

show multicast router

Use the **show multicast router** command to display which ports have CGMP-capable routers assigned to them.

```
show multicast router [cgmp | igmp | rgmp] [mod/port] [vlan_id]
```

Syntax Description	
cgmp	(Optional) Keyword to display only the configuration information learned through CGMP.
igmp	(Optional) Keyword to display only the configuration information learned through IGMP.
rgmp	(Optional) Keyword to display only the configuration information learned through RGMP.
<i>mod/port</i>	(Optional) Number of the module and the port on the module.
<i>vlan_id</i>	(Optional) Number of the VLAN.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Examples This example show how to display the multicast router configuration:

```
Console> show multicast router
Port      Vlan
-----  -----

Total Number of Entries = 0
'*' - Configured
'+' - RGMP-capable
Console>
```

This example show how to display the multicast router configuration for VLAN 99:

```
Console> show multicast router 99
Port      Vlan
-----  -----

Total Number of Entries = 0
'*' - Configured
Console>
```

This example shows how to display only the configuration information learned through CGMP:

```
Console> show multicast router cgmp
CMGP Feature is enabled.
Console>
```

Table 2-39 describes the fields in the **show multicast router** command output.

Table 2-39 *show multicast router Command Output Fields*

Field	Description
Port	Port through which a multicast router can be reached.
Vlan	VLAN associated with the port.
*	Status of whether the port was manually configured as a multicast router port.
+	States whether the port is RGMP capable.
CGMP enabled	Status of whether CGMP is enabled or disabled.
IGMP enabled	Status of whether IGMP is enabled or disabled.
Total Number of Entries	Total number of entries in the table that match the criteria specified by the command.

Related Commands

[clear multicast router](#)
[set cgmp](#)
[set igmp](#)
[set igmp fastleave](#)
[set multicast router](#)
[show multicast group count](#)

show netstat

Use the **show netstat** command to display the currently active network connections and to list statistics for the various protocols.

show netstat [tcp | udp | ip | icmp | routes | stats | interfaces]

Syntax Description	
tcp	(Optional) Keyword to show TCP statistics.
udp	(Optional) Keyword to show UDP statistics.
ip	(Optional) Keyword to show IP statistics.
icmp	(Optional) Keyword to show ICMP statistics.
routes	(Optional) Keyword to show the IP routing table.
stats	(Optional) Keyword to show all statistics for TCP, UDP, IP, and ICMP.
interfaces	(Optional) Keyword to show interface statistics.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines Counter information for me1 is viewed by entering the **show netstat interfaces** command.

Examples This example shows how to display the current active network connections:

```

Console> show netstat
Active Internet connections (including servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         (state)
tcp    0      128 172.20.25.142.23       171.68.10.75.44720     ESTABLISHED
tcp    0      0 *.7161                 *.*                     LISTEN
tcp    0      0 *.23                   *.*                     LISTEN
udp    0      0 *.*                    *.*                     *
udp    0      0 *.161                  *.*                     *
udp    0      0 *.123                  *.*                     *
Console>

```

This example shows how to display TCP statistics:

```

Console> show netstat tcp
tcp:
    5122 packets sent
      4642 data packets (102292 bytes)
      28 data packets (6148 bytes) retransmitted
      434 ack-only packets (412 delayed)
      0 URG only packets

```

```

0 window probe packets
1 window update packet
17 control packets
7621 packets received
4639 acks (for 103883 bytes)
69 duplicate acks
0 acks for unsent data
3468 packets (15367 bytes) received in-sequence
12 completely duplicate packets (20 bytes)
0 packets with some dup. data (0 bytes duped)
4 out-of-order packets (0 bytes)
0 packets (0 bytes) of data after window
0 window probes
0 window update packets
0 packets received after close
0 discarded for bad checksums
0 discarded for bad header offset fields
0 discarded because packet too short
6 connection requests
6 connection accepts
10 connections established (including accepts)
11 connections closed (including 1 drop)
2 embryonic connections dropped
4581 segments updated rtt (of 4600 attempts)
28 retransmit timeouts
    0 connections dropped by rexmit timeout
0 persist timeouts
66 keepalive timeouts
    63 keepalive probes sent
    3 connections dropped by keepalive

```

Console>

Table 2-40 describes the fields in the **show netstat tcp** command output.

Table 2-40 show netstat tcp Command Output Fields

Field	Description
packets sent	Total number of TCP packets sent.
data packets (bytes)	Number of TCP data packets sent and the size of those packets in bytes.
data packets (bytes) retransmitted	Number of TCP data packets retransmitted and the size of those packets in bytes.
ack-only packets (delayed)	Number of TCP acknowledgment-only packets sent and the number of those packets delayed.
packets received	Total number of TCP packets received.
acks (for <i>x</i> bytes)	Number of TCP acknowledgments received and the total bytes acknowledged.
duplicate acks	Number of duplicate TCP acknowledgments received.
acks for unsent data	Number of TCP acknowledgments received for data that was not sent.

Table 2-40 show netstat tcp Command Output Fields (continued)

Field	Description
packets (bytes) received in-sequence	Number of TCP packets (and the size in bytes) received in sequence.
completely duplicate packets (bytes)	Number of duplicate TCP packets (and the size in bytes) received.
packets with some dup. data (bytes duped)	Number of TCP packets received with duplicate data (and the number of bytes of duplicated data).
out-of-order packets (bytes)	Number of out-of-order TCP packets (and the size in bytes) received.
packets (bytes) of data after window	Number of TCP packets (and the size in bytes) received outside of the specified data window.
discarded for bad checksums	Number of TCP packets received and discarded that failed the checksum.
discarded because packet too short	Number of TCP packets received and discarded that were truncated.
connection requests	Total number of TCP connection requests sent.
connection accepts	Total number of TCP connection accepts sent.
connections established (including accepts)	Total number of TCP connections established, including those for which a connection accept was sent.
connections closed (including x drops)	Total number of TCP connections closed, including dropped connections.
retransmit timeouts	Number of timeouts that occurred when a retransmission was attempted.
connections dropped by retransmit timeout	Number of connections dropped due to retransmission timeouts.
keepalive timeouts	Number of keepalive timeouts that occurred.
keepalive probes sent	Number of TCP keepalive probes sent.
connections dropped by keepalive	Number of connections dropped.

This example shows how to display UDP statistics:

```

Console> show netstat udp
udp:
    0 incomplete headers
    0 bad data length fields
    0 bad checksums
    0 socket overflows
    1116 no such ports
Console>

```

Table 2-41 describes the fields in the **show netstat udp** command output.

Table 2-41 show netstat udp Command Output Fields

Field	Description
incomplete headers	Number of UDP packets received with incomplete packet headers.
bad data length fields	Number of UDP packets received with a data length field that did not match the actual length of the packet payload.
bad checksums	Number of UDP packets received that failed the checksum.
socket overflows	Number of socket overflows.
no such ports	Number of UDP packets received destined for nonexistent ports.

This example shows how to display IP statistics:

```

Console> show netstat ip
ip:
    76894 total packets received
    0 bad header checksums
    0 with size smaller than minimum
    0 with data size < data length
    0 with header length < data size
    0 with data length < header length
    0 fragments received
    0 fragments dropped (dup or out of space)
    0 fragments dropped after timeout
    0 packets forwarded
    0 packets not forwardable
    0 redirects sent
Console>

```

Table 2-42 describes the fields in the **show netstat ip** command output.

Table 2-42 show netstat ip Command Output Fields

Field	Description
total packets received	Total number of IP packets received.
bad header checksums	Number of received IP packets that failed the checksum.
with size smaller than minimum	Number of received IP packets that were smaller than the minimum IP packet size.
fragments received	Number of IP packet fragments received.
fragments dropped (dup or out of space)	Number of received IP packet fragments that were dropped because of duplicate data or buffer overflow.
fragments dropped after timeout	Number of received IP packet fragments that were dropped.
packets forwarded	Number of forwarded IP packets.
packets not forwardable	Number of IP packets that the switch did not forward.

This example shows how to display ICMP statistics:

```

Console> show netstat icmp
icmp:
  Redirect enabled
  0 calls to icmp_error
  0 errors not generated 'cuz old message was icmp
  Output histogram:
    echo reply: 1001
  1 message with bad code fields
  0 messages < minimum length
  0 bad checksums
  0 messages with bad length
  Input histogram:
    echo reply: 12
    destination unreachable: 3961
    echo: 1001
  1001 message responses generated
Console>

```

Table 2-43 describes the fields in the **show netstat icmp** command output.

Table 2-43 show netstat icmp Command Output Fields

Field	Description
Redirect enabled	Status of whether ICMP redirection is enabled or disabled.
Output histogram	Frequency distribution statistics for output ICMP packets.
echo reply	Number of output echo reply ICMP packets.
messages with bad code fields	Number of ICMP packets with an invalid code field.
messages < minimum length	Number of ICMP packets with less than the minimum packet length.
bad checksums	Number of ICMP packets that failed the checksum.
messages with bad length	Number of ICMP packets with an invalid length.
Input histogram	Frequency distribution statistics for input ICMP packets.
echo reply	Number of input echo reply ICMP packets.
destination unreachable	Number of input destination unreachable ICMP packets.
echo	Number of input echo ICMP packets.
message responses generated	Number of ICMP message responses the system generated.

This example shows how to display the IP routing table:

```

Console> show netstat routes
DESTINATION    GATEWAY    FLAGS    USE    INTERFACE
default        172.16.1.201  UG      6186   sc0
172.16.0.0     172.16.25.142  U       6383   sc0
default        default    UH       0      s10
Console>

```

Table 2-44 describes the fields in the **show netstat routes** command output.

Table 2-44 show netstat routes Command Output Fields

Field	Description
DESTINATION	Destination IP address or network.
GATEWAY	Next hop to the destination.
INTERFACE	Interface out of which packets to the destination should be forwarded.

This example shows how to display interface statistics:

```

Console> show netstat interface
Interface          InPackets  InErrors  OutPackets  OutErrors
s10                 0           0           0           0
sc0                 33          0        117192       0
me1                 2           0         57075        0
Interface Rcv-Octet          Xmit-Octet
-----
sc0         2389              0
me1         1172              0
s10          0                0
Interface Rcv-Unicast    Xmit-Unicast
-----
sc0         28                0
me1         28                0
s10          0                0
Console>

```

Table 2-45 describes the fields in the **show netstat interface** command output.

Table 2-45 show netstat interface Command Output Fields

Field	Description
Interface	Interface number (s10 is the SLIP interface; sc0 is the in-band interface; me1 is the out-of-band interface).
InPackets	Number of input packets on the interface.
InErrors	Number of input errors on the interface.
OutPackets	Number of output packets on the interface.
OutErrors	Number of output errors on the interface.
Rcv-Octet	Number of octet frames received on the port.
Xmit-Octet	Number of octet frames transmitted on the port.
Rcv-Unicast	Number of unicast frames received on the port.
Xmit-Unicast	Number of unicast frames transmitted on the port.

Related Commands

[set interface](#)
[set ip route](#)

show ntp

Use the **show ntp** command to display the current NTP status.

show ntp

Syntax Description This command has no arguments or keywords.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display the current NTP status:

```

Console> show ntp
Current time: Thu Jan 15 1999, 11:19:03 pst
Timezone: 'pst', offset from UTC is -8 hours
Summertime: 'pst', enabled
Last NTP update:
Broadcast client mode: enabled
Broadcast delay: 3000 microseconds
Client mode: disabled
Authentication: enabled

NTP-Server                               Server Key
-----
172.20.33.140                             1722033140
172.20.33.114                             1722033114

Console>

```

The following output appears in the **show ntp** command output when entered from privileged mode:

```

Key Number   Mode           Key String
-----
1234         trusted       32423423423
1722033140   untrusted     termserv-am
Console> (enable)

```

[Table 2-46](#) describes the fields in the **show ntp** command output.

Table 2-46 *show ntp* Command Output Fields

Field	Description
Current time	Current system time.
Timezone	Time zone and the offset in hours from UTC.

Table 2-46 *show ntp Command Output Fields (continued)*

Field	Description
Summertime	Time zone for daylight saving time and whether the daylight saving time adjustment is enabled or disabled.
Last NTP update	Time of the last NTP update.
Broadcast client mode	Status of whether NTP broadcast-client mode is enabled or disabled.
Broadcast delay	Configured NTP broadcast delay.
Client mode	Status of whether NTP client mode is enabled or disabled.
NTP-Server	List of configured NTP servers.

Related Commands

[clear ntp key](#)
[clear ntp server](#)
[set ntp broadcastclient](#)
[set ntp broadcastdelay](#)
[set ntp client](#)
[set ntp key](#)
[set ntp server](#)

show port

Use the **show port** command to display port status and counters.

```
show port [mod[/port]]
```

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
<i>/port</i>	(Optional) Number of the port on the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines In the status field, the following applies:

- *connected* