

LPTS Commands

This chapter describes the Cisco IOS XR software commands used to monitor Local Packet Transport Services on NCS 5000 routers.

For detailed information about LPTS concepts, configuration tasks, and examples, refer to the *IP Addresses and Services Configuration Guide for Cisco NCS 5000 Series Routers*.

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clear lpts ifib statistics

To clear the Internal Forwarding Information Base (IFIB) statistics, use the **clear lpts ifib statistics** command in XR EXEC mode.

clear lpts ifib statistics [**location** *node-id*]

Syntax Description

location *node-id*	Clears the IFIB statistics for the designated node. The *node-id* argument is entered in standard *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
lpts	execute

Examples

The following example shows how to clear the IFIB statistics for the RP:

```
RP/0/RP0/CPU0:router# clear lpts ifib statistics
```

clear lpts pifib statistics

To clear the Pre-Internal Forwarding Information Base (Pre-IFIB) statistics, use the **clear lpts pifib statistics** command in XR EXEC mode.

clear lpts pifib statistics [**location** *node-id*]

Syntax Description

location *node-id*	Clears the Pre-IFIB statistics for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
lpts	execute

Examples

The following example shows how to clear the Pre-IFIB statistics for the RP:

```
RP/0/RP0/CPU0:router# clear lpts pifib statistics location 0/RP0/CPU0
```

show lpts bindings

To display the binding information in the Port Arbitrator, use the **show lpts bindings** command in XR EXEC mode.

show lpts bindings [**location** *node-id*] [**client-id** {**clnl** | **ipsec** | **ipv4-io** | **ipv6-io** | **mpa** | **tcp** | **test** | **udp** | **raw**}] [**brief**] [**vrf** *vrf-name*]

Syntax Description

location *node-id*	(Optional) Displays information for the specified node. The *node-id* argument is entered in the *rack/slot/module* notation.
client-id	(Optional) Type of client. It can be one of the following values: • **clnl** —ISO connectionless protocol (used by IS-IS) • **ipsec** —Secure IP • **ipv4-io** —Traffic processed by the IPv4 stack • **ipv6-io** —Traffic processed by the IPv6 stack • **mpa** —Multicast Port Arbitrator (multicast group joins) • **tcp** —Transmission Control Protocol • **test** —Test applications • **udp** —User Datagram Protocol • **raw** —Raw IP
brief	(Optional) Displays summary output.
vrf *vrf-name*	(Optional) Name of assigned VRF.

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

The **show lpts bindings** command displays the Local Packet Transport Services (LPTS) bindings (requests to receive traffic of a particular type). Bindings are aggregated into flows by the LPTS Port Arbitrator; flows are then programmed into the Internal Forwarding Information Base (IFIB) and Pre-IFIB to direct packets to applications.

If you specify the optional **client-id** keyword and type of client, only bindings from that client are shown. If you specify the optional **location** keyword and *node-id* argument, only bindings from clients on that node are displayed.

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts bindings** command, displaying bindings for all client ID types:

```
RP/0/RP0/CPU0:router# show lpts bindings

@ - Indirect binding; Sc - Scope

----------------------------------------
Location   :0/1/CPU0
Client ID  :IPV4_IO
Cookie     :0x00000001
Clnt Flags :
Layer 3    :IPV4
Layer 4    :ICMP
Local Addr :any
Remote Addr:any
Local Port :any
Remote Port:any
Filters    :Type / Intf or Pkt Type / Source Addr / Location
 INCLUDE_TYPE / type 8
 INCLUDE_TYPE / type 13
 INCLUDE_TYPE / type 17
----------------------------------------
Location   :0/2/CPU0
Client ID  :IPV4_IO
Cookie     :0x00000001
Clnt Flags :
Layer 3    :IPV4
Layer 4    :ICMP
Local Addr :any
Remote Addr:any
Local Port :any
Remote Port:any
Filters    :Type / Intf or Pkt Type / Source Addr / Location
 INCLUDE_TYPE / type 8
 INCLUDE_TYPE / type 13
 INCLUDE_TYPE / type 17
----------------------------------------
Location   :0/RP1/CPU0
Client ID  :TCP
Cookie     :0x4826f1f8
Clnt Flags :REUSEPORT
Layer 3    :IPV4
Layer 4    :TCP
Local Addr :any
Remote Addr:any
Local Port :7
Remote Port:any
----------------------------------------
Location   :0/RP1/CPU0
Client ID  :TCP
Cookie     :0x4826fa0c
Clnt Flags :REUSEPORT
Layer 3    :IPV4
Layer 4    :TCP
```

```
Local Addr :any
Remote Addr:any
Local Port :9
Remote Port:any
---------------------------------------
Location   :0/RP1/CPU0
Client ID  :TCP
Cookie     :0x482700d0
Clnt Flags :REUSEPORT
Layer 3    :IPV4
Layer 4    :TCP
Local Addr :any
Remote Addr:any
Local Port :19
Remote Port:any
---------------------------------------
Location   :0/RP1/CPU0
Client ID  :IPV4_IO
Cookie     :0x00000001
Clnt Flags :
Layer 3    :IPV4
Layer 4    :ICMP
Local Addr :any
Remote Addr:any
Local Port :any
Remote Port:any
Filters    :Type / Intf or Pkt Type / Source Addr / Location
 INCLUDE_TYPE / type 8
 INCLUDE_TYPE / type 13
 INCLUDE_TYPE / type 17
```

This table describes the significant fields shown in the display.

Table 1: show lpts bindings Command Field Descriptions

Field	Description
Location	Node location, in the format of *rack/slot/module*.
Client ID	LPTS client type.
Cookie	Client's unique tag for the binding.
Clnt Flags	REUSEPORT -- client has set the SO_REUSEPORT or SO_REUSEADDR socket option.
Layer 3	Layer 3 protocol (IPv4, IPv6, CLNL).
Layer 4	Layer 4 protocol (TCP, UDP).
Local Addr	Local (destination) address.
Remote Addr	Remote (source) address.
Local Port	Local (destination) TCP or UDP port, or ICMP/IGMP packet type, or IPsec SPI.
Remote Port	Remote (source) TCP or UDP port.

The following sample output is from the **show lpts bindings brief** command:

```
RP/0/RP0/CPU0:router# show lpts bindings brief

@ - Indirect binding; Sc - Scope

 Location   Clnt Sc L3   L4    VRF-ID   Local,Remote Address.Port  Interface
 ---------- ---- -- ---- ----- -------- -------------------------- ------------
 0/1/CPU0   IPV4 LO IPV4 ICMP  *        any.ECHO any               any
 0/1/CPU0   IPV4 LO IPV4 ICMP  *        any.TSTAMP any             any
 0/1/CPU0   IPV4 LO IPV4 ICMP  *        any.MASKREQ any            any
 0/1/CPU0   IPV6 LO IPV6 ICMP6 *        any.ECHOREQ any            any
 0/3/CPU0   IPV4 LO IPV4 ICMP  *        any.ECHO any               any
 0/3/CPU0   IPV4 LO IPV4 ICMP  *        any.TSTAMP any             any
```

This table describes the significant fields shown in the display.

Table 2: show lpts bindings brief Command Field Descriptions

Field	Description
Location	Node location, in the format of *rack/slot/module*.
Clnt ID	LPTS client type.
Sc	Scope (LR = Logical-Router, LO = Local).
Layer 3	Layer 3 protocol.
Layer 4	Layer 4 protocol.
VRF-ID	VPN routing and forwarding (VRF) identification (vrfid) number.
Local,Remote Address.Port	Local (destination) and Remote (source) addresses and ports or packet types.
Interface	Inbound interface.

show lpts clients

To display the client information for the Port Arbitrator, use the **show lpts clients** command in XR EXEC mode.

show lpts clients [**times**]

Syntax Description

times	(Optional) Displays information about binding request rates and service times.

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

The **show lpts clients** command displays the clients connected to the local packet transport services (LPTS) port arbitrator (PA).

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts clients** command:

```
RP/0/RP0/CPU0:router# show lpts clients

o_flgs - open flags ; clid - client id
clid            loc             flags   o_flgs
RAW(3)          0/RP1/CPU0      0x1     0x2
TCP(1)          0/RP1/CPU0      0x1     0x2
IPV4_IO(5)      0/1/CPU0        0x3     0x2
IPV4_IO(5)      0/2/CPU0        0x3     0x2
IPV4_IO(5)      0/RP1/CPU0      0x3     0x2
MPA(7)          0/RP1/CPU0      0x3     0x0
```

This table describes the significant fields shown in the display.

Table 3: show lpts clients Command Field Descriptions

Field	Description
Clid	LPTS client ID.
Loc	Node location, in the format *rack/slot/module*.

Field	Description
Flags	Client flags. **Note** The client flags are used only for debugging purposes.
o_flags	Open flags. **Note** The open flags are used only for debugging purposes.

The following sample output is from the **show lpts clients times** command. The output shows samples for the last 30 seconds, 1 minute, 5 minutes, 10 minutes, and a total (if nonzero). The number of transactions, number of updates, and the minimum/average/maximum time in milliseconds to process each transaction is shown.

```
RP/0/RP0/CPU0:router# show lpts clients times

o_flgs - open flags ; clid - client id
clid            loc     flags   o_flgs
RAW(3)          0/RP1/CPU0      0x1     0x2
   30s:2 tx 2 upd 2/2/3ms/tx
    1m:2 tx 2 upd 2/2/3ms/tx
    5m:2 tx 2 upd 2/2/3ms/tx
   10m:2 tx 2 upd 2/2/3ms/tx
 total:2 tx 2 upd 2/-/3ms/tx
TCP(1)          0/RP1/CPU0      0x1     0x2
 total:3 tx 3 upd 1/-/1ms/tx
IPV4_IO(5)      0/1/CPU0        0x3     0x2
 total:1 tx 1 upd 0/-/0ms/tx
IPV4_IO(5)      0/2/CPU0        0x3     0x2
 total:1 tx 1 upd 1/-/1ms/tx
IPV4_IO(5)      0/RP1/CPU0      0x3     0x2
 total:1 tx 1 upd 3/-/3ms/tx
MPA(7)          0/RP1/CPU0      0x3     0x0
```

show lpts flows

To display information about Local Packet Transport Services (LPTS) flows, use the **show lpts flows** command in XR EXEC mode.

show lpts flows [**brief**]

Syntax Description

brief	(Optional) Displays summary output.

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

The **show lpts flows** command is used to display LPTS flows, which are aggregations of identical binding requests from multiple clients and are used to program the LPTS Internal Forwarding Information Base (IFIB) and Pre-IFIB.

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts flows** command:

```
RP/0/RP0/CPU0:router# show lpts flows

-----------------------------------------
L3-proto    : IPV4(2)
L4-proto    : ICMP(1)
VRF-ID      : * (000000000)
Local-IP    : any
Remote-IP   : any
Pkt-Type    : 8
Remote-Port : any
Interface   : any (0x0)
Flow-type   : ICMP-local
Min-TTL     : 0
Slice       : RAWIP4_FM
Flags       : 0x20 (in Pre-IFIB)
Location    : (drop)
Element References
location / count / scope
* / 3 / LOCAL
```

This table describes the significant fields shown in the display.

Table 4: show lpts flows Command Field Descriptions

Field	Description
L3-proto	Layer 3 protocol (IPv4, IPv6, CLNL).
L4-proto	Layer 4 protocol (TCP, UDP, and so on).
VRF-ID	VPN routing and forwarding (VRF) identification (vrfid) number.
Local-IP	Local (destination) IP address.
Remote-IP	Remote (source) IP address.
Pkt-Type	ICMP or IGMP packet type.
Remote-Port	Remote (source) TCP or UDP port.
Interface	Ingress interface.
Flow-type	Flow classification for hardware packet policing.
Min-TTL	Minimum time-to-live value expected from in the incoming packet. Any packet received with a lower TTL value will be dropped.
Slice	IFIB slice.
Flags	• Has FGID: Delivered to multiple destinations. • No IFIB entry: IFIB entry suppressed. • Retrying FGID allocation. • In Pre-IFIB: Entry is in Pre-IFIB as well. • Deliver to one: If multiple bindings, will deliver to only one.
Location	*rack/slot/module* to deliver to.
Element References	• location: *rack/slot/module* of client. • count: number of clients at that location. • scope: binding scope (LR:Logical Router, LOCAL:Local).

