures System Architecture Evolution Gateway (SAEGW) bulk statistics schema.

Product

SAEGW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
saegw schema schema_name [ active-only ] format schema_format
no saegw schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for SAEGW bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple SAEGW schemas can be created to categorize SAEGW bulk statistics. All of the schemas are processed at each collection interval. To create multiple SAEGW schemas, re-issue the **saegw schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the SAEGW schema statistics to those gathered on the Active ICSR chassis.

sample-interval

Configures the time interval between collecting local statistics.

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description **sample-interval** *minutes*

minutes

Specifies the frequency (in minutes) of polling for local statistics as an integer from 1 through 1440.

Usage Guidelines

Adjust the sampling interval to tune the system response as shorter periods can cause undue system overhead whereas longer periods have less of a statistical importance when analyzing data.

The system is shipped from the factory with the sampling interval set to 15 minutes.

Example

```
sample-interval 120
```

sbc schema

Configures the collection of statistics for the SBc schema.

Product

MME

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

sbc schema *schema_name* **format** *schema_format*
no sbc schema *schema_name*

no

Removes the specified SBc schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SBc bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple SBc schemas can be created to categorize SBc bulk statistics. All of the schemas are processed at each collection interval. To create multiple SBc schemas, re-issue the **sbc schema** *schema_name* command using a different schema name each time.

Example

Include the bulk statistic variable names to create an SBc schema named *stats_SBc_pkts_tx_rx* that specifies a collection of statistics (a schema format). The following command defines the collection of the total number of SCTP packets transmitted and received:

```
sbc schema stats_SBc_pkts_tx_rx format "Total SCTP Packets Sent:
%sctp-totsent-pkts%\nTotal SCTP Packets Received: %sctp-totrec-pkts%\n"
```

sccp schema



Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Configures the collection of statistics for the SCCP schema.

Product

SGSN

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

sccp schema *schema_name* **format** *schema_format*
no sccp schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for the SCCP schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SCCP bulk statistics collection in the generated stats report files.. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple SCCP schemas can be created to categorize SCCP bulk statistics. All of the schemas are processed at each collection interval. To create multiple SCCP schemas, re-issue the **sccp schema** *schema_name* command using a different schema name each time.

Example

Include the bulk statistic variable names to create an SCCP schema named *sccpstats11* that specifies collection of statistics (a schema format) for:

- Subsystem available messages sent from the SCCP
- Subsystem available messages received by the SCCP

Use the following command:

```
sccp schema sccpstats11 format "Subsys avail SCCP Tx: %ssa-txed%\nSubsys
 avail SCCP Rx: %ssa-rcvd%\n"
```

schema

Configures the system-level bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
schema schema_name [ active-only ] format schema_format
no schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be an alphanumeric string of 1 through "1021 minus "number of characters in rest of the command, including spaces"" characters. For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for system-level bulk statistics collection. Multiple schemas can be created to categorize system-level bulk statistics. All of the schemas are processed at each collection interval. To create multiple system schemas, re-issue the **schema** *schema_name* command using a different schema name.

You can also use this command to restrict the schema statistics to those gathered on the Active ICSR chassis.

Example

The following command creates a schema named *systemstats1* that records the number of current Simple IP and the number of current Mobile IP sessions:

```
schema systemstats1 format "%sess-cursipconn% - %sess-curmipconn%"
```

To create a system-level schema named *bulksysstats* that specifies a schema format of:

- Number of currently active sessions: *sess-curactcall*
- Number of currently dormant sessions: *sess-curdormcall*

Use the following command:

```
schema bulksysstats format "Number of currently active sessions:
%sess-curactcall%\nNumber of currently dormant sessions:
%sess-curdormcall%\n"
```

sgs schema

Configures the collection of statistics for the SGs interface schema.

Product

MME

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

sgs schema *schema_name* **[active-only] format** *schema_format*
no sgs schema *schema_name*

no

Removes the specified SGs schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SGs bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple SGs schemas can be created to categorize SGs bulk statistics. All of the schemas are processed at each collection interval. To create multiple SGs schemas, re-issue the **sgs schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the SGs schema statistics to those gathered on the Active ICSR chassis.

Example

Include the bulk statistic variable names to create an SGs schema named *stats_SGs_release* that specifies a collection of statistics (a schema format) for the total number of release messages transmitted, retransmitted, and received:

Use the following command:

```
sgs schema stats_SGs_release format "Total transmitted: %rel-req-tx%\nTotal
 retransmitted: %rel-req-retx%\nTotal received: %rel-req-rx%\n"
```

sgs-vlr schema

Configures the collection of statistics for the SGs-VLR schema.

Product

MME

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

sgs-vlr schema *schema_name* **[active-only] format** *schema_format*
no sgs schema *schema_name*

no

Removes the specified SGs-VLR schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SGs-VLR bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple SGS-VLR schemas can be created to categorize SGS-VLR bulk statistics. All of the schemas are processed at each collection interval. To create multiple SGS-VLR schemas, re-issue the **sgs-vlr schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the SGs-VLR schema statistics to those gathered on the Active ICSR chassis.

Example

Include the bulk statistic variable names to create an SGs-VLR schema named *stats_SGsVLR_release* that specifies a collection of statistics (a schema format) for the total number of release messages transmitted, retransmitted, and received:

Use the following command:

```
sgs-vlr schema stats_SGsVLR_release format "Total Paging requests
transmitted: %pag-req-tx%\nTotal Paging requests retransmitted:
%pag-req-retx%\nTotal Paging requests received: %pag-req-rx%\n"
```

sgsn schema

Configures the collection of statistics for the SGSN schema.

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

sgsn schema *schema_name* **format** *schema_format*
no sgsn schema *schema_name*

no

Removes the specified SGSN schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SGSN bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple SGSN schemas can be created to categorize SGSN bulk statistics. All of the schemas are processed at each collection interval. To create multiple SGSN schemas, re-issue the **sgsn schema** *schema_name* command using a different schema name each time.

Example

Include the bulk statistic variable names to create an SGSN schema named *stats_3Gsgsn1* that specifies collection of statistics (a schema format) for the total number of 3G Attaches per LAC/RAC per MCC & MNC:

Use the following command:

```
sgsn schema stats_3Gsgsn1 format "MCC: %mcc%\nMNC: %mnc%\nLAC: %lac%\nRAC:
 %rac%\nTotal 3G Subs Attached: %3G-attached%\n"
```

sgtp schema

Configures the collection of the SGSN's GTP-C and GTP-U activity statistics.

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
sgtp schema schema_name format schema_format
no sgtp schema schema_name
```

no

Removes the specified SGTP schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SGTP bulk statistics collection in the generated stats report files.. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple SGTP schemas can be created to categorize SGTP bulk statistics. All of the schemas are processed at each collection interval. To create multiple SGTP schemas, re-issue the **sgtp schema** *schema_name* command using a different schema name each time.

Example

Include the bulk statistic variable names to create an SGTP schema named *sgtpstats_sgsn1* that specifies collection of statistics (a schema format) will be by IuPS service interface and by RNC for the total number of GTP-C Create PDP Context Request messages received.

Use the following command:

```
sgtp schema sgtpstats_sgsn1 format "IuPS Service ID: %iups-service%\nRNC:
 %rnc-address%\nTotal CPCR Rx: %sgtpc-total-cpc-req%\n"
```

sgw schema

Configures the collection of the S-GW activity statistics.

Product

S-GW

SAEGW

Privilege

Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

sgw schema *schema_name* **format** *schema_format*
no sgw schema *schema_name*

no

Removes the specified S-GW schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for S-GW bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple S-GW schemas can be created to categorize S-GW bulk statistics. All of the schemas are processed at each collection interval. To create multiple S-GW schemas, re-issue the **sgw schema** *schema_name* command using a different schema name each time.

Example

Include the bulk statistic variable names to create an S-GW schema named *sgwstats_sgw1* that specifies collection of statistics (a schema format) will be by S-GW service interface for the total number of currently idle and active UEs.

Use the following command:

```
sgw schema sgwstats_sgw1 format "SGW Service ID: %servname%\nTotal Current
 Idle Ues: %sessstat-totcur-ueidle%\nTotal Current Active Ues:
%sessstat-totcur-ueactive%\n"
```

show variables

Displays the bulk statistics variable information based on schema names.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

`show variables [ schema_name ] [ obsolete ]`

show variables *schema_name*

Displays all valid bulkstat schema statistics, or only the statistics for the specified schema.

schema_name specifies the name of the schemas available on the system. Following is the list of available schemas in this release.

- aal2
- alcap
- apn
- asngw
- asnpc
- bcmcs
- card
- closedrp
- common
- context
- cs-network-ranap
- cs-network-rtp
- dcca
- dcca-group
- diameter-acct
- diameter-auth
- dlci-util
- dpca
- ecs
- egtpc
- epdg
- fa
- fng
- gprs
- gtpc

- gtpp
- gtpu
- ha
- hnbgw-hnbap

Important In Release 20 and later, HNBGW is not supported. This keyword must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

- hnbgw-ranap

Important In Release 20 and later, HNBGW is not supported. This keyword must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

- hnbgw-rtp

Important In Release 20 and later, HNBGW is not supported. This keyword must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

- hnbgw-rua

Important In Release 20 and later, HNBGW is not supported. This keyword must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

- hnbgw-sctp

Important In Release 20 and later, HNBGW is not supported. This keyword must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

- hsgw
- imsa
- ippool
- ipsg
- lac
- lma
- lns
- mag

- map
- mipv6ha
- mme
- mvs
- nat-realm
- p2p
- pcc-af
- pcc-policy
- pcc-quota
- pcc-service
- pcc-sp-endpt
- pdg
- pdif
- pgw
- phsgw
- phspc
- port
- ppp
- ps-network-ranap
- radius
- radius-group
- rlf
- rlf-detailed
- rp
- saegw
- sccp
- sgs
- sgsn
- sgtp
- sgw
- ss7link
- ss7rd
- system
- vpn

obsolete

Displays obsolete (but still available) schema variables. An asterisk (*) is displayed next to schema variables that have been obsoleted.

Usage Guidelines

Use this command to list supported bulk statistic variables. Variables can be listed for a specified schema. If no schema is specified, all supported variables are listed on a per-schema basis.

Example

The following command displays the bulkstat variables only for the card schema:

```
show variables card
```

sls schema

Configures the collection of statistics for the SLs interface schema.

Product

MME

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

sls schema *schema_name* **format** *schema_format*
no sls schema *schema_name*

no

Removes the specified SLs schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SLs interface bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple SLs schemas can be created to categorize SLs bulk statistics. All of the schemas are processed at each collection interval. To create multiple SLs schemas, re-issue the **sls schema** *schema_name* command using a different schema name each time.

Example

Include the bulk statistic variable names to create an SLs schema named *stats_SLs_pkts_tx_rx* that specifies a collection of statistics (a schema format) for the total number of SCTP packets transmitted and received:

Use the following command:

```
sls schema stats_SLs_pkts_tx_rx format "Total SCTP Packets Sent:
%sctp-totsent-pkts%\nTotal SCTP Packets Received: %sctp-totrec-pkts%\n"
```

smart-license schema

Configures Cisco Smart Licensing bulk statistics schema.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

smart-license schema *schema_name* **[active-only] format** *schema_format*
no smart-license schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for Cisco Smart Licensing bulk statistics collection. Multiple service schemas can be created to categorize Smart License bulk statistics. All of the schemas are processed at each collection interval. To create multiple Smart License schemas, re-issue the **smart-license schema** *schema_name* command using a different schema name.

ss7link schema

Configures the collection of the SS7 link activity statistics.

Product SGSN

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

ss7link schema *schema_name* **format** *schema_format*
no ss7link schema *schema_name*

no

Removes the specified SS7 Link schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for SS7 link and linkset bulk statistics collection per SS7 routing domain in a generated stats report file. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple collection schemas can be created to categorize SS7 link bulk statistics. All of the schemas are processed at each collection interval. To create multiple SS7 link schemas, re-issue the **ss7link schema** *schema_name* command using a different schema name each time.

Example

The following command creates a schema named *ss7lnk1stats1* that records the changeover orders sent and received per linkset and link and per SS7 routing domain:

```
ss7link schema ss7lnk1stats1 format
"%ss7rd-number% %ss7-linkset-id% %ss7-link-id% %ss7rd-ap_instance% %ss7-link-mtp3-changeover-order-tx% %ss7-link-mtp3-changeover-order-rx%"
```

ss7rd schema

Configures the collection of bulk statistics for SS7 routing domain services, which include the activity statistics for SCTP, MTP, and M3UA data.

Important In Release 20 and later, HNBGW is not supported. This command must not be used for HNBGW in Release 20 and later. For more information, contact your Cisco account representative.

Product

SGSN

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

ss7rd schema *schema_name* **format** *schema_format*
no ss7rd schema *schema_name*

no

Removes the specified SS7 routing domain schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see Schema Format String Syntax, on page 4.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for collection of SS7 routing domain statistics to be included in the generated stats report file. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple collection schemas can be created to categorize SS7 routing domain bulk statistics. All of the schemas are processed at each collection interval. To create multiple SS7 routing domain schemas, re-issue the **ss7rd schema** *schema_name* command using a different schema name each time.

Example

The following command creates a schema named *ss7rd1stats1* that identifies the SS7 routing domain and records the Application Server Process instance in the SS7 routing domain, along with the total number of sent and received SHUTDOWN messages per SS7 routing domain:

```
ss7rd schema ss7rd1stats1 format
"%ss7rd-number%-%ss7rd-asp_instance%-%ss7rd-sctp-shutdown-tx%-%ss7rd-sctp-shutdown-rx%"
```

tai schema

Configures TAI (Tracking Area Identifier) bulk statistics schema.

Product

MME

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

tai schema *schema_name* **format** *schema_format*
no tai schema *schema_name*

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

format *schema_format*

Specifies the format of the collected TAI statistics by identifying the statistics variables and ordering the variables for presentation within the bulk statistics messages.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for TAI bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified. Multiple TAI schemas can be created to categorize TAI bulk statistics. All of the schemas are processed at each collection interval. To create multiple TAI schemas, re-issue the **tai schema** *schema_name* command using a different schema name each time.



Important To enable collection of TAI schema bulk statistics, you must issue the MME Service Configuration Mode command: **statistics collection-mode tai**. Only those MME Services which are configured accordingly will provide TAI based statistics.

Example

The following command creates a TAI schema with the following information: MNC, MCC, TAC, and the total number of paging attempts.

```
tai schema paging_attempted format "%tai-mnc% %tai-mcc% %tai-tac%
%tai-paging-attempted%"
```

transfer-interval

Configures the frequency of transfer of collected statistics to the receiver.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

transfer-interval *minutes*

minutes

Specifies the number of minutes between the transfer of collected statistics to the receivers as an integer from 1 through 999999.

Usage Guidelines

Modify the transfer interval based upon the number of sessions per second. As the number of session requests a second increases it may become necessary to increase the transfer interval to reduce the processing overhead frequency for statistics delivery. This is tempered by the impact reduced resolution of statical data has on usefulness of data when the interval gets larger than the least busy hours and most busy hours of the day.

The system is shipped from the factory with the transfer interval set to 480 minutes (6 hours).

Example

The following command sets the transfer interval to 24 hours (1440 minutes):

transfer-interval 1440

user-plane-service schema

Configures User Plane Service bulk statistics schema.

Product

UPF

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

[no] user-plane-service schema *schema_name* **format** *schema_format*

[no]

Removes the User Plane Service schema.

user-plane-service schema *schema_name*

Specify the configured User Plane Service schema name.

format *schema_format*

Specify the User Plane Service schema format.

vlan-npu schema

Configures the collection of VLAN-NPU activity statistics.

Product

Important The VLAN-NPU counters will only be displayed if the **logical-port-statistics** command has been enabled at the interface level under the Ethernet Interface Configuration mode.

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

vlan-npu schema *schema_name* **[active-only] format** *schema_format*
no vlan-npu schema *schema_name*

no

Removes the specified VLAN-NPU schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.

Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for VLAN-NPU bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple VLAN-NPU schemas can be created to categorize VLAN-NPU bulk statistics. All of the schemas are processed at each collection interval. To create multiple VLAN-NPU schemas, re-issue the **vlan-npu schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the VLAN-NPU schema statistics to those gathered on the Active ICSR chassis.

Example

Include the bulk statistic variable names to create a VLAN-NPU schema named *vlanstats_vlan12* that specifies collection of statistics (a schema format) will be by VLAN-NPU interface for the total number of frames and bytes received with no Access Control List (ACL) match.

```
vlan-npu schema vlanstats_vlan12 format "VLAN12: %interfacename%\nTotal
Frames Recv'd with no ACL match: %no-acl-match-rx-frames%\nTotal Bytes
Recv'd with no ACL match: %no-acl-match-rx-bytes%\n"
```

vrf schema

Configures VRF (Virtual Routing and Forwarding) bulk statistics schema.

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
vrf schema schema_name [ active-only ] format schema_format
no vrf schema schema_name
```

no

Removes the specified schema.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines Use this command to define schemas for VRF bulk statistics collection. Multiple LMA service schemas can be created to categorize VRF bulk statistics. All of the schemas are processed at each collection interval. To create multiple VRF schemas, re-issue the **vrf schema** *schema_name* command using a different schema name.

You can also use this command to restrict the VRF schema statistics to those gathered on the Active ICSR chassis.

wsg schema

Configures the collection of Wireless Security Gateway (WSG) activity statistics.

Product WSG

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Bulk Statistics Configuration

configure > bulkstats mode

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-bulkstats)#
```

Syntax Description

```
wsg schema schema_name [ active-only ] format schema_format
no wsg schema schema_name
```

no

Removes the specified WSG schema from statistics collection.

schema_name

Specifies the schema's name.

schema_name must be an alphanumeric string of 1 through 31 characters.

active-only

Specifies that the bulk statistics are to be gathered on the Active ICSR chassis only.

format *schema_format*

Specifies the schema's format.

schema_format must be a string of 1 through 3599 characters, including spaces within double quotation marks (" "). For more information, see the Schema Format String Length, on page 4 section.

For information on the schema format's syntax, see the Schema Format String Syntax, on page 4 section.



Important For a complete list of the statistics that are supported for this schema, refer to the *Statistics and Counters Reference*.

Usage Guidelines

Use this command to define schemas for WSG bulk statistics collection in the generated stats report files. Usually a schema consists of multiple variables to collect all the statistics for a particular situation. Using double quote marks and text within this command, the reported statistics can be easily identified.

Multiple WSG schemas can be created to categorize WSG bulk statistics. All of the schemas are processed at each collection interval. To create multiple WSG schemas, re-issue the **wsg schema** *schema_name* command using a different schema name each time.

You can also use this command to restrict the WSG schema statistics to those gathered on the Active ICSR chassis.