show ip nbar port-map

To display the current protocol-to-port mappings in use by Network-Based Application Recognition (NBAR), use the **show ip nbar port-map** privileged EXEC command.

show ip nbar port-map [*protocol-name*]

Syntax Description

protocol-name	(Optional) Limits the command display to the specified protocol.

Defaults

This command displays port assignments for NBAR protocols.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.0(5)XE2	This command was introduced.
12.1(1)E	This command was integrated into Cisco IOS Release 12.1(1)E.
12.1(5)T	This command was integrated into Cisco IOS Release 12.1(5)T.

Usage Guidelines

This command is used to display the current protocol-to-port mappings in use by NBAR. When the **ip nbar port-map** command has been used, the **show ip nbar port-map** command displays the ports assigned by the user to the protocol. If no **ip nbar port-map** command has been used, the **show ip nbar port-map** command displays the default ports. The *protocol-name* argument can also be used to limit the display to a specific protocol.

Examples

The following example displays output from the **show ip nbar port-map** command:

```
Router# show ip nbar-port-map

port-map bgp      udp 179
port-map bgp      tcp 179
port-map cuseeme  udp 7648 7649
port-map cuseeme  tcp 7648 7649
port-map dhcp     udp 67 68
port-map dhcp     tcp 67 68
port-map dns      udp 53
port-map dns      tcp 53
```

Related Commands

Command	Description
ip nbar-port-map	Configures NBAR to search for a protocol or protocol name using a port number other than the well-known port.

show ip nbar protocol-discovery

To display the statistics gathered by the Network-Based Application Recognition (NBAR) Protocol Discovery feature, use the **show ip nbar protocol-discovery** privileged EXEC command.

show ip nbar protocol-discovery [**interface** *interface-spec*] [**stats** {**byte-count** | **bit-rate** | **packet-count**}][{**protocol** *protocol-name* | **top-n** *number*}]

Syntax Description

interface	(Optional) Specifies that Protocol Discovery statistics for the interface are to be displayed.
interface-spec	(Optional) Specifies an interface to display.
stats	(Optional) Specifies that the byte count, byte rate, or packet count is to be displayed.
byte-count	(Optional) Specifies that the byte count is to be displayed.
bit-rate	(Optional) Specifies that the bit rate is to be displayed.
packet-count	(Optional) Specifies that the packet-count is to be displayed.
protocol	(Optional) Specifies that statistics for a specific protocol are to be displayed.
protocol-name	(Optional) User-specified protocol name for which the statistics are to be displayed.
top-n	(Optional) Specifies that a top-n is to be displayed. A top-n is the number of most active NBAR-supported protocols, where n is the number of protocols to be displayed. For instance, if top-n 3 is entered, the three most active NBAR-supported protocols will be displayed.
number	(Optional) Specifies the number of most active NBAR-supported protocols to be displayed.

Defaults

Statistics for all interfaces on which the Protocol Discovery feature is enabled are displayed.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.0(5)XE2	This command was introduced.
12.1(1)E	This command was integrated into Cisco IOS Release 12.1(1)E.
12.1(5)T	This command was integrated into Cisco IOS Release 12.1(5)T.

Usage Guidelines

Use the **show ip nbar protocol-discovery** command to display statistics gathered by the NBAR Protocol Discovery feature. This command, by default, displays statistics for all interfaces on which protocol discovery is currently enabled. The default output of this command includes, in the following order, input bit rate (in bits per second), input byte count, input packet count, and protocol name.

Protocol discovery can be used to monitor both input and output traffic and may be applied with or without a service policy enabled. NBAR protocol discovery gathers statistics for packets switched to output interfaces. These statistics are not necessarily for packets that exited the router on the output interfaces, because packets may have been dropped after switching for various reasons, including policing at the output interface, access lists, or queue drops.

Examples

The following example displays partial output of the **show ip nbar protocol-discovery** command for an Ethernet interface:

```
Router# show ip nbar protocol-discovery interface FastEthernet 6/0

 FastEthernet6/0
                            Input                     Output
   Protocol                 Packet Count              Packet Count
                            Byte Count                Byte Count
                            5 minute bit rate (bps)   5 minute bit rate (bps)
   ------------------------ ------------------------- -------------------------
   igrp                     316773                    0
                            26340105                  0
                            3000                      0
   streamwork               4437                      7367
                            2301891                   339213
                            3000                      0
   rsvp                     279538                    14644
                            319106191                 673624
                            0                         0
   ntp                      8979                      7714
                            906550                    694260
                            0                         0
.
.
.
Total                   17203819                  151684936
                           19161397327               50967034611
                           4179000                   6620000
```

Related Commands

Command	Description
ip nbar protocol-discovery	Configures NBAR to discover traffic for all protocols known to NBAR on a particular interface.

show ip rsvp

To display the IP Precedence bit values and type of service (ToS) bit values to be used to mark the ToS byte of the IP headers of all packets in a Resource Reservation Protocol (RSVP) reserved path that conform to or exceed the RSVP flowspec for a given interface, use the **show ip rsvp** EXEC command.

show ip rsvp {**precedence** | **tos**} [*interface-name*]

Syntax Description

precedence	Displays IP Precedence bit and ToS bit conform and exceed values for all interfaces on the router. Either argument—**precedence** or **tos**—yields the same results. IP Precedence and ToS bit values for all interfaces with RSVP enabled are displayed in both cases. Either **tos** or **precedence** may be specified; one is required.
tos	Displays IP Precedence bit and ToS bit conform and exceed values for all interfaces on the router. Either argument—**precedence** or **tos**—yields the same results. IP Precedence and ToS bit values for all interfaces with RSVP enabled are displayed in both cases. Either **tos** or **precedence** may be specified; one is required.
interface-name	(Optional) The name of the interface. If this argument is omitted, IP Precedence and ToS bit values are displayed for all interfaces with RSVP enabled.

Command Modes

EXEC

Command History

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

Usage Guidelines

Use this command to show the current IP Precedence (or ToS) bit values set for traffic conforming to or exceeding the RSVP flowspec for an interface if the **ip rsvp precedence** or **ip rsvp tos** command was used to configure values for any Enhanced ATM port adapter (PA-A3) interface on the router.

Use this command to show the current ToS bit values set for traffic conforming to or exceeding the Resource Reservation Protocol (RSVP) flowspec for an interface if the **ip rsvp tos** command was used to configure values for any Enhanced ATM port adapter (PA-A3) interface on the router.

The **show ip rsvp tos** and **show ip rsvp precedence** commands are functionally equivalent. They both show the IP Precedence and ToS bit values for all interfaces with RSVP enabled.

To display these values for a given interface exclusively, specify the interface name. If the *interface* argument is omitted, IP Precedence and ToS bit values are displayed for all interfaces with RSVP enabled.

Examples

The following sample output shows that for the ATM interface 0, the IP Precedence bits are set to 3 for traffic that conforms to the RSVP flowspec and to 2 for traffic that exceeds the flowspec. It also shows that for the ATM interface 2, the ToS bits are set to 6 for traffic that conforms to the RSVP flowspec and to 5 for traffic that exceeds the flowspec.

```
Router# show ip rsvp precedence

Interface name      Precedence    Precedence   TOS    TOS
                      conform       exceed   conform exceed
ATM0                    3             2         -      -
Ethernet1               -             -         -      -
ATM2                    -             -         6      5
Hssi0                   -             -         -      -
Loopback0               -             -         -      -
```

The following sample output shows that for the ATM interface 0, the IP Precedence bits are set to 3 for traffic that conforms to the RSVP flowspec and to 2 for traffic that exceeds the flowspec:

```
Router# show ip rsvp tos ATM0

Interface name      Precedence    Precedence   TOS    TOS
                      conform       exceed   conform exceed
ATM0                    3             2         -      -
```

Related Commands

Command	Description
ip rsvp precedence	Allows you to set the IP Precedence values to be applied to packets that either conform to or exceed the RSVP flowspec.
ip rsvp tos	Allows you to set the ToS values to be applied to packets that either conform to or exceed the RSVP flowspec.

show ip rsvp atm-peak-rate-limit

To display the current peak rate limit set for an interface, if any, use the **show ip rsvp atm-peak-rate-limit** EXEC command.

show ip rsvp atm-peak-rate-limit [*interface-name*]

Syntax Description

interface-name	(Optional) The name of the interface.

Command Modes

EXEC

Command History

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

Usage Guidelines

The **show ip rsvp atm-peak-rate-limit** command displays the configured peak rate using the following notations for brevity:

- Kilobytes is shown as K bytes, for example, 1200 kilobytes is displayed as 1200K bytes.
- 1000 kilobytes is displayed as 1M bytes.

If no interface name is specified, configured peak rates for all Resource Reservation Protocol (RSVP)-enabled interfaces are displayed.

Examples

The following example depicts results of the **show ip rsvp atm-peak-rate-limit** command, presuming that the ATM subinterface 2/0/0.1 was configured with a reservation peak rate limit of 100 KB using the **ip rsvp atm-peak-rate-limit** command.

The following is sample output from the **show ip rsvp atm-peak-rate-limit** command using the *interface* argument:

```
Router# show ip rsvp atm-peak-rate-limit atm2/0/0.1

RSVP: Peak rate limit for ATM2/0/0.1 is 100K bytes
```

The following samples show output from the **show ip rsvp atm-peak-rate-limit** command when no interface name is given:

```
Router# show ip rsvp atm-peak-rate-limit

Interface name        Peak rate limit
Ethernet0/1/1         not set
ATM2/0/0              not set
ATM2/0/0.1            100K
```

```
Router# show ip rsvp atm-peak-rate-limit

Interface name       Peak rate limit
Ethernet0/1          not set
ATM2/1/0             1M
ATM2/1/0.10          not set
ATM2/1/0.11          not set
ATM2/1/0.12          not set
```

Related Commands

Command	Description
ip rsvp atm-peak-rate-limit	Sets a limit on the peak cell rate of reservations for all newly created RSVP SVCs established on the current interface or any of its subinterfaces.

show ip rsvp installed

To display Resource Reservation Protocol (RSVP)-related installed filters and corresponding bandwidth information, use the **show ip rsvp installed** EXEC command.

show ip rsvp installed [**detail**][*interface-type interface-number*]

Syntax Description

detail	(Optional) Specifies additional information about interfaces and their reservations.
interface-type	(Optional) Specifies the type of the interface.
interface-number	(Optional) Specifies the number of the interface.

Defaults

This command has no default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

The **show ip rsvp installed** command displays the current installed RSVP filters and the corresponding bandwidth information for a specified interface or all interfaces.