The following sample output is from the **show lpts flows brief** command:

```
RP/0/RP0/CPU0:router# show lpts flows brief

+ - Additional delivery destination; L - Local interest; P - In Pre-IFIB

 L3   L4    VRF-ID   Local, Remote Address.Port      Interface    Location    LP
 ---- ----- -------- ------------------------------- ------------ ----------- --
 IPV4 ICMP  *        any.ECHO any                    any          (drop)      LP
 IPV4 ICMP  *        any.TSTAMP any                  any          (drop)      LP
 IPV4 ICMP  *        any.MASKREQ any                 any          (drop)      LP
 IPV6 ICMP6 *        any.ECHOREQ any                 any          (drop)      LP
 IPV4 any   default  224.0.0.2 any                   Gi0/1/0/1    0/5/CPU0     P
```

This table describes the significant fields shown in the display.

Table 5: show lpts flows brief Command Field Descriptions

Field	Description
L3	Layer 3 protocol (IPv4, IPv6, CLNL).
L4	Layer 4 protocol.
VRF-ID	VPN routing and forwarding (VRF) identification (vrfid) number.
Local, Remote Address.Port	Local (destination) and remote (source) IP addresses and TCP or UDP ports, or ICMP/IGMP packet types, or IPSec Security Parameters Indices.
Interface	Ingress interface.
Location	Delivery location: • *rack/slot/module*—Individual location. • [0xNNNNN]—Multiple locations (platform-dependent value). • (drop)—Do not deliver to any application.
LP	Local interest (to be processed by IPv4 or IPv6 stack directly) or entry is resident in Pre-IFIB.

show lpts ifib

To display the entries in the Internal Forwarding Information Base (IFIB), use the **show lpts ifib** command in XR EXEC mode.

show lpts ifib [**entry**] [**type** {**bgp4** | **bgp6** | **isis** | **mcast4** | **mcast6** | **ospf-mc4** | **ospf-mc6** | **ospf4** | **ospf6** | **raw4** | **raw6** | **tcp4** | **tcp6** | **udp4** | **udp6**} | **all**] [**brief** [**statistics**]] [**slices**] [**times**] [**location** *node-id*]

Syntax Description

entry	(Optional) Displays the IFIB entries.
type	(Optional) Displays the following protocol types. • **bgp4** —IPv4 Border Gateway Protocol (BGP) slice • **bgp6** —IPv6 BGP slice • **isis** —Intermediate System-to-Intermediate System (IS-IS) slice • **mcast4** —IPv4 multicast slice • **mcast6** —IPv6 multicast slice • **ospf-mc4** —IPv4 Open Shortest Path First (OSPF) multicast slice • **ospf-mc6** —IPv6 OSPF multicast slice • **ospf4** —IPv4 OSPF slice • **ospf6** —IPv6 OSPF slice • **raw4** —IPv4 raw IP • **raw6** —IPv6 raw IP • **tcp4** —IPv4 Transmission Control Protocol (TCP) slice • **tcp6** —IPv6 TCP slice • **udp4** —IPv4 UDP slice • **udp6** —IPv6 UDP slice
all	Displays all IFIB types.
brief	(Optional) Displays the IFIB entries in brief format.
statistics	(Optional) Displays the IFIB table with statistics information.
slices	(Optional) Displays IFIB slices.
times	(Optional) Displays the IFIB update transaction times.
location *node-id*	(Optional) Specifies the location of the Flow Manager. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

Use this command to display detailed information about the entries in an IFIB slice. This command is useful for debugging problems with delivering packets to applications.

When the **statistics** keyword is used, detailed statistics are displayed for packet count, number of entries in each slice, and a total entries count.

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts ifib** command:

```
RP/0/RP0/CPU0:router# show lpts ifib

O - Opcode; A - Accept Counter; D - Drop Counter; F - Flow Type; L - Listener Tag;
I - Local Flag; Y - SYN; T - Min TTL; DV - Deliver; DP - Drop; RE - Reassemble; na - Not
Applicable
-----------------------------------------------------
VRF-ID           : default (0x60000000)
Port/Type        : any
Source Port      : any
Dest IP          : any
Source IP        : any
Layer 4          : 88 (88)
Interface        : any (0x0)
O/A/D/F/L/I/Y/T  : DELIVER/0/0/IPv4_STACK/0/0/0
Deliver List     : 0/5/CPU0
-----------------------------------------------------
```

This table describes the significant fields shown in the display.

Table 6: show lpts ifib entries Command Field Descriptions

Field	Description
VRF-ID	VPN routing and forwarding (VRF) identification (vrfid) number.
Port/Type	Destination (local) TCP or UDP port number, or ICMP/IGMP packet type, or IPSec Security Parameters Index.t2222
Source Port	Source (remote) TCP or UDP port.
Dest IP	Destination (local) IP address.
Source IP	Source (remote) IP address.
Layer 4	Layer 4 protocol number (6 = TCP). **Note** Only the common Layer 4 protocol names are displayed.
Interface	Ingress interface name.

Field	Description
O/S/P/R/L/I/Y	• O: Opcode (DELIVER, DROP, or REASSEMBLE • S: Stats counter • P: Packet forwarding priority (LO, MED, or HIGH) • R: Rate limit (LO, MED, or HIGH) • L: Listener tag (IPv4_STACK, IPv6_STACK, or CLNL_STACK) • I: Local-interest flag (0 or 1) • Y: TCP SYN flag (0 or 1)
Deliver List	• (drop)—Drop packet • *rack/slot/module*—Deliver to single destination • [0xNNNN]—Deliver to multiple destinations (platform-dependent format)

The following sample output is from the **show lpts ifib brief** command:

```
RP/0/RP0/CPU0:router# show lpts ifib brief

 Slice    Local, Remote Address.Port            L4    Interface    Dlvr
 -------- ------------------------------------ ----- ------------ -----------
 TCP4     any.7 any                            TCP   any          0/RP1/CPU0
 TCP4     any.9 any                            TCP   any          0/RP1/CPU0
```

The following sample output is from the **show lpts ifib brief statistics** command:

```
RP/0/RP0/CPU0:router# show lpts ifib brief statistics

 Slice    Local, Remote Address.Port            L4    Interface    Accept/Drop
 -------- ------------------------------------ ----- ------------ -----------
 TCP4     any.7 any                            TCP   any          0/0
 TCP4     any.9 any                            TCP   any          0/0
 TCP4     any.19 any                           TCP   any          0/0

 Slice    Num. Entries Accepts/Drops
 -------- ------------ -------------
TCP4     3            0/0
Total    3            0/0
```

show lpts ifib slices

To display Internal Forwarding Information Base (IFIB) slice information, use the **show lpts ifib slices** command in XR EXEC mode.

show lpts ifib slices [**type** {**bgp4** | **bgp6** | **isis** | **mcast4** | **mcast6** | **ospf-mc4** | **ospf-mc6** | **ospf4** | **ospf6** | **raw4** | **raw6** | **tcp4** | **tcp6** | **udp4** | **udp6**}] [**all**] [**statistics**] [**times**]

Syntax Description

type	(Optional) Enter protocol types. • **bgp4** —IPv4 Border Gateway Protocol (BGP) slice • **bgp6** —IPv6 BGP slice • **isis** —Intermediate System-to-Intermediate System (IS-IS) slice • **mcast4** —IPv4 multicast slice • **mcast6** —IPv6 multicast slice • **ospf-mc4** —IPv4 Open Shortest Path First (OSPF) multicast slice • **ospf-mc6** —IPv6 OSPF multicast slice • **ospf4** —IPv4 OSPF slice • **ospf6** —IPv6 OSPF slice • **raw4** —IPv4 raw IP • **raw6** —IPv6 raw IP • **tcp4** —IPv4 Transmission Control Protocol (TCP) slice • **tcp6** —IPv6 TCP slice • **udp4** —IPv4 UDP slice • **udp6** —IPv6 UDP slice
all	(Optional) Displays all entries.
statistics	(Optional) Displays the statistics for slice lookups.
times	(Optional) Displays the IFIB update transaction times.

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

Use the **show lpts ifib slices** command when troubleshooting IFIB entries and slice assignments. This command is especially useful when troubleshooting problems with delivering packets to applications.

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts ifib slices** command:

```
RP/0/RP0/CPU0:router# show lpts ifib slices

Slice    L3   L4     Port  Location
-------- ---- ------ ----- --------
RAWIP4   IPV4 any    any   0/RP0/CPU0
RAWIP6   IPV6 any    any   0/RP0/CPU0
OSPF4    IPV4 OSPF   any   0/RP0/CPU0
OSPF6    IPV6 OSPF   any   0/RP0/CPU0
OSPF_MC4 IPV4 any    any   0/RP0/CPU0
OSPF_MC6 IPV6 any    any   0/RP0/CPU0
BGP4     IPV4 TCP    179   0/RP0/CPU0
BGP6     IPV6 TCP    179   0/RP0/CPU0

UDP4     IPV4 UDP    any   0/RP0/CPU0
UDP6     IPV6 UDP    any   0/RP0/CPU0
TCP4     IPV4 TCP    any   0/RP0/CPU0
TCP6     IPV6 TCP    any   0/RP0/CPU0
ISIS     CLNS -      any   0/RP0/CPU0
MCAST4   IPV4 any    any   0/RP0/CPU0
MCAST6   IPV6 any    any   0/RP0/CPU0
```

The following sample output is from the **show lpts ifib slices times** command:

```
RP/0/RP0/CPU0:router# show lpts ifib slices times

Slice    L3   L4     Port  Location
-------- ---- ------ ----- --------
RAWIP4   IPV4 any    any   0/RP0/CPU0
RAWIP6   IPV6 any    any   0/RP0/CPU0
OSPF4    IPV4 OSPF   any   0/RP0/CPU0
OSPF6    IPV6 OSPF   any   0/RP0/CPU0
OSPF_MC4 IPV4 any    any   0/RP0/CPU0
OSPF_MC6 IPV6 any    any   0/RP0/CPU0
BGP4     IPV4 TCP    179   0/RP0/CPU0
BGP6     IPV6 TCP    179   0/RP0/CPU0

UDP4     IPV4 UDP    any   0/RP0/CPU0
UDP6     IPV6 UDP    any   0/RP0/CPU0
TCP4     IPV4 TCP    any   0/RP0/CPU0
TCP6     IPV6 TCP    any   0/RP0/CPU0
ISIS     CLNS -      any   0/RP0/CPU0
MCAST4   IPV4 any    any   0/RP0/CPU0
MCAST6   IPV6 any    any   0/RP0/CPU0
  Flow Manager 0/RP0/CPU0:
   total:5 tx 13 upd 1/-/1ms/tx
```

The following sample output is from the **show lpts ifib slices statistics** command:

```
RP/0/RP0/CPU0:router# show lpts ifib slices all statistics

Slice    L3   L4     Port  Location   Lookups RmtDlvr Rejects RLDrops NoEntry
```

```
-------- ---- ------ ----- ---------- ------- ------- ------- ------- -------
RAWIP4   IPV4 any    any   0/0/CPU0   5       0       0       0       0
RAWIP6   IPV6 any    any   0/0/CPU0   0       0       0       0       0
OSPF4    IPV4 OSPF   any   0/0/CPU0   0       0       0       0       0
OSPF6    IPV6 OSPF   any   0/0/CPU0   0       0       0       0       0
OSPF_MC4 IPV4 any    any   0/0/CPU0   0       0       0       0       0
OSPF_MC6 IPV6 any    any   0/0/CPU0   0       0       0       0       0
BGP4     IPV4 TCP    179   0/0/CPU0   0       0       0       0       0
BGP6     IPV6 TCP    179   0/0/CPU0   0       0       0       0       0

UDP4     IPV4 UDP    any   0/0/CPU0   3704    0       979     0       0
UDP6     IPV6 UDP    any   0/0/CPU0   0       0       0       0       0
TCP4     IPV4 TCP    any   0/0/CPU0   0       0       0       0       0
TCP6     IPV6 TCP    any   0/0/CPU0   0       0       0       0       0
ISIS     CLNS -      any   0/0/CPU0   0       0       0       0       0
MCAST4   IPV4 any    any   0/0/CPU0   0       0       0       0       0
MCAST6   IPV6 any    any   0/0/CPU0   0       0       0       0       0
  Flow Manager 0/0/CPU0:
   Packets in: 3792
   Packets delivered locally without lookups: 83
   Slice lookups: 3709
     Rejects: 979
```

