show mpoa client statistics

To display all the statistics collected by an MPC, use the **show mpoa client statistics** command in EXEC mode.

show mpoa client [**name** *mpc-name*] **statistics**

Syntax Description

name *mpc-name*	(Optional) Specifies the name of the MPC.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

This command displays all the statistics collected by an MPC.

Examples

The following is sample output from the **show mpoa client statistics** command for the MPC named ip_mpc:

```
Router# show mpoa client name ip_mpc statistics

MPC Name: ip_mpc, Interface: ATM1/0, State: Up
MPC actual operating address: 47.00918100000000613E5A2F01.0010A6943825.00
Shortcut-Setup Count: 1, Shortcut-Setup Time: 1

                            Transmitted       Received
MPOA Resolution Requests              2              0
MPOA Resolution Replies               0              2
MPOA Cache Imposition Requests        0              0
MPOA Cache Imposition Replies         0              0
MPOA Cache Purge Requests             0              0
MPOA Cache Purge Replies              0              0
MPOA Trigger Request                  0              0
NHRP Purge Requests                   0              0


Invalid MPOA Data Packets Received: 0
```

show mpoa default-atm-addresses

To display the default ATM addresses for the MPC, use the **show mpoa default-atm-addresses** command in EXEC mode.

show mpoa default-atm-addresses

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Examples

The following is sample output from the **show mpoa default-atm-addresses** command when the switch prefix is NOT available:

```
Router# show mpoa default-atm-addresses

interface ATM1/0:
MPOA Server: ...006070174824.**
MPOA Client: ...006070174825.**
note: ** is the MPS/MPC instance number in hex

interface ATM2/0:
MPOA Server: ...006070174844.**
MPOA Client: ...006070174845.**
note: ** is the MPS/MPC instance number in hex
```

The following is sample output from the **show mpoa default-atm-addresses** command when the switch prefix is available:

```
Router# show mpoa default-atm-addresses

interface ATM1/0:
MPOA Server: 47.00918100000000613E5A2F01.006070174824.**
MPOA Client: 47.00918100000000613E5A2F01.006070174825.**
note: ** is the MPS/MPC instance number in hex

interface ATM2/0:
MPOA Server: 47.1000000000000000000000000.006070174844.**
MPOA Client: 47.1000000000000000000000000.006070174845.**
note: ** is the MPS/MPC instance number in hex
```

Table 82 describes the significant fields shown in the output.

Table 82 show mpoa default-atm-addresses Field Descriptions

Field	Description
interface ATM1/0	Specified interface.
MPOA Server	ATM address of the MPOA server on the interface.
MPOA Client	ATM address of the MPOA client on the interface.

show mpoa server

To display information about any specified MPS or all MPSs in the system, depending on whether the name of the required MPS is specified, use the **show mpoa server** command in EXEC mode.

show mpoa server [**name** *mps-name*]

Syntax Description

name *mps-name*	(Optional) Specifies the name of the MPOA server.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

The command displays information about server configuration parameters. It also displays information about LAN Emulated Clients (LECs) that are bound to the MPOA server neighbors (both MPC and MPS).

Examples

The following is sample output from the **show mpoa server** command, with a specified name:

```
Router# show mpoa server name ip_mps

MPS Name: ip_mps, MPS id: 0, Interface: ATM1/0, State: up
network-id: 1, Keepalive: 25 secs, Holding time: 1200 secs
Keepalive lifetime: 75 secs, Giveup time: 40 secs
MPS actual operating address: 47.00918100000000613E5A2F01.006070174824.00
Lane clients bound to MPS ip_mps: ATM1/0.1 ATM1/0.2
Discovered neighbours:
MPC 47.00918100000000613E5A2F01.00000C5A0C5D.00 vcds: 39(R,A)
MPC 47.00918100000000613E5A2F01.0010A6943825.00 vcds: 40(R,A)
```

Table 83 describes the significant fields shown in the output.

Table 83 show mpoa server Field Descriptions

Field	Description
MPS Name	Name of the MPOA server.
MPS id	ID of the MPOA server.
Interface	Interface to which the MPS is attached.
State	State of the MPOA server: up or down.
network-id	Network ID used for partitioning.
Keepalive	Keepalive time value.
Holding time	Holding time value.
Keepalive lifetime	Keepalive lifetime value.

Table 83 show mpoa server Field Descriptions (continued)

Field	Description
Giveup time	Minimum time to wait before giving up on a pending resolution request.
MPS actual operating address	Actual control address of this MPS.
Lane clients bound to MPS ip_mps	List of LANE clients served by the MPS.
Discovered neighbours	MPOA devices discovered by the clients bound to this MPS.

Related Commands

Command	Description
clear mpoa server name	Clears the ingress and egress cache entries of one or all MPCs.

show mpoa server cache

To display ingress and egress cache entries associated with an MPS, use the **show mpoa server cache** command in EXEC mode.

show mpoa server [**name** *mps-name*] **cache** [**ingress** | **egress**] [**ip-address** *ip-address*]

Syntax Description

name *mps-name*	(Optional) Specifies the name of an MPOA server.
ingress	(Optional) Displays ingress cache entries associated with a server.
egress	(Optional) Displays egress cache entries associated with a server.
ip-address *ip-address*	(Optional) Displays the entries that match the specified IP address.

Command Modes

EXEC

Command History

Release	Modification
12.0	This command was introduced.

Usage Guidelines

This command displays ingress and egress cache entries associated with an MPS.

Examples

The following is sample output from the **show mpoa server cache** command, with a name specified:

```
Router# show mpoa server name ip_mps cache

MPS Name: ip_mps, MPS id: 0, Interface: ATM1/0, State: up
network-id: 1, Keepalive: 25 secs, Holding time: 1200 secs
Keepalive lifetime: 75 secs, Giveup time: 40 secs
MPS actual operating address: 47.00918100000000613E5A2F01.006070174824.00
Number of Ingress cache entries: 1
Ingress Cache information:
  IP address      Ingress MPC ATM Address                      Remaining Time
  20.20.20.1      47.00918100000000613E5A2F01.0010A6943825.00  19:07
Number of Egress cache entries: 1
Egress Cache information:
  Dst IP address  Ingress MPC ATM Address                      Remaining Time
  20.20.20.1      47.00918100000000613E5A2F01.0010A6943825.00  19:06
  src IP 20.20.20.2, cache Id 1
```

Table 84 describes the significant fields shown in the output.

Table 84 show mpoa server cache Field Descriptions

Field	Description
MPS Name	Name of the MPOA server.
MPS id	ID of the MPOA server.
Interface	Interface to which the MPS is attached.

Table 84 show mpoa server cache Field Descriptions (continued)

Field	Description
State	State of the MPOA server: up or down.
network-id	Network ID used for partitioning.
Keepalive	Keepalive time value.
Holding time	Holding time value.
Keepalive lifetime	Keepalive lifetime value.
Giveup time	Minimum time to wait before giving up on a pending resolution request.
MPS actual operating address	Actual control address of this MPS.
Number of Ingress cache entries	Number of entries in the ingress cache.
Ingress Cache information	Information of ingress cache.
IP address	IP address of the MPC.
Ingress MPC ATM Address	ATM address of the ingress MPC.
Remaining Time	Time for which the cache entry is valid.
Number of Egress cache entries	Number of entries in the egress cache.
Egress Cache information	Information of egress cache.
Dst IP address	IP address of the destination.
src IP	IP address of the source MPS that originated the NHRP resolution request.
cache Id	Cache identifier.

show mpoa server statistics

To display all the statistics collected by an MPS, use the **show mpoa server statistics** command in EXEC mode.

show mpoa server [**name** *mps-name*] **statistics**

Syntax Description

name *mps-name*	(Optional) Specifies the name of an MPOA server.

Command Modes

EXEC

Command History

Release	Modification
12.0	This command was introduced.

Usage Guidelines

This command will display all the statistics collected by an MPS. The statistics pertain to the ingress or egress cache entry creation, deletion, and failures.

Examples

The following is a sample output from the **show mpoa server statistics** command, with a name specified:

```
Router# show mpoa server name ip_mps statistics

MPS Name: ip_mps, MPS id: 0, Interface: ATM1/0, State: up
network-id: 1, Keepalive: 25 secs, Holding time: 1200 secs
Keepalive lifetime: 75 secs, Giveup time: 40 secs
MPS actual operating address: 47.00918100000000613E5A2F01.006070174824.00
Opcode                            Transmitted    Received
------------------------------------------------------------
MPOA Resolution Requests                             2
MPOA Resolution Replies                      2
MPOA Cache Imposition Requests               1
MPOA Cache Imposition Replies                        1
MPOA Egress Cache Purge Requests                     0
MPOA Egress Cache Purge Replies              0
NHRP Resolution Requests                     0       0
NHRP Resolution Replies                      0       0
NHRP Purge Requests                          0       0
```

Table 85 describes the significant fields shown in the output.

Table 85 show mpoa server statistics Field Descriptions

Field	Description
MPS Name	Name of the MPOA server.
MPS id	ID of the MPOA server.
Interface	Specified interface.

Table 85 show mpoa server statistics Field Descriptions (continued)

Field	Description
State	State of the MPOA server: up or down.
network-id	Network ID used for partitioning.
Keepalive	Keepalive time value.
Holding time	Holding time value.
Keepalive lifetime	Keepalive lifetime value.
Giveup time	Minimum time to wait before giving up on a pending resolution request.
MPS actual operating address	Actual control address of this MPS.

show pxf accounting

To show PXF switching statistics for individual interfaces, use the **show pxf accounting** EXEC command.

show pxf accounting *interface* [*slot/port*]

Syntax Description

interface	Specifies the type of interface to display.
slot	(Optional) Backplane slot number. On the Cisco 7200 VXR series routers, the value can be from 0 to 6.
port	(Optional) Port number of the interface. On the Cisco 7200 VXR series routers, the value can be from 0 to 5.