Examples

The following is sample output from the **show ip rsvp installed** command:

```
Router# show ip rsvp installed

RSVP:
RSVP: Ethernet1: has no installed reservations
RSVP: Serial0:
     kbps   To              From       Protocol DPort  Sport  Weight  Conversation
     0      224.250.250.1   132.240.2.28     UDP 20    30     128    270
     150    224.250.250.1   132.240.2.1      UDP 20    30     128    268
     100    224.250.250.1   132.240.1.1      UDP 20    30     128    267
     200    224.250.250.1   132.240.1.25     UDP 20    30     256    265
     200    224.250.250.2   132.240.1.25     UDP 20    30     128    271
     0      224.250.250.2   132.240.2.28     UDP 20    30     128    269
     150    224.250.250.2   132.240.2.1      UDP 20    30     128    266
     350    224.250.250.3   0.0.0.0          UDP 20    0      128    26
```

Table 22 describes the significant fields shown in the display.

Table 22 show ip rsvp installed Field Descriptions

Field	Description
kbps	Reserved rate.
To	IP address of the source device.
From	IP address of the destination device.
Protocol	Protocol User Datagram Protocol (UDP)/TCP type.
DPort	Destination UDP/TCP port
Sport	Source UDP/TCP port.
Weight	Weight used in weighted fair queueing (WFQ).
Conversation	WFQ conversation number. If the WFQ is not configured on the interface, weight and conversation will be zero.

show ip rsvp interface

To display Resource Reservation Protocol (RSVP)-related interface information, use the **show ip rsvp interface** EXEC command.

show ip rsvp interface [*interface-type interface-number*]

Syntax Description

interface-type	(Optional) Specifies the type of the interface.
interface-number	(Optional) Specifies the number of the interface.

Defaults

This command has no default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

The primary purpose of this command is to determine the status of RSVP on an interface.

Use this command to determine if the **ip rsvp svc-required** command was used to configure an interface or subinterface to tell RSVP that reservations made on that interface are to be serviced by creation of a switched virtual circuit (SVC).

Use this command to determine if the **ip rsvp flow-assist** command was used to configure an interface to enable RSVP to attach itself to NetFlow.

Use this command to show the current allocation budget and maximum allocatable bandwidth.

Examples

The following sample output from the **show ip rsvp interface** command shows that for the AT2/0/0 interface RSVP has been informed that reservations made on that interface are to be serviced by creation of an SVC. It also shows that for the AT2/0/1 interface, RSVP is enabled to attach itself to NetFlow.

```
Router# show ip rsvp interface

interface allocate i/f max flow max per/255 UDP IP UDP_IP  UDP M/C
AT2/0/0   OM       116640K 116640K  0  /255 0   0  0       0        SVC
AT2/0/1   OM       116640K 116640K  0  /255 0   0  0       0        FLOW
Et1/0     OM       7500K   7500K    0  /255 0   1  0       0
```

The following sample output from the **show ip rsvp interface** command shows that for the AT3/0/0 interface RSVP has been configured to establish an SVC to service any reservations made on the interface. RSVP-ATM QoS Interworking has not been enabled for Et0/2.

```
Router# show ip rsvp interface

interface    allocate i/f max  flow max per/255 UDP  IP   UDP_IP   UDP M/C
```

```
Et0/2         0M       7500K    7500K    0  /255 0    1    0         0
AT3/0/0       0M       112320K  112320K  0  /255 0    1    0         0          SVC
```

Table 23 describes the significant fields shown in the display.

Table 23 show ip rsvp interface Field Descriptions

Field	Description
interface	Interface name.
allocate	Current allocation budget.
i/f max	Maximum allocatable bandwidth.
flow max	Largest single flow allocatable on this interface.
per/255	Percent of bandwidth utilized.
UDP	Number of neighbors sending User Datagram Protocol (UDP)-encapsulated Resources Reservation Protocol (RSVP) messages.
IP	Number of neighbors sending IP-encapsulated RSVP messages.
UDP_IP	Number of neighbors sending both UDP- and IP-encapsulated RSVP messages.
UDP M/C	Indicates whether router is configured for UDP on this interface?
SVC	Use of an SVC to service each reservation.
FLOW	RSVP is enabled to attach itself to NetFlow.

Related Commands

Command	Description
ip rsvp flow-assist	Enables RSVP to attach itself to NetFlow so that it can leverage NetFlow services.
ip rsvp svc-required	Enables creation of an SVC to service any new RSVP reservation made on the interface or subinterface.

show ip rsvp neighbor

To display current Resource Reservation Protocol (RSVP) neighbors, use the **show ip rsvp neighbor** EXEC command.

show ip rsvp neighbor [*interface-type interface-number*]

Syntax Description

interface-type	(Optional) Specifies the type of the interface.
interface-number	(Optional) Specifies the number of the interface.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

Use this command to show the current RSVP neighbors and identify if the neighbor is using IP, User Datagram Protocol (UDP), or RSVP encapsulation for a specified interface or all interfaces.

Examples

The following is sample output from the **show ip rsvp neighbor** command:

```
Router# show ip rsvp neighbor

Interface Neighbor        Encapsulation
Se1       132.240.1.49    RSVP
```

Table 24 describes significant fields shown in the display.

Table 24 show ip rsvp neighbor Field Descriptions

Field	Description
Interface	Interface name.
Neighbor	IP address of the RSVP neighbor.
Encapsulation	The type of encapsulation the neighbor is using: IP, UDP, or RSVP.

show ip rsvp policy cops

To display the policy server addresses, access control list (ACL) IDs, and current state of the router-server connection, use the **show ip rsvp policy cops** command.

show ip rsvp policy cops [*acl*]

Syntax Description

[*acl*]	(Optional) The ACLs whose sessions are governed by Common Open Policy Service (COPS). An ACL can be a number from 1 to 199.