This table describes the significant fields shown in the display.

Table 7: show lpts ifib slices statistics Command Field Descriptions

Field	Description
Slice	Slice number.
L3-proto	Layer 3 protocol (IPv4, IPv6, CLNL).
L4-proto	Layer 4 protocol (TCP, UDP, and others).
Port	Local (destination) TCP or UDP port.
Location	Node location, in the format *rack/slot/module*.

show lpts ifib statistics

To display Internal Forwarding Information Base (IFIB) statistics, use the **show lpts ifib statistics** command in .

show lpts ifib statistics [**location** *node-id*]

Syntax Description

location *node-id*	(Optional) Displays IFIB statistics for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts ifib statistics** command:

```
RP/0/# show lpts ifib statistics

Flow Manager 0/RP0/CPU0:
   Packets in:254
   Packets delivered locally without lookups:0
   Slice lookups:254
     Post-lookup error drops:
      Failed ipv4_netio_input:1
     Rejects:254
    Packets delivered locally:0
    Packets delivered remotely:0
```

This table describes the significant fields shown in the display.

Table 8: show lpts ifib statistics Command Field Descriptions

Field	Description
Packets in	Packets presented to the LPTS decaps node in netio.
Packets delivered locally without lookups	Packets previously resolved on a LC delivered directly to L3.
Slice lookups	Packets requiring slice lookups.

Field	Description
Post-lookup error drops	Packets dropped after a slice lookup.
Rejects	Packets that caused a TCP RST or ICMP Port/Protocol Unreachable.
Packets delivered locally	Packets delivered to local applications after slice lookups.
Packets delivered remotely	Packets delivered to applications on remote RPs.



Note The sample output is an example only and displays only those fields showing a value. No display exists for nonzero values. This command may show other values depending on your router configuration.

show lpts ifib times

To display Internal Forwarding Information Base (IFIB) update transaction times, use the **show lpts ifib times** command in XR EXEC mode.

show lpts ifib times [**location** *node-id*]

Syntax Description

location *node-id*	(Optional) Displays IFIB update transaction times for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts ifib times** command:

```
RP/0/RP0/CPU0:router# show lpts ifib times

Slice    L3   L4     Port  Location
-------- ---- ------ ----- --------
RAWIP4   IPV4 any    any   0/RP1/CPU0
RAWIP6   IPV6 any    any   0/RP1/CPU0
OSPF4    IPV4 OSPF   any   0/RP1/CPU0
OSPF6    IPV6 OSPF   any   0/RP1/CPU0
OSPF_MC4 IPV4 any    any   0/RP1/CPU0
OSPF_MC6 IPV6 any    any   0/RP1/CPU0
BGP4     IPV4 TCP    179   0/RP1/CPU0
BGP6     IPV6 TCP    179   0/RP1/CPU0
UDP4     IPV4 UDP    any   0/RP1/CPU0
UDP6     IPV6 UDP    any   0/RP1/CPU0
TCP4     IPV4 TCP    any   0/RP1/CPU0
TCP6     IPV6 TCP    any   0/RP1/CPU0
ISIS     CLNS -      any   0/RP1/CPU0
MCAST4   IPV4 any    any   0/RP1/CPU0
MCAST6   IPV6 any    any   0/RP1/CPU0
Flow Manager 0/RP0/CPU0:
 total:5 tx 13 upd 1/-/1ms/tx
```

This table describes the significant fields shown in the display.

Table 9: show lpts ifib times Command Field Descriptions

Field	Description
Slice	Slice number.
L3 Protocol	Layer 3 protocol (IPv4, IPV6, CLNL).
L4 Protocol	Layer 4 protocol (TCP, UDP, and so on).
Port	Local (destination) TCP or UDP port.
Location	Node location, in the format *rack/slot/module*.

show lpts pifib

To display Pre-Internal Forwarding Information Base (Pre-IFIB) entries, use the **show lpts pifib** command in XR EXEC mode.

show lpts pifib [entry] [hardware {**entry | police**}**[type {isis | ipv4 | ipv6}** {**any** } [**brief**] **[statistics] [location** *node-id*]

Syntax Description

entry	(Optional) Pre-IFIB entry.
hardware	(Optional) Displays hardware for Pre-IFIB.
entry	(Optional) Displays the entries for Pre-IFIB.
police	(Optional) Displays the policer values that are being use.
type	(Optional) Protocol type.
isis	(Optional) Intermediate System-to-Intermediate System (IS-IS) sub Pre-IFIB type.
ipv4	(Optional) IPv4 sub Pre-IFIB type. Possible values include **frag** , **ixmp** , **mcast** , **tcp** , **udp** , **ipsec** , and **raw** .
ipv6	(Optional) IPv6 sub Pre-IFIB type. Possible values include **frag** , **icmp** , **ixmp** , **mcast** , **tcp** , **udp** , **ipsec, and raw** .
any	Any IPv4 or IPv6 protocol.
brief	(Optional) Pre-IFIB entries in brief format.
statistics	(Optional) Pre-IFIB table with statistics information.
location *node-id*	(Optional) The *node-id* argument is entered in the *rack/slot/module* notation (for example, 0/7/CPU0).

Command Default

By default, all entries are displayed.

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

Use the **show lpts pifib** command with the **brief** keyword to perform the following functions:

- Display entries of all or part of a Pre-IFIB.
- Display a short description of each entry in the LPTS Pre-IFIB, optionally displaying packet counts for each entry.

Note These statistics are used only for packets that are processed by a line card, route processor, or distributed route processor.

Pre-IFIB statistics for packets processed by line card hardware are counted separately.

By default, all the defaults are displayed.

Task ID

Task ID	Operations
lpts	read

Examples

The following is sample output for the **show lpts pifib** command:

```
RP/0/RP0/CPU0:router# show lpts pifib

O - Opcode; F - Flow Type; L - Listener Tag; I - Local Flag; T - Min TTL;
na - Not Applicable
-----------------------------------------------------
L3 Protocol       : CLNS
L4 Protocol       : -
VRF-ID            : default (0x60000000)
Destination IP    : any
Source IP         : any
Port/Type         : any
Source Port       : any
Is Fragment       : 0
Is SYN            : 0
Interface         : any (0x0)
O/F/L/I/T         : DELIVER/ISIS-default/CLNS_STACK/0/0
Deliver List      : FGID 11935
Accepts/Drops     : 0/0
Is Stale          : 0
```

The following is sample output for the **show lpts pifib type** command using the **ipv4** and **tcp** keywords.

```
RP/0/RP0/CPU0:router# show lpts pifib type ipv4 tcp

O - Opcode; F - Flow Type; L - Listener Tag; I - Local Flag; T - Min TTL;
na - Not Applicable
-----------------------------------------------------
L3 Protocol       : IPV4
L4 Protocol       : TCP
VRF-ID            : default (0x60000000)
Destination IP    : any
Source IP         : any
Port/Type         : Port:23
Source Port       : any
Is Fragment       : 0
Is SYN            : 0
Interface         : any (0x0)
O/F/L/I/T         : DELIVER/TELNET-default/IPv4_LISTENER/0/0
Deliver List      : 0/RP0
```

```
/CPU0
Accepts/Drops     : 0/0
Is Stale          : 0
-----------------------------------------------------
```

The following is sample output from the **show lpts pifib** command with the **entry** and **brief** keywords added command:

```
RP/0/RP0/CPU0:router# show lpts pifib entry brief

* - Critical Flow; I - Local Interest;
X - Drop; R - Reassemble;

 Type       VRF-ID   Local, Remote Address.Port L4    Interface    Deliver
 ---------- -------- -------------------------- ----- ------------ -------------

 ISIS       *        - -                        -     any          0/0/CPU0
 IPv4_frag  *        any any                    any   any          R
 IPv4_IXMP  *        any.ECHO any               ICMP  any          XI
 IPv4_IXMP  *        any.TSTAMP any             ICMP  any          XI
 IPv4_IXMP  *        any.MASKREQ any            ICMP  any          XI
 IPv4_IXMP  *        any any                    ICMP  any          0/0/CPU0
 IPv4_IXMP  *        any any                    IGMP  any          0/0/CPU0
 IPv4_mcast *        224.0.0.5 any              any   any          0/0/CPU0
 IPv4_mcast *        224.0.0.6 any              any   any          0/0/CPU0
 IPv4_mcast *        224.0.0.0/4 any            any   any          0/0/CPU0

 IPv4_TCP   *        any.179 any                TCP   any          0/0/CPU0
 IPv4_TCP   *        any any.179                TCP   any          0/0/CPU0
 IPv4_TCP   *        any any                    TCP   any          0/0/CPU0
 IPv4_UDP   *        any any                    UDP   any          0/0/CPU0
 IPv4_IPsec *        any any                    ESP   any          0/0/CPU0
 IPv4_IPsec *        any any                    AH    any          0/0/CPU0
 IPv4_rawIP *        any any                    OSPF  any          0/0/CPU0
 IPv4_rawIP *        any any                    any   any          0/0/CPU0
 IPv6_frag  *        any any                    any   any          R
 IPv6_ICMP  *        any.na any                 ICMP6 any          XI
 IPv6_ICMP  *        any any                    ICMP6 any          0/0/CPU0
 IPv6_mcast *        ff02::5 any                any   any          0/0/CPU0
 IPv6_mcast *        ff02::6 any                any   any          0/0/CPU0
 IPv6_mcast *        ff00::/8 any               any   any          0/0/CPU0
 IPv6_TCP   *        any.179 any                TCP   any          0/0/CPU0
 IPv6_TCP   *        any any.179                TCP   any          0/0/CPU0
 IPv6_TCP   *        any any                    TCP   any          0/0/CPU0
 IPv6_UDP   *        any any                    UDP   any          0/0/CPU0
 IPv6_IPsec *        any any                    ESP   any          0/0/CPU0
 IPv6_IPsec *        any any                    AH    any          0/0/CPU0
 IPv6_rawIP *        any any                    OSPF  any          0/0/CPU0
 IPv6_rawIP *        any any                    any   any          0/0/CPU0
```

The following sample output is from the **show lpts pifib** command with the **entry, brief,** and **entry brief statistics** keywords added:

```
RP/0/RP0/CPU0:router# show lpts pifib entry brief statistics

* - Critical Flow; I - Local Interest;
X - Drop; R - Reassemble;

 Type       VRF-ID   Local, Remote Address.Port L4    Interface    Accepts/Drops
```

```
---------- -------- -------------------------- ----- ------------ -------------

ISIS       *        - -                        -     any          0/0
IPv4_frag  *        any any                    any   any          0/0
IPv4_IXMP  *        any.ECHO any               ICMP  any          0/0
IPv4_IXMP  *        any.TSTAMP any             ICMP  any          0/0
IPv4_IXMP  *        any.MASKREQ any            ICMP  any          0/0
IPv4_IXMP  *        any any                    ICMP  any          5/0
IPv4_IXMP  *        any any                    IGMP  any          0/0
IPv4_mcast *        224.0.0.5 any              any   any          0/0
IPv4_mcast *        224.0.0.6 any              any   any          0/0
IPv4_mcast *        224.0.0.0/4 any            any   any          0/0
IPv4_TCP   *        any.179 any                TCP   any          0/0
IPv4_TCP   *        any any.179                TCP   any          0/0
IPv4_TCP   *        any any                    TCP   any          0/0
IPv4_UDP   *        any any                    UDP   any          4152/0
IPv4_IPsec *        any any                    ESP   any          0/0
IPv4_IPsec *        any any                    AH    any          0/0
IPv4_rawIP *        any any                    OSPF  any          0/0


-----------------------


statistics:

Type            Num. Entries         Accepts/Drops

------          ------------         -------------
ISIS            1                    0/0
IPv4_frag       1                    0/0
IPv4_IXMP       5                    5/0
IPv4_mcast      3                    0/0
IPv4_TCP        3                    0/0
IPv4_UDP        1                    4175/0
IPv4_IPsec      2                    0/0
IPv4_rawIP      2                    0/0
IPv6_frag       1                    0/0
IPv6_ICMP       2                    0/0
IPv6_mcast      3                    0/0
IPv6_TCP        3                    0/0
IPv6_UDP        1                    0/0
IPv6_IPsec      2                    0/0
IPv6_rawIP      2                    0/0
Total           32

Packets into Pre-IFIB: 4263
Lookups: 4263
Packets delivered locally: 4263
Packets delivered remotely: 0
```

This table describes the significant fields shown in the display for the **show lpts pifib** command with the **brief** and **statistics** keywords .

Table 10: show lpts pifib Command Field Descriptions

Field	Description
Type	Hardware entry type.
VRF ID	VPN routing and forwarding (VRF) identification (vrfid) number.

Field	Description
Local, Remote Address. Port	Indicates local address (in the form of local port and type) and remote address (remote port).
L4	Layer 4 protocol of the entry.
Interface	Interface for this entry.
Accepts/Drops	Number of packets sent to DestAddr/Number of packets dropped due to policing.
Num. Entries	Number of pre-ifib entries of the listed type.
Packets into Pre-IFIB	Packets presented for pre-IFIB lookups.
Lookups	Packets looked up.
Packets delivered locally	Packets delivered to local applications or the local stack (*n* duplicated) packets duplicated for delivery to applications and the local stack.
Packets delivered remotely	Packets delivered to applications or for lookup on other RPs.

show lpts pifib hardware police

To display the policer configuration value set, use the **show lpts pifib hardware police** command in XR EXEC mode.

show lpts pifib hardware police [**location** {**all***node-id*}]

Syntax Description

location *node-id*	(Optional) Displays pre-Internal Forwarding Information Base (IFIB) information for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.
all	Specifies all locations.

Command Default

If no policer is configured, the default value is the configured rate.

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 7.3.2	Monitor LPTS host path drops via `Cisco-IOS-XR-lpts-pre-ifib-oper` YANG data model.
Release 6.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
lpts	read

Examples

This sample output is from the **show lpts pifib hardware police** command with the **location** keyword for 0/RP0/CPU0:

```
RP/0/RP0/CPU0:router#show lpts pifib hardware police location 0/RP0/CPU0


------------------------------------------------------------
                Node 0/RP0/CPU0:
------------------------------------------------------------
 Burst = 100ms for all flow types
------------------------------------------------------------
FlowType               Policer Type    Cur. Rate Def. Rate Accepted   Dropped
---------------------- ------- ------- --------- --------- ---------- ---------
unconfigured-default   100     Static  500       500       0          0
Fragment               106     Static  1000      1000      0          0
OSPF-mc-known          107     Static  20000     20000     0          0
OSPF-mc-default        111     Static  5000      5000      0          0
OSPF-uc-known          161     Static  5000      5000      0          0
OSPF-uc-default        162     Static  1000      1000      0          0
ISIS-known             108     Static  20000     20000     0          0
ISIS-default           112     Static  5000      5000      0          0
```

```
BFD-known                 170     Static  8500      8500      0           0
BFD-default               171     Static  8500      8500      0           0
BFD-MP-known              177     Static  8400      8400      0           0
BFD-MP-0                  178     Static  128       128       0           0
BGP-known                 113     Static  25000     25000     0           0
BGP-cfg-peer              114     Static  10000     10000     0           0
BGP-default               115     Static  1500      1500      0           0
PIM-mcast-default         116     Static  23000     23000     0           0
PIM-mcast-known           176     Static  23000     23000     0           0
PIM-ucast                 117     Static  10000     10000     0           0
IGMP                      118     Static  3500      3500      0           0
ICMP-local                119     Static  2500      2500      0           0
ICMP-app                  120     Static  2500      2500      0           0
ICMP-control              164     Static  2500      2500      0           0
ICMP-default              121     Static  2500      2500      0           0
LDP-TCP-known             122     Static  25000     25000     0           0
LDP-TCP-cfg-peer          152     Static  10000     10000     0           0
LDP-TCP-default           154     Static  10000     10000     0           0
LDP-UDP                   158     Static  2500      2500      0           0
All-routers               160     Static  10000     10000     0           0
LMP-TCP-known             123     Static  25000     25000     0           0
LMP-TCP-cfg-peer          153     Static  10000     10000     0           0
LMP-TCP-default           155     Static  10000     10000     0           0
LMP-UDP                   159     Static  2500      2500      0           0
RSVP-UDP                  124     Static  7000      7000      0           0
RSVP-default              125     Static  500       500       0           0
RSVP-known                126     Static  7000      7000      0           0
IKE                       127     Static  1000      1000      0           0
IPSEC-known               129     Static  3000      3000      0           0
IPSEC-default             128     Static  1000      1000      0           0
MSDP-known                130     Static  1000      1000      0           0
MSDP-cfg-peer             131     Static  1000      1000      0           0
MSDP-default              132     Static  1000      1000      0           0
SNMP                      133     Static  2000      2000      0           0
SSH-known                 135     Static  1000      1000      0           0
SSH-default               136     Static  1000      1000      0           0
HTTP-known                137     Static  1000      1000      0           0
HTTP-default              138     Static  1000      1000      0           0
SHTTP-known               139     Static  1000      1000      0           0
IFIB_FT_SHTTP_DEFAULT     140     Static  1000      1000      0           0
TELNET-known              141     Static  1000      1000      0           0
TELNET-default            142     Static  1000      1000      0           0
CSS-known                 143     Static  1000      1000      0           0
CSS-default               144     Static  1000      1000      0           0
RSH-known                 145     Static  1000      1000      0           0
RSH-default               146     Static  1000      1000      0           0
UDP-known                 147     Static  25000     25000     0           0
UDP-listen                156     Static  4000      4000      0           0
UDP-cfg-peer              157     Static  4000      4000      0           0
UDP-default               101     Static  500       500       0           0
TCP-known                 148     Static  25000     25000     0           0
TCP-listen                149     Static  25000     25000     0           0
TCP-cfg-peer              150     Static  25000     25000     0           0
TCP-default               102     Static  500       500       0           0
Mcast-known               151     Static  25000     25000     0           0
Mcast-default             103     Static  500       500       0           0
Raw-listen                104     Static  500       500       0           0
Raw-default               105     Static  500       500       0           0
Ip-Sla                    163     Static  10000     10000     0           0
RIP                       110     Static  20000     20000     0           0
L2TPv3                    165     Static  25000     25000     0           0
PCEP                      166     Static  100       100       0           0
GRE                       167     Static  1000      1000      0           0
VRRP                      168     Static  1000      1000      0           0
```

```
HSRP                  169     Static  400       400       0          0
MPLS-oam              172     Static  100       100       0          0
L2TPv2                179     Static  25000     25000     0          0
DNS                   173     Static  500       500       0          0
RADIUS                174     Static  7000      7000      0          0
TACACS                175     Static  500       500       0          0
NTP-default           134     Static  500       500       0          0
NTP-known             180     Static  500       500       0          0

------------------------
statistics:
Packets accepted by deleted entries: 0
Packets dropped by deleted entries: 0
Run out of statistics counter errors: 0
```

This table describes the significant fields shown in the display.

Table 11: show lpts pifib hardware police Command Field Descriptions

Field	Description
FlowType	Type of flow that is binding between a tuple and a destination.
Policer	Policer Values in PPS
Rate (PPS)	Policer rate in packets per second (PPS).
Accept	Number of packets that are accepted by this policer.
Drop	Number of packets that are dropped by this policer.

show lpts pifib hardware usage

To display hardware table usage, use the **show lpts pifib hardware usage** command in XR EXEC mode.

show lpts pifib hardware usage [**type** {**ipv4** | **ipv6** | **isis**}] [**location** {*node-id* | **all**}]

Syntax Description

type	(Optional) Specifies the hardware entry type. Enter one of the following types: • **ipv4** —Specifies IPv4 entries. • **ipv6** —Specifies IPv6 entries. • **isis** —Specifies ISIS entries.
location *node-id*	(Optional) Displays pre-Internal Forwarding Information Base (IFIB) information for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.
all	(Optional) Specifies all locations.

Command Default

Without the optional parameters, the **show lpts pifib hardware usage** command displays a brief summary of hardware entry information.

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts pifib hardware usage** command with the **location** keyword:

```
RP/0/RP0/CPU0:router# show lpts pifib hardware usage location 0/RP0/cpu0

Type       Size            Used            Used(%)
---------- --------------- --------------- -------
ipv4       6000            21              0.35
ipv6       4000            15              0.38
isis       4000            1               0.03
```

This table describes the significant fields shown in the display.

Table 12: show lpts pifib hardware usage Command Field Descriptions

Field	Description
Type	Type of pre-IFIB entry.
Size	Maximum number of entries (72-bits) allowed for the type.
Used	Number of entries in use.
Used(%)	Percentage of total entries in use.

show lpts pifib statistics

To display Pre-Internal Forwarding Information Base (Pre-IFIB) statistics, use the **show lpts ifib statistics** command in XR EXEC mode.

show lpts pifib statistics [**location** *node-id*]

Syntax Description

location *node-id*	(Optional) Displays Pre-IFIB statistics for the designated node. The *node-id* argument is entered in the *rack/slot/module* notation.

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts pifib statistics** command:

```
RP/0/RP0/CPU0:router# show lpts pifib statistics

Packets into Pre-IFIB:80
Lookups:80
Packets delivered locally:80
Packets delivered remotely:0
```

This table describes the significant fields shown in the display.

Table 13: show lpts pifib statistics Command Field Descriptions

Field	Description
Packets into Pre-IFIB	Packets presented for pre-IFIB lookups.
Lookups	Packets looked up.
Packets delivered locally	Packets delivered to local applications or the local stack (*n* duplicated) packets duplicated for delivery to applications and the local stack.
Packets delivered remotely	Packets delivered to applications or for lookup on other RPs.

show lpts port-arbitrator statistics

To display local packet transport services (LPTS) port arbitrator statistics, use the **show lpts port-arbitrator statistics** command in XR EXEC mode.

show lpts port-arbitrator statistics

Syntax Description

This command has no keywords or arguments.

Command Default

No default behavior or values

Command Modes

XR EXEC mode

Command History

Release	Modification
Release 6.0	This command was introduced.

Usage Guidelines

No specific guidelines impact the use of this command.

Task ID

Task ID	Operations
lpts	read

Examples

The following sample output is from the **show lpts port-arbitrator statistics** command:

```
RP/0/RP0/CPU0:router# show lpts port-arbitrator statistics

LPTS Port Arbitrator statistics:
 PA FGID-DB library statistics:
  0 FGIDs in use, 512 cached, 0 pending retries
  0 free allocation slots, 0 internal errors, 0 retry attempts
  1 FGID-DB notify callback, 0 FGID-DB errors returned
  FGID-DB permit mask: 0x7 (alloc mark rack0)
  PA API calls:
            1 init              1 realloc_done
            8 alloc             8 free
           16 join             16 leave
            8 detach
  FGID-DB API calls:
            1 register          1 clear_old
            1 alloc             0 free
           16 join             16 leave
            0 mark              1 mark_done
```