Defaults

No default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)E	This command was introduced.
12.1(5)T	This command was integrated into Cisco IOS Release 12.1(5)T.

Usage Guidelines

You can display information about the following interface types using the **show pxf accounting** command, as shown in Table 86:

Table 86 show pxf accounting Interface Types

Keyword	Interface Type
atm	ATM interface.
ethernet	Ethernet interface.
fastethernet	FastEthernet interface.
hssi	High Speed Serial interface.
null	Null interface.
pos	Packet-over-SONET interface.
serial	Synchronous serial interface.
summary	PXF summary statistics.

The following is sample output from the **show pxf accounting ?** command:

```
Router# show pxf accounting ?

  ATM           ATM interface
```

```
  Ethernet      IEEE 802.3
  FastEthernet  FastEthernet IEEE 802.3
  Hssi          High Speed Seriel Interface
  Null          Null interface
  POS           Packet over Sonet
  Serial        Serial
  summary       PXF summary statistics
```

The following is sample output from the **show pxf accounting** *ethernet* command using an Ethernet interface in slot 4 on a Cisco 7200 VXR series router:

```
Router# show pxf accounting ethernet 4/0

Interface    Pkts In   Chars In   Pkts Out  Chars Out     Punted     Dropped
Ethernet4/0    0          0        122      11490          4          0
```

The following is sample output from the **show pxf accounting** *null* command using a null interface in slot 0 on a Cisco 7200 VXR series router:

```
Router# show pxf accounting null 0/0

Interface    Pkts In   Chars In   Pkts Out  Chars Out     Punted    Dropped
nu0/0          0          0          0          0       4932          0
```

The following is sample output from the **show pxf accounting** *pos* command using a Packet-over-SONET interface in slot 4 on a Cisco 7200 VXR series router:

```
Router# show pxf accounting pos

Interface    Pkts In   Chars In   Pkts Out  Chars Out     Punted    Dropped
POS4/0          19       1064         0          0         44         0
```

The following is sample output from the **show pxf accounting** *serial* command using a serial interface in slot 5 on a Cisco 7200 VXR series router:

```
Router# show pxf accounting serial 5/0

Interface    Pkts In   Chars In   Pkts Out  Chars Out     Punted    Dropped
Serial5/0          0          0          0          0          0       0
```

The following is sample output from the **show pxf accounting** *summary* command:

```
Router# show pxf accounting summary

            Pkts        Dropped   RP Processed        Ignored
           Total              0          48360              0

PXF Statistic:
Packets RP -> PXF:
    switch ip:                0
    switch raw:           30048360
    qos fastsend:             0
    qos enqueue:           1938
Total:                    30050298

Packets PXF -> RP:
    qos pkts:              1938
    fast pkts:            30000000
    drops:total               0
    punts:total           48360
      "    not IP            :      40572
      "    CEF no adjacency  :       7788
Total:                    30050298

Packets ignored:              0     |    ring space:
```

```
    shadow ring full:          0     |        shadow ring:          16384
    in ring full:              0     |        inring:                 968
    PXF inactive:              0

tx credits:             16230330     |    delayed credits:              0
holdq enqueues:                0     |    requeue drops:                0
interrupts:                40538     |    interrupt misses:          1947
interrupt packets:         53326
pending read bytes:            0

     Interface    Pkts In   Chars In   Pkts Out  Chars Out     Punted    Dropped
         Fa0/0          0          0   30000000 1740000000        970          0
         Et1/0          0          0          0          0      21309          0
         Et1/1          0          0          0          0          0          0
         Et1/2          0          0          0          0          0          0
         Et1/3          0          0          0          0          0          0
         Se2/0          0          0          0          0        963          0
         Se2/1          0          0          0          0          0          0
         Se2/2          0          0          0          0          0          0
         Se2/3          0          0          0          0          0          0
         Fa3/0          0          0          0          0        963          0
         PO4/0   30000000 1440000000          0          0        963          0
         AT5/0          0          0          0          0      23192          0
           Vi1          0          0          0          0          0          0
           Vt1          0          0          0          0          0          0
           Vi2          0          0          0          0          0          0
```

Related Commands

Command	Description
show pxf crash	Displays PXF crash information.
show pxf feature	Displays the PXF routing feature tables for enabled PXF features.
show pxf interface	Displays a summary of the interfaces in the router and the PXF features or capabilities enabled on these interfaces.

show pxf crash

To show PXF crash information, use the **show pxf crash** EXEC command.

show pxf crash

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)E	This command was introduced.
12.1(5)T	This command was integrated into Cisco IOS Release 12.1(5)T.

Examples

The following is sample output from the **show pxf crash** command:

```
Router# show pxf crash

      EX_Type = 0x80000000
      EX_ID(b0~3,16~17) = 0x00400
      CPU_EX_ID(b0~15) = 0x0004
      IHB_EX_Type(b0~5) = 0x00
      XRAM0(b0~13) = 0x00000
      XRAM1(b0~13) = 0x00000
      XRAM2(b0~13) = 0x00000
      XRAM3(b0~13) = 0x00000
      Pipeline:7FDEFD pdone[3210]:1F  17  17  1D

    ICM0(b4~13) = 0x00000  ICM1(b4~13) = 0x00000
    ICM2(b4~13) = 0x00010  ICM3(b4~13) = 0x00000
    LOCK0(b0~4) = 0x00000  LOCK1(b0~4) = 0x00000
    LOCK2(b0~4) = 0x00000  LOCK3(b0~4) = 0x00000
    CPU0/2: SW EX Type=0x00000000 LBUS EX Type=0x00000081 HW EX
    Type=0x00000400

    CPU:row=0x0 column=0x2 cpu=0x2
     PC:0000098E  LR:0000087F  CR:002C4C00
     r0:00000000  r1:8001CEA0  r2:80784390  r3:00000000
     r4:00005400  r5:80D3BA04  r6:80A7CA00  r7:00000004
     r8:00000000  r9:00000008 r10:80092324 r11:800A6200
    r12:00000033 r13:00000008 r14:00000000 r15:00000000
      misr1a:00000000 misr1bhi:00000000 misr1blo:00000000  misr2hi:00000000
     misr2lo:00000000  reserve:00000000  reserve:00000000  reserve:00000000
      sisr1a:01000040   sisr1b:00000000     irhi:4402200F     irlo:00000000
    cAll:C20DE822 DCD1:00020400 DCD2:00000002 CNTL:00000000
    TBuf intr 0:1111111F
    TBuf intr 1:020FFFF0
    TBuf intr 2:00003C80
```

```
TBuf intr 3:80000000
TBuf intr 4:00000400
Xram return:00000000
Icram return hi:80024E00
Icram return lo:800A4E00
TBuf addr 0:005E6800 TBuf sblock1 0:8078A374 TBuf sblock0 0:804FD600
TBuf addr 1:005E6800 TBuf sblock1 1:8078A374 TBuf sblock0 1:804FD600
TBuf addr 2:005E6800 TBuf sblock1 2:8078A374 TBuf sblock0 2:804FD600
TBuf addr 3:005E6800 TBuf sblock1 3:8078A374 TBuf sblock0 3:804FD600
TBuf addr 4:005E6800 TBuf sblock1 4:8078A374 TBuf sblock0 4:804FD600
TBuf addr 5:005E6800 TBuf sblock1 5:8078A374 TBuf sblock0 5:804FD600
TBuf addr 6:005E6800 TBuf sblock1 6:8078A374 TBuf sblock0 6:804FD600
TBuf addr 7:005E6800 TBuf sblock1 7:8078A374 TBuf sblock0 7:804FD600
```

show pxf feature cef

To display PXF routing feature tables for Cisco Express Forwarding (CEF), use the **show pxf feature cef** EXEC command.

show pxf feature cef *entry*

Syntax Description

entry	Display the PXF entry.

Defaults

No default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)E	This command was introduced.
12.1(5)T	This command was integrated into Cisco IOS Release 12.1(5)T.

Examples

The following is sample output from the **show pxf feature cef** command:

```
Router# show pxf feature cef entry

    Shadow 16-4-4-8 PXF Mtrie:
      41 leaves, 1968 leaf bytes, 15 nodes, 267000 node bytes
      5 invalidations
      46 prefix updates
      refcounts: 66746 leaf, 66720 node

    Prefix/Length        Refcount   Parent
    0.0.0.0/0           62282
    0.0.0.0/32          3           0.0.0.0/0
    171.69.12.128/27    34          0.0.0.0/0
    171.69.12.128/32    3           171.69.12.128/27
    171.69.12.129/32    3           171.69.12.128/27
    171.69.12.130/32    3           171.69.12.128/27
    171.69.12.131/32    3           171.69.12.128/27
    171.69.12.147/32    3           171.69.12.128/27
```

Related Commands

Command	Description
show pxf feature nat	Displays PXF routing feature tables for NAT.

show pxf feature nat

To display PXF routing tables for Network Address Translation (NAT), use the **show pxf feature nat** EXEC command.

show pxf feature nat [*entry* | *stat* | *tcp*]

Syntax Description

entry	Displays NAT information.
stat	Displays NAT processing information.
tcp	Displays NAT TCP logging information.

Defaults

No default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)E	This command was introduced.
12.1(5)T	This command was integrated into Cisco IOS Release 12.1(5)T.

Examples

The following is sample output from the **show pxf feature** command:

```
Router# show pxf feature nat 1

--- 171.69.12.175      192.168.0.129      ---                ---
--- 171.69.12.163      192.168.0.7        ---                ---
--- 171.69.12.161      192.168.0.13       ---                ---
--- 171.69.12.162      192.168.0.3        ---                ---
--- 171.69.12.165      192.168.0.8        ---                ---
--- 171.69.12.168      192.168.0.14       ---                ---
--- 171.69.12.170      192.168.0.12       ---                ---
--- 171.69.12.166      192.168.0.15       ---                ---
--- 171.69.12.164      192.168.0.16       ---                ---
```

Related Commands

Command	Description
show pxf feature cef	Displays PXF routing feature tables for CEF.

show pxf interface

To show a summary of the interfaces on the router and the PXF features or capabilities enabled on these interfaces, use the **show pxf interface** command.

show pxf interface

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
12.1(3a)E	This command was introduced.
12.1(5)T	This command was integrated into Cisco IOS Release 12.1(5)T.

Examples

The following is sample output from the **show pxf interface** command:

```
Router# show pxf interface

 Intf  I/f #  Attributes
Fa0/0    3    Raw, Encap, QoS(Cr 0, Thrsh 2, Max 101)
Et1/0    4    Raw, Encap
Et1/1    5    Raw, Encap, QoS(Cr 0, Thrsh 2, Max 13)
Et1/2    6    Raw, Encap
Et1/3    7    Raw, Encap
Se2/0    8    Raw, Encap, QoS(Cr 0, Thrsh 2, Max 5)
Se2/1    9    Raw, Encap, QoS(Cr 0, Thrsh 2, Max 5)
Se2/2    10   Raw, Encap, QoS(Cr 0, Thrsh 2, Max 5)
Se2/3    11   Raw, Encap, QoS(Cr 0, Thrsh 2, Max 5)
Fa3/0    12   Raw, Encap
PO4/0    13   Raw, Encap
AT5/0    14   Raw, Encap
```

Related Commands

Command	Description
show pxf feature	Displays the PXF routing feature tables for enabled PXF features.

show route-map ipc

To display counts of the one-way route map IPC messages sent from the RP to the VIP when NetFlow policy routing is configured, use the **show route-map ipc** command in EXEC mode.

show route-map ipc

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
12.0(3)T	This command was introduced.

Usage Guidelines

If you execute this command on the RP, the messages are shown as "Sent." If you execute this command on the VIP console, the IPC messages are shown as "Received."

Examples

The following is sample output of the **show route-map ipc** command when it is executed on the RP:

```
Router# show route-map ipc

Route-map RP IPC Config Updates Sent
Name: 4
Match access-list: 2
Match length: 0
Set precedence: 1
Set tos: 0
Set nexthop: 4
Set interface: 0
Set default nexthop: 0
Set default interface: 1
Clean all: 2
```

The following is sample output of the **show route-map ipc** command when it is executed on the VIP:

```
Router# show route-map ipc

Route-map LC IPC Config Updates Received
Name: 4
Match access-list: 2
Match length: 0
Set precedence: 1
Set tos: 0
Set nexthop: 4
Set interface: 0
Set default nexthop: 0
Set default interface: 1
Clean all: 2
```

Table 87 describes the significant fields shown in the output.

Table 87 show route-map ipc Field Descriptions

Field	Description
Route-map RP IPC Config Updates Sent	Indicates that IPC messages are being sent from the RP to the VIP.
Name:	Number of IPC messages sent about the name of the route map.
Match access-list:	Number of IPC messages sent about the access list.
Match length	Number of IPC messages sent about the length to match.
Set precedence:	Number of IPC messages sent about the precedence.
Set tos:	Number of IPC messages sent about the type of service (ToS).
Set nexthop:	Number of IPC messages sent about the next hop.
Set interface:	Number of IPC messages sent about the interface.
Set default nexthop:	Number of IPC messages sent about the default next hop.
Set default interface:	Number of IPC messages sent about the default interface.
Clean all:	Number of IPC messages sent about clearing the policy routing configuration from the VIP. When dCEF is disabled and reenabled, the configuration related to policy routing must be removed (cleaned) from the VIP before the new information is downloaded from the RP to the VIP.

show tag-switching atm-tdp bindings

To display the requested entries from the ATM LDP label bindings database, use the s**how tag-switching atm-tdp bindings** EXEC command.

show tag-switching atm-tdp bindings [*A.B.C.D* {*mask* | *length*}][**local-tag | remote-tag** *vpi vci*] [**neighbor atm** *slot/subslot/port*][**remote-tag** *vpi vci*]

Syntax Description

A.B.C.D	(Optional) Destination of the prefix.
mask	(Optional) Destination netmask prefix.
length	(Optional) Netmask length, in the range from 1 to 32.
local-tag *vpi vci*	(Optional) Matches locally assigned label values.
neighbor atm *slot/subslot/port*	(Optional) Matches labels assigned by a neighbor on the specified ATM interface.
remote-tag *vpi vci*	(Optional) Matches remotely assigned label values.

Defaults

Displays all database entries.

Command Modes

EXEC

Command History

Release	Modification
12.0(5)T	This command was introduced.

Usage Guidelines

The display output can show the entire database or a subset of entries based on the prefix, the VC label value, or an assigning interface.

Examples

The following is sample output from this command:

```
Switch#  show tag-switching atm-tdp bindings

Destination: 13.13.13.6/32
Headend Router ATM1/0.1 (2 hops) 1/33 Active, VCD=8, CoS=available
Headend Router ATM1/0.1 (2 hops) 1/34 Active, VCD=9, CoS=standard
Headend Router ATM1/0.1 (2 hops) 1/35 Active, VCD=10, CoS=premium
Headend Router ATM1/0.1 (2 hops) 1/36 Active, VCD=11, CoS=control

Destination: 102.0.0.0/8
Headend Router ATM1/0.1 (1 hop) 1/37 Active, VCD=4, CoS=available
Headend Router ATM1/0.1 (1 hop) 1/34 Active, VCD=5, CoS=standard
Headend Router ATM1/0.1 (1 hop) 1/35 Active, VCD=6, CoS=premium
Headend Router ATM1/0.1 (1 hop) 1/36 Active, VCD=7, CoS=control

Destination: 13.0.0.18/32
Tailend Router ATM1/0.1 1/33 Active, VCD=8
```

Table 88 describes the significant fields in the sample command output shown above.

Table 88 show tag-switching atm-tdp bindings Field Descriptions

Field	Description
Destination:	Destination IP address or length of the netmask
Headend Router	VC type: • Headend—VC that originates at this router • Tailend—VC that terminates at this router
ATM1/0.1	ATM interface .
1/33	VPI/VCI.
Active	LVC state. Can be either of the following: • Active—Set up and working • Bindwait—Waiting for response

Related Commands

Command	Description
show tag-switching atm-tdp bindwait	Displays the number of bindings waiting for label assignments for a remote MPLS ATM switch.

show tag-switching atm-tdp bindwait

To display the number of bindings waiting for label assignments from a remote MPLS ATM switch, use the **show tag-switching atm-tdp bindwait** EXEC command.

show tag-switching atm-tdp bindwait

Syntax Description

This command has no keywords or arguments.

Defaults

No default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
12.0(5)T	This command was introduced.

Related Commands

Command	Description
show tag-switching atm-tdp bindings	Displays requested entries from the ATM LDP label binding database.

show tag-switching atm-tdp capability

To display the ATM LDP label capabilities, use the **show tag-switching atm-tdp capability** command in privileged EXEC mode.

show tag-switching atm-tdp capability

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.1 CT	This command was introduced.

Examples

The following example shows the display from the **show tag-switching atm-tdp capability** command:

```
Router> show tag-switching atm-tdp capability

VPI           VCI           Alloc   Odd/Even  VC Merge
ATM0/1/0       Range         Range         Scheme  Scheme    IN   OUT
  Negotiated   [100 - 101]   [33 - 1023]   UNIDIR            -    -
  Local        [100 - 101]   [33 - 16383]  UNIDIR            EN   EN
  Peer         [100 - 101]   [33 - 1023]   UNIDIR            -    -

               VPI           VCI           Alloc   Odd/Even  VC Merge
ATM0/1/1       Range         Range         Scheme  Scheme    IN   OUT
  Negotiated   [201 - 202]   [33 - 1023]   BIDIR             -    -
  Local        [201 - 202]   [33 - 16383]  UNIDIR  ODD       NO   NO
  Peer         [201 - 202]   [33 - 1023]   BIDIR   EVEN      -    -
```

Table 89 describes the significant fields shown in the output.

Table 89 show tag-switching atm-tdp capability Field Descriptions

Field	Description
VPI Range	Minimum and maximum number of VPIs supported on this interface.
VCI Range	Minimum and maximum number of VCIs supported on this interface.

Table 89 show tag-switching atm-tdp capability Field Descriptions (continued)

Field	Description
Alloc Scheme	UNIDIR—Unidirectional capability indicates that the peer device can, within a single VPI, support binding of the same VCI to different prefixes on different directions of the link. BIDIR—Bidirectional capability indicates that within a single VPI, a single VCI can appear in one binding only. In this case, one peer device allocates bindings in the even VCI space, and the other in the odd VCI space. The system with the lower LDP identifier will assign even-numbered VCIs. The negotiated allocation scheme is UNIDIR if and only if both peer devices have UNIDIR capability. Otherwise it is BIDIR.
Odd/Even Scheme	Indicates whether the local device or the peer device is assigning an odd- or even-numbered VCI when the negotiated scheme is BIDIR. It does not display any information when the negotiated scheme is UNIDIR.
VC Merge	Indicates the type of VC merge support on this interface. IN—Indicates input interface merge capability. IN accepts the following values: • EN—The hardware interface supports VC merge and VC merge is enabled on the device. • DIS—The hardware interface supports VC merge and VC merge is disabled on the device. • NO—The hardware interface does not support VC merge. OUT—Indicates output interface merge capability. OUT accepts the same values as the input merge side. The VC merge capability is meaningful only on ATM switches. It is not negotiated.
Negotiated	Set of options that both LDP peer devices have agreed to share on this interface. For example, the VPI or VCI allocation on either peer device remains within the negotiated ranges.
Local	Options supported locally on this interface.
Peer	Options supported by the remote LDP peer device on this interface.

Related Commands

Command	Description
tag-switching atm control-vc	Configures the VPI and VCI to be used for the initial link to the label switching peer device.
tag-switching atm vc-merge	Controls whether vc-merge (multipoint-to-point) is supported for unicast label VCs.
tag-switching atm vpi	Configures the range of values to use in the VPI field for label VCs.

show tag-switching atm-tdp summary

To display summary information on ATM label bindings, use the **show tag-switching atm-tdp summary** command in privileged EXEC mode.

show tag-switching atm-tdp summary

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.1 CT	This command was introduced.

Examples

The following is sample output from the **show tag-switching atm-tdp summary** command:

```
Router> show tag-switching atm-tdp summary

Total number of destinations: 788

TC-ATM bindings summary
interface   total     active    bindwait  local     remote    other
ATM0/0/0    594       592       1         296       298       1
ATM0/0/1    590       589       0         294       296       1
ATM0/0/2    1179      1178      0         591       588       1
ATM0/0/3    1177      1176      0         592       585       1
ATM0/1/0    1182      1178      4         590       588       0
Waiting for bind on ATM0/0/0 10.21.0.0/24
```

Table 90 describes the significant fields shown in the output.

Table 90 show tag-switching atm-tdp summary Field Descriptions

Field	Description
Total number of destinations	The number of known destination address prefixes.
interface	The name of an interface that has associated ATM label bindings.
total	The total number of ATM labels on this interface.
active	The number of ATM labels in an “active” state that are ready to be used for data transfer.
bindwait	The number of bindings that are waiting for a label assignment from the neighbor LSR.
local	The number of ATM labels assigned by this LSR on this interface.
remote	The number of ATM labels assigned by the neighbor LSR on this interface.

Table 90 show tag-switching atm-tdp summary Field Descriptions (continued)

Field	Description
other	The number of ATM labels in a state other than “active” or “bindwait.”
Waiting for bind on ATM0/0/0	A list of the destination address prefixes (on a particular interface) that are waiting for ATM label assignment from the neighbor LSR.

Related Commands

Command	Description
show isis database verbose	Displays the requested entries from the ATM LDP label binding database.

show tag-switching cos-map

To display the QoS map used to assign a quantity of label VCs (LVCs) and an associated QoS of those LVCs, use the **show tag-switching cos-map** EXEC command in EXEC mode.

show tag-switching cos-map

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
12.0(5)T	This command was introduced.

Examples

The following example shows output from this command:

```
Router# show tag-switching cos-map

cos-map 2    class  tag-VC
             3      control
             2      control
             1      available
             0      available
```

Table 91 describes the significant fields shown in the output.

Table 91 show tag-switching cos-map Field Descriptions

Field	Description
cos-map	Configures a class map, which specifies how classes map to MPLS VCs when combined with a prefix map.
class	The IP precedence.
tag-VC	An ATM VC that is set up through ATM LSR label distribution procedures.

Related Commands

Command	Description
class (MPLS)	Configures an MPLS CoS map that specifies how classes map to LVCs when combined with a prefix map.
tag-switching cos-map	Creates a class map that specifies how classes map to LVCs when combined with a prefix map.

show tag-switching forwarding-table

The **show tag-switching forwarding-table** command is replaced by the **show mpls forwarding-table** command. See the **show mpls forwarding-table** command for more information.

show tag-switching forwarding vrf

The **show tag-switching forwarding vrf** command is replaced by the **show mpls forwarding-table** command. See the **show mpls forwarding-table** command for more information.

show tag-switching interfaces

The **show tag-switching interfaces** command is replaced by the **show mpls interfaces** command. See the **show mpls interfaces** command for more information.

show tag-switching prefix-map

To show the prefix map used to assign a QoS map to network prefixes matching a standard IP access list, use the **show tag-switching prefix-map** command in EXEC mode.

show tag-switching prefix-map [*prefix-map*]

Syntax Description

prefix-map	(Optional) Specifies the prefix-map number.

Defaults

No default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
12.0(5)T	This command was introduced.

Examples

The following is sample output from the **show tag-switching prefix-map** command:

```
Router# show tag-switching prefix-map

prefix-map 2 access-list 2 cos-map 2
```

Table 92 describes the significant fields shown in the output.

Table 92 show tag-switching prefix-map Field Description

Field	Description
prefix-map	Unique number of a prefix map.
access-list	Unique number of an access list.
cos- map	Unique number of a QoS map.

Related Commands

Command	Description
tag-switching prefix-map	Displays the prefix map used to assign a QoS map to network prefixes matching a standard IP access list.

show tag-switching tdp bindings

To display the contents of the label information base (LIB), use the **show tag-switching tdp bindings** command in privileged EXEC mode.

show tag-switching tdp bindings [*network*{*mask* | *length*} [**longer-prefixes**]] [**local-tag** *tag* [**-** *tag*]] [**remote-tag** *tag* [**-** *tag*]] [**neighbor** *address*] [**local**]

Syntax Description

network	(Optional) Destination network number.
mask	(Optional) Network mask written as A.B.C.D.
length	(Optional) Mask length (1 to 32 characters).
longer-prefixes	(Optional) Selects any prefix that matches the *mask* with *length* value to 32.
local-tag *tag* **-** *tag*	(Optional) Displays entries matching local label values by this router. Use the **-** *tag* argument to indicate the label range.
remote-tag *tag* **-** *tag*	(Optional) Displays entries matching label values assigned by a neighbor router. Use the **-** *tag* argument to indicate the label range.
neighbor *address*	(Optional) Displays label bindings assigned by selected neighbor.
local	(Optional) Displays local label bindings.

Command Modes

Privileged EXEC

Command History

Release	Modification
11.1 CT	This command was introduced.

Usage Guidelines

A request can specify that the entire database be shown, or it or can be limited to a subset of entries. A request to show a subset of entries can be based on the prefix, on input or output label values or ranges, or on the neighbor advertising the label.

Examples

The following is sample output from the **show tag-switching tdp bindings** command. This form of the command causes the contents of the entire LIB (TIB) to be displayed.

```
Router# show tag-switching tdp bindings

Matching entries:
  tib entry: 10.92.0.0/16, rev 28
        local binding:  tag: imp-null(1)
        remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
  tib entry: 10.102.0.0/16, rev 29
        local binding:  tag: 26
        remote binding: tsr: 172.27.32.29:0, tag: 26
  tib entry: 10.105.0.0/16, rev 30
        local binding:  tag: imp-null(1)
        remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
  tib entry: 10.205.0.0/16, rev 31
        local binding:  tag: imp-null(1)
        remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
```

```
tib entry: 10.211.0.7/32, rev 32
      local binding:  tag: 27
      remote binding: tsr: 172.27.32.29:0, tag: 28
tib entry: 10.220.0.7/32, rev 33
      local binding:  tag: 28
      remote binding: tsr: 172.27.32.29:0, tag: 29
tib entry: 99.101.0.0/16, rev 35
      local binding:  tag: imp-null(1)
      remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
tib entry: 100.101.0.0/16, rev 36
      local binding:  tag: 29
      remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
tib entry: 171.69.204.0/24, rev 37
      local binding:  tag: imp-null(1)
      remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
tib entry: 172.27.32.0/22, rev 38
      local binding:  tag: imp-null(1)
      remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
tib entry: 210.10.0.0/16, rev 39
      local binding:  tag: imp-null(1)
tib entry: 210.10.0.8/32, rev 40
      remote binding: tsr: 172.27.32.29:0, tag: 27
```

The following is sample output from the **show tag-switching tdp bindings 10.0.0.0 8 longer-prefixes neighbor 172.27.32.29** variant of the command; it displays labels learned from LSR (TSR) 172.27.32.29 for network 10.0.0.0 and any of its subnets. The use of the **neighbor** option suppresses the output of local labels and labels learned from other neighbors.

```
Router# show tag-switching tdp bindings 10.0.0.0 8 longer-prefixes neighbor 172.27.32.29

tib entry: 10.92.0.0/16, rev 28
      remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
tib entry: 10.102.0.0/16, rev 29
      remote binding: tsr: 172.27.32.29:0, tag: 26
tib entry: 10.105.0.0/16, rev 30
      remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
tib entry: 10.205.0.0/16, rev 31
      remote binding: tsr: 172.27.32.29:0, tag: imp-null(1)
tib entry: 10.211.0.7/32, rev 32
      remote binding: tsr: 172.27.32.29:0, tag: 28
tib entry: 10.220.0.7/32, rev 33
      remote binding: tsr: 172.27.32.29:0, tag: 29
```

Table 93 describes the significant fields in the output.

Table 93 show tag-switching tdp bindings Field Descriptions

Field	Description
tib entry	Indicates that the following lines are the LIB (TIB) entry for a particular destination (network/mask). The revision number is used internally to manage label distribution for this destination.
remote binding	A list of outgoing labels for this destination learned from other Label Switching Routers (LSRs). Each item on this list identifies the LSR from which the outgoing label was learned and the label itself. The LSR is identified by its LDP identifier.
imp-null	The implicit null label. This label value instructs the upstream router to pop the label entry off the label stack before forwarding the packet.

Related Commands

Command	Description
show mpls forwarding-table	Displays the contents of the LFIB.
show tag-switching tdp neighbors	Displays the status of LDP sessions.