Defaults

This command has no default behavior or values.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)T	This command was introduced.

Usage Guidelines

If you omit the final keyword of this command **(cops)**, the display reports only on the ACLs and their connection status. This kind of display is shown in the second example in the "Examples" section.

If the server connection has recently broken, this command also displays the reconnection attempt interval.

Examples

The following example shows the full display, using the full command:

```
Router# show ip rsvp policy cops

COPS/RSVP entry. ACLs: 40 60
    PDPs: 161.44.135.172
    Current state: Connected
    Currently connected to PDP 161.44.135.172, port 0
```

The following example shows the ID for the configured ACLs and their connection status, using the shortened command:

```
Router# show ip rsvp policy

Local policy: Currently unsupported
COPS:
    ACLs: 40 60 . State: CONNECTED.
    ACLs: 40 160 . State: CONNECTING.
```

Related Commands

Command	Description
show cops servers	Displays the IP address and connection status of the policy servers for which the router is configured.

show ip rsvp request

To display Resource Reservation Protocol (RSVP)-related request information being requested upstream, use the **show ip rsvp request** EXEC command.

show ip rsvp request [*ip-address*][**detail**]

Syntax Description

ip-address	(Optional) IP or group address of the requestor.
detail	(Optional) Specifies additional request information.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

Use this command to show the RSVP reservations currently being requested upstream for a specified interface or all interfaces. The received reservations may differ from requests because of aggregated or refused reservations.

Examples

The following is sample output from the **show ip rsvp request** command:

```
Router# show ip rsvp request

To            From          Pro DPort Sport Next Hop      I/F   Fi Serv
132.240.1.49  132.240.4.53  1   0     0     132.240.3.53  Et1   FF LOAD
```

Table 25 describes the significant fields shown in the display.

Table 25 show ip rsvp request Field Descriptions

Field	Description
To	IP address of the receiver.
From	IP address of the sender.
Pro	Protocol code. Code 1 indicates Internet Control Message Protocol (ICMP).
DPort	Destination port number.
Sport	Source port number.
Next Hop	IP address of the next hop.
I/F	Interface of the next hop.
Fi	Filter (Wild Card Filter, Shared Explicit, or Fixed Filter).
Serv	Service (value can be **rate** or **load**).

show ip rsvp reservation

To display Resource Reservation Protocol (RSVP)-related receiver information currently in the database, use the **show ip rsvp reservation** EXEC command.

show ip rsvp reservation [*ip-address*][**detail**]

Syntax Description

ip-address	(Optional) IP or group address of the receiver.
detail	(Optional) Specifies additional reservation information.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

Use this command to show the current receiver (RESV) information in the database for a specified interface or all interfaces. This information includes reservations aggregated and forwarded from other RSVP routers.

Examples

The following is sample output from the **show ip rsvp reservation** command:

```
Router# show ip rsvp reservation

To            From          Pro DPort Sport Next Hop      I/F   Fi Serv
132.240.1.49  132.240.4.53  1   0     0     132.240.1.49  Se1   FF LOAD
```

Table 26 describes the significant fields shown in the display.

Table 26 show ip rsvp reservation Field Descriptions

Field	Descriptions
To	IP address of the receiver.
From	IP address of the sender.
Pro	Protocol code. Code 1 indicates Internet Control Message Protocol (ICMP).
DPort	Destination port number.
Sport	Source port number.
Next Hop	IP address of the next hop.
I/F	Interface of the next hop.
Fi	Filter (Wild Card Filter, Shared Explicit, or Fixed Filter).
Serv	Service (value can be **rate** or **load**).

show ip rsvp sbm

To display information about a Subnetwork Bandwidth Manager (SBM) configured for a specific Resource Reservation Protocol (RSVP)-enabled interface or for all RSVP-enabled interfaces on the router, use the **show ip rsvp sbm** EXEC command.

show ip rsvp sbm [**detail**] [*interface-name*]

Syntax Description

detail	(Optional) Detailed SBM configuration information, including values for the NonResvSendLimit object.
interface-name	(Optional) Name of the interface for which you want to display SBM configuration information.

Command Modes

EXEC

Command History

Release	Modification
12.0(5)T	This command was introduced.
12.1(1)T	This command was integrated into Cisco IOS Release 12.1(1)T. The **detail** keyword was added.

Usage Guidelines

To obtain SBM configuration information about a specific interface configured to use RSVP, specify the interface name with the **show ip rsvp sbm** command. To obtain information about all interfaces enabled for RSVP on the router, use the **show ip rsvp sbm** command without specifying an interface name.

To view the values for the NonResvSendLimit object, use the **detail** keyword.

Examples

The following example displays information for the RSVP-enabled Ethernet interfaces 1 and 2 on router1:

```
router1# show ip rsvp sbm

Interface DSBM Addr      DSBM Priority    DSBM Candidate   My Priority
Et1       1.1.1.1        70               yes              70
Et2       10.2.2.150     100              yes              100
```

The following example displays information about the RSVP-enabled Ethernet interface e2 on router1:

```
router1# show ip rsvp sbm e2

Interface DSBM Addr       DSBM Priority    DSBM candidate   My Priority
e2        10.2.2.150      100              yes              100
```

Table 27 describes the significant fields shown in the display.

Table 27 show ip rsvp sbm Field Descriptions

Field	Description
Interface	Name of the Designated Subnetwork Bandwidth Manager (DSBM) candidate interface on the router.
DSBM Addr	IP address of the DSBM.
DSBM Priority	Priority of the DSBM.
DSBM Candidate	Yes if the **ip rsvp dsbm candidate** command was issued for this SBM to configure it as a DSBM candidate. No if it was not so configured.
My Priority	Priority configured for this interface.

The following example displays information about the RSVP-enabled Ethernet interface 2 on router1. In the left column, the local SBM configuration is shown; in the right column, the corresponding information for the current DSBM is shown. In this example, the information is the same because the DSBM won election.

```
router1# show ip rsvp sbm detail

Interface:Ethernet2
Local Configuration              Current DSBM
  IP Address:10.2.2.150          IP Address:10.2.2.150
  DSBM candidate:yes              I Am DSBM:yes
  Priority:100                    Priority:100
  Non Resv Send Limit              Non Resv Send Limit
    Rate:500 Kbytes/sec              Rate:500 Kbytes/sec
    Burst:1000 Kbytes                Burst:1000 Kbytes
    Peak:500 Kbytes/sec              Peak:500 Kbytes/sec
    Min Unit:unlimited               Min Unit:unlimited
    Max Unit:unlimited               Max Unit:unlimited
```

Table 28 describes the significant fields shown in the display.

Table 28 show ip rsvp sbm detail Field Descriptions

Field	Description
Local Configuration	The local DSBM candidate configuration.
Current DSBM	The current DSBM configuration.
Interface	Name of the DSBM candidate interface on the router.
IP Address	IP address of the local DSBM candidate or the current DSBM.
DSBM candidate	Yes if the **ip rsvp dsbm candidate** command was issued for this SBM to configure it as a DSBM candidate. No if it was not so configured.
I am DSBM	Yes if the local candidate is the DSBM. No if the local candidate is not the DSBM.
Priority	Priority configured for the local DSBM candidate or the current SBM.
Rate	The average rate, in kbps, for the DSBM candidate.
Burst	The maximum burst size, in KB, for the DSBM candidate.

Table 28 show ip rsvp sbm detail Field Descriptions (continued)

Field	Description
Peak	The peak rate, in kbps, for the DSBM candidate.
Min Unit	The minimum policed unit, in bytes, for the DSBM candidate.
Max Unit	The maximum packet size, in bytes, for the DSBM candidate.

Related Commands

Command	Description
debug ip rsvp	Displays information about SBM message processing, the DSBM election process, and standard RSVP enabled message processing information
debug ip rsvp detail	Displays detailed information about RSVP and SBM.
debug ip rsvp detail sbm	Display detailed information about SBM messages only, and SBM and DSBM state transitions
ip rsvp dsbm candidate	Configures an interface as a DSBM candidate.
ip rsvp dsbm non-resv-send-limit	Configures the NonResvSendLimit object parameters.

show ip rsvp sender

To display Resource Reservation Protocol (RSVP) PATH-related sender information currently in the database, use the **show ip rsvp sender** EXEC command.

show ip rsvp sender [*ip-address*] [**detail**]

Syntax Description

ip-address	(Optional) IP or group address of the sender.
detail	(Optional) Specifies additional sender information.

Command Modes

EXEC

Command History

Release	Modification
11.2	This command was introduced.

Usage Guidelines

Use this command to show the RSVP sender (PATH) information currently in the database for a specified interface or all interfaces.

Examples

The following is sample output from the **show ip rsvp sender** command:

```
Router# show ip rsvp sender

To              From            Pro DPort Sport Prev Hop        I/F
132.240.1.49    132.240.4.53    1   0     0     132.240.3.53    Et1
132.240.2.51    132.240.5.54    1   0     0     132.240.3.54    Et1
```

Table 29 describes the significant fields shown in this display.

Table 29 show ip rsvp sender Field Descriptions

Field	Description
To	IP address of the receiver.
From	IP address of the sender.
Pro	Protocol code. Code 1 indicates Internet Control Message Protocol (ICMP).
DPort	Destination port number.
Sport	Source port number.
Prev Hop	IP address of the previous hop.
I/F	Interface of the previous hop.

show policy-map

To display the configuration of all classes for a specified service policy map or all classes for all existing policy maps, use the **show policy-map** EXEC or privileged EXEC command.

show policy-map [*policy-map*]

Syntax Description

policy-map	(Optional) The name of the service policy map whose complete configuration is to be displayed. The name can be a maximum of 40 characters.

Defaults

All existing policy map configurations are displayed.

Command Modes

EXEC or privileged EXEC

Command History

Release	Modification
12.0(5)T	This command was introduced.
12.0(5)XE	This command was integrated into Cisco IOS Release 12.0(5)XE.
12.0(7)S	This command was integrated into Cisco IOS Release 12.0(7)S.
12.1(1)E	This command was integrated into Cisco IOS Release 12.1(1)E.

Usage Guidelines

The **show policy-map** command displays the configuration of a service policy map created using the **policy-map** command. You can use the **show policy-map** command to display all class configurations comprising any existing service policy map, whether or not that service policy map has been attached to an interface.

Examples

The following example displays the contents of the service policy map called po1:

```
Router# show policy-map po1

Policy Map po1
 Weighted Fair Queueing
    Class class1
       Bandwidth 937 (kbps) Max thresh 64 (packets)
    Class class2
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class3
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class4
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class5
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class6
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
```

```
    Class class7
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class8
         Bandwidth 937 (kbps)  Max thresh 64 (packets)
```

The following example displays the contents of all policy maps on the router:

```
Router# show policy-map

Policy Map poH1
 Weighted Fair Queueing
    Class class1
       Bandwidth 937 (kbps) Max thresh 64 (packets)
    Class class2
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class3
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class4
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class5
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class6
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class7
        Bandwidth 937 (kbps)  Max thresh 64 (packets)
    Class class8
         Bandwidth 937 (kbps)  Max thresh 64 (packets)
Policy Map policy2
 Weighted Fair Queueing
    Class class1
       Bandwidth 300 (kbps) Max thresh 64 (packets)
    Class class2
        Bandwidth 300  (kbps)  Max thresh 64 (packets)
    Class class3
        Bandwidth 300 (kbps)  Max thresh 64 (packets)
    Class class4
        Bandwidth 300 (kbps)  Max thresh 64 (packets)
    Class class5
        Bandwidth 300 (kbps)  Max thresh 64 (packets)
    Class class6
        Bandwidth 300 (kbps)  Max thresh 64 (packets)
```

Related Commands

Command	Description
policy-map	Creates or modifies a policy map that can be attached to one or more interfaces to specify a service policy.
show policy-map class	Displays the configuration for the specified class of the specified policy map.
show policy-map interface	Displays the configuration of all classes configured for all service policies on the specified interface or displays the classes for the service policy for a specific PVC on the interface.

show policy-map class

To display the configuration for the specified class of the specified policy map, use the **show policy-map class** EXEC or privileged EXEC command.

show policy-map *policy-map* **class** *class-name*

Syntax Description

policy-map	The name of a policy map that contains the class configuration to be displayed.
class-name	The name of the class whose configuration is to be displayed.

Defaults

This command has no default behavior or values.

Command Modes

EXEC or privileged EXEC

Command History

Release	Modification
12.0(5)T	This command was introduced.
12.0(5)XE	This command was integrated into Cisco IOS Release 12.0(5)XE.
12.0(7)S	This command was integrated into Cisco IOS Release 12.0(7)S.
12.1(1)E	This command was integrated into Cisco IOS Release 12.1(1)E.

Usage Guidelines

You can use the **show policy-map class** command to display any single class configuration for any service policy map, whether or not the specified service policy map has been attached to an interface.

Examples

The following example displays configurations for the class called class7 that belongs to the policy map called po1:

```
Router# show policy-map po1 class class7

Class class7
 Bandwidth 937 (kbps) Max Thresh 64 (packets)
```

Related Commands

Command	Description
show policy-map	Displays the configuration of all classes for a specified service policy map or all classes for all existing policy maps.
show policy-map interface	Displays the configuration of all classes configured for all service policies on the specified interface or displays the classes for the service policy for a specific PVC on the interface.

show policy-map interface

To display the configuration of all classes configured for all service policies on the specified interface or to display the classes for the service policy for a specific permanent virtual circuit (PVC) on the interface, use the **show policy-map interface** EXEC or privileged EXEC command.

show policy-map interface *interface-name* [**vc** [*vpi/*] *vci*][**dlci** *dlci*] [**input | output**]

Syntax Description

interface-name	Name of the interface or subinterface whose policy configuration is to be displayed.
vc	(Optional) For ATM interfaces only, shows the policy configuration for a specified PVC. The name can be up to 16 characters long.
vpi/	(Optional) ATM network virtual path identifier (VPI) for this PVC. The absence of the "*/*" and a *vpi* value defaults the *vpi* value to 0. On the Cisco 7200 and 7500 series routers, this value ranges from 0 to 255. The *vpi* and *vci* arguments cannot both be set to 0; if one is 0, the other cannot be 0. If this value is omitted, information for all virtual circuits (VCs) on the specified ATM interface or subinterface is displayed.
vci	(Optional) ATM network virtual channel identifier (VCI) for this PVC. This value ranges from 0 to 1 less than the maximum value set for this interface by the **atm vc-per-vp** command. Typically, lower values 0 to 31 are reserved for specific traffic (F4 Operation, Administration, and Maintenance (OAM), switched virtual circuit (SVC) signalling, Integrated Local Management Interface (ILMI), and so on) and should not be used. The VCI is a 16-bit field in the header of the ATM cell. The VCI value is unique only on a single link, not throughout the ATM network, because it has local significance only. The *vpi* and *vci* arguments cannot both be set to 0; if one is 0, the other cannot be 0.
dlci	(Optional) Indicates that a specific PVC for which policy configuration will be displayed.
dlci	(Optional) A specific data-link connection identifier (DLCI) number used on the interface. Policy configuration for the corresponding PVC will be displayed when a DLCI is specified.
input	(Optional) Indicates that the statistics for the attached input policy will be displayed.
output	(Optional) Indicates that the statistics for the attached output policy will be displayed.

Defaults

This command has no default behavior or values.

Command Modes

EXEC or privileged EXEC

Command History

Release	Modification
12.0(5)T	This command was introduced.
12.0(5)XE	This command was integrated into Cisco IOS Release 12.0(5)XE.
12.0(7)S	This command was integrated into Cisco IOS Release 12.0(7)S.
12.1(1)E	This command was integrated into Cisco IOS Release 12.1(1)E.
12.1(2)T	This command was integrated into Cisco IOS Release 12.1(2)T. This command was modified to display information about the policy for all Frame Relay PVCs on the interface, or, if a DLCI is specified, the policy for that specific PVC. This command was also modified to display the total number of packets marked by the QoS set action.
12.1(3)T	This command was integrated into Cisco IOS Release 12.1(3)T. This command was modified to display per-class accounting statistics.

Usage Guidelines

The **show policy-map interface** command displays the configuration for classes on the specified interface or the specified PVC only if a service policy has been attached to the interface or the PVC.

You can use the *interface-name* argument to display output for a PVC only for Enhanced ATM port adapters (PA-A3) that support per-VC queueing.

Examples

This section provides sample output of a typical **show policy-map interface** command. Depending upon the interface in use and the options enabled, the output you see may vary slightly from the ones shown below. See Table 30 for an explanation of the significant fields that commonly appear in the command output.

The following sample output of the **show policy-map interface** command displays the statistics for the serial 3/1 interface, to which a service policy called mypolicy (configured as shown below) is attached.

```
policy-map mypolicy
  class voice
    priority 128
  class gold
   bandwidth 100
  class silver
   bandwidth 80
   random-detect

Router# show policy-map output interface s3/1

 Serial3/1

  Service-policy output: mypolicy

    Class-map: voice (match-all)
      0 packets, 0 bytes
      5 minute offered rate 0 bps, drop rate 0 bps
      Match: ip precedence 5
      Weighted Fair Queueing
        Strict Priority
        Output Queue: Conversation 264
        Bandwidth 128 (kbps) Burst 3200 (Bytes)
        (pkts matched/bytes matched) 0/0
        (total drops/bytes drops) 0/0
```

```
    Class-map: gold (match-all)
      0 packets, 0 bytes
      5 minute offered rate 0 bps, drop rate 0 bps
      Match: ip precedence 2
      Weighted Fair Queueing
        Output Queue: Conversation 265
        Bandwidth 100 (kbps) Max Threshold 64 (packets)
        (pkts matched/bytes matched) 0/0
        (depth/total drops/no-buffer drops) 0/0/0

    Class-map: silver (match-all)
      0 packets, 0 bytes
      5 minute offered rate 0 bps, drop rate 0 bps
      Match: ip precedence 1
      Weighted Fair Queueing
        Output Queue: Conversation 266
        Bandwidth 80 (kbps)
        (pkts matched/bytes matched) 0/0
        (depth/total drops/no-buffer drops) 0/0/0
         exponential weight: 9
         mean queue depth: 0

class     Transmitted       Random drop      Tail drop    Minimum Maximum  Mark
          pkts/bytes        pkts/bytes       pkts/bytes    thresh  thresh  prob
0             0/0               0/0              0/0           20      40  1/10
1             0/0               0/0              0/0           22      40  1/10
2             0/0               0/0              0/0           24      40  1/10
3             0/0               0/0              0/0           26      40  1/10
4             0/0               0/0              0/0           28      40  1/10
5             0/0               0/0              0/0           30      40  1/10
6             0/0               0/0              0/0           32      40  1/10
7             0/0               0/0              0/0           34      40  1/10
rsvp          0/0               0/0              0/0           36      40  1/10

Class-map: class-default (match-any)
      0 packets, 0 bytes
      5 minute offered rate 0 bps, drop rate 0 bps
      Match: any
```

The following sample output of the **show policy-map interface** command displays the statistics for the serial 3/2 interface, to which a service policy called p1 (configured as shown below) is attached. Traffic shaping has been enabled on this interface.

```
policy-map p1
  class c1
   shape average 320000

Router# show policy-map output interface s3/2

 Serial3/2

  Service-policy output: p1

    Class-map: c1 (match-all)
      0 packets, 0 bytes
      5 minute offered rate 0 bps, drop rate 0 bps
      Match: ip precedence 0
      Traffic Shaping
        Target    Byte   Sustain   Excess    Interval  Increment Adapt
        Rate      Limit  bits/int  bits/int  (ms)      (bytes)   Active
        320000    2000   8000      8000      25        1000      -
```

```
    Queue     Packets   Bytes     Packets   Bytes     Shaping
    Depth                         Delayed   Delayed   Active
    0         0         0         0         0         no

  Class-map: class-default (match-any)
    0 packets, 0 bytes
    5 minute offered rate 0 bps, drop rate 0 bps
    Match: any
```

Table 30 describes the significant fields shown in the displays. The fields in the table are grouped according to the relevant QoS feature.

Table 30 show policy-map interface Field Descriptions[1]

Field	Description
Fields Associated with Classes or Service Policies	
Service-policy output	Name of the output service policy applied to the specified interface or VC.
Class-map	Class of traffic being displayed. Output is displayed for each configured class in the policy. The choice for implementing class matches (for example, match-all or match-any) can also appear next to the traffic class.
packets and bytes	Number of packets (also shown in bytes) identified as belonging to the class of traffic being displayed.
offered rate	Rate, in kbps, of packets coming in to the class. **Note** If the packets are compressed over an outgoing interface, the improved packet rate achieved by packet compression is not reflected in the offered rate. Also, if the packets are classified *before* they enter a combination of tunnels (for example, a generic routing encapsulation (GRE) tunnel and an IP Security (IPSec) tunnel), the offered rate does not include all the extra overhead associated with tunnel encapsulation in general. Depending on the configuration, the offered rate may include no overhead, may include the overhead for only *one* tunnel encapsulation, or may include the overhead for *all* tunnel encapsulations. In most of the GRE and IPSec tunnel configurations, the offered rate includes the overhead for GRE tunnel encapsulation only.
drop rate	Rate, in kbps, at which packets are dropped from the class. The drop rate is calculated by subtracting the number of successfully transmitted packets from the offered rate.
Note In distributed architecture platforms (such as the C7500), the value of the transfer rate, calculated as the difference between the offered rate and the drop rate counters, can sporadically deviate from the average by up to 20 percent or more. This can occur while no corresponding burst is registered by independent traffic analyser equipment.	
Match	Match criteria specified for the class of traffic. Choices include criteria such as IP precedence, IP DSCP value, MPLS experimental value, access groups, and QoS groups. For more information about the variety of match criteria options available, refer to the chapter “Configuring the Modular Quality of Service Command-Line Interface” in the *Cisco IOS Quality of Service Solutions Configuration Guide*, Release 12.2.
Fields Associated with Queueing (if Enabled)	

Table 30 show policy-map interface Field Descriptions[1] (continued)

Field	Description
Output Queue	The weighted fair queueing (WFQ) conversation to which this class of traffic is allocated.
Bandwidth	Bandwidth, in either kbps or percentage, configured for this class and the burst size.
pkts matched/bytes matched	Number of packets (also shown in bytes) matching this class that were placed in the queue. This number reflects the total number of matching packets queued at any time. Packets matching this class are queued only when congestion exists. If packets match the class but are never queued because the network was not congested, those packets are not included in this total. However, if process switching is in use, the number of packets is always incremented even if the network is not congested.
depth/total drops/no-buffer drops	Number of packets discarded for this class. No-buffer indicates that no memory buffer exists to service the packet.
Fields Associated with Weighted Random Early Detection (WRED) (if Enabled)	
exponential weight	Exponent used in the average queue size calculation for a Weighted Random Early Detection (WRED) parameter group.
mean queue depth	Average queue depth based on the actual queue depth on the interface and the exponential weighting constant. It is a fluctuating average. The minimum and maximum thresholds are compared against this value to determine drop decisions.
class	IP precedence level.
Transmitted pkts/bytes	Number of packets (also shown in bytes) passed through WRED and not dropped by WRED. **Note** If there is insufficient memory in the buffer to accommodate the packet, the packet can be dropped *after* the packet passes through WRED. Packets dropped because of insufficient memory in the buffer (sometimes referred to as "no-buffer drops") are not taken into account by the WRED packet counter.
Random drop pkts/bytes	Number of packets (also shown in bytes) randomly dropped when the mean queue depth is between the minimum threshold value and the maximum threshold value for the specified IP precedence level.
Tail drop pkts/bytes	Number of packets dropped when the mean queue depth is greater than the maximum threshold value for the specified IP precedence level.
Minimum thresh	Minimum threshold. Minimum WRED threshold in number of packets.
Maximum thresh	Maximum threshold. Maximum WRED threshold in number of packets.
Mark prob	Mark probability. Fraction of packets dropped when the average queue depth is at the maximum threshold.
Fields Associated with Traffic Shaping (if Enabled)	
Target Rate	Rate used for shaping traffic.
Byte Limit	Maximum number of bytes that can be transmitted per interval. Calculated as follows: ((Bc+Be) /8) x 1

Table 30 show policy-map interface Field Descriptions[1] (continued)

Field	Description
Sustain bits/int	Committed burst (Bc) rate.
Excess bits/int	Excess burst (Be) rate.
Interval (ms)	Time interval value in milliseconds (ms).
Increment (bytes)	Number of credits (in bytes) received in the token bucket of the traffic shaper during each time interval.
Queue Depth	Current queue depth of the traffic shaper.
Packets	Total number of packets that have entered the traffic shaper system.
Bytes	Total number of bytes that have entered the traffic shaper system.
Packets Delayed	Total number of packets delayed in the queue of the traffic shaper before being transmitted.
Bytes Delayed	Total number of bytes delayed in the queue of the traffic shaper before being transmitted.
Shaping Active	Indicates whether the traffic shaper is active. For example, if a traffic shaper is active, and the traffic being sent exceeds the traffic shaping rate, a “yes” appears in this field.

1. A number in parentheses may appear next to the service-policy output name, class-map name, and match criteria information. The number is for Cisco internal use only and can be disregarded.

Related Commands

Command	Description
show frame-relay pvc	Displays statistics about PVCs for Frame Relay interfaces.
show policy-map	Displays the configuration of all classes for a specified service policy map or all classes for all existing policy maps.
show policy-map class	Displays the configuration for the specified class of the specified policy map.

show qdm status

To view the status of the Quality of Service Device Manager (QDM) clients connected to the router, use the **show qdm status** EXEC command.

show qdm status

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default behavior or values.

Command Modes

EXEC

Command History

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

Usage Guidelines

Use the **show qdm status** command to obtain the following information:

- Number of connected QDM clients
- Client IDs of the connected QDM clients
- Version of the QDM client software
- IP addresses of the connected QDM clients

Examples

The following example illustrates the **show qdm status** output when two QDM clients are connected to the router:

```
Router# show qdm status

Number of QDM Clients :2
QDM Client v1.0(0.13)-System_1 @ 172.16.0.0 (id:30)
     connected since 09:22:36 UTC Wed Mar 15 2000
QDM Client v1.0(0.12)-System_2 @ 172.31.255.255 (id:29)
     connected since 17:10:23 UTC Tue Mar 14 2000
```

Related Commands

Command	Description
disconnect qdm	Disconnects a QDM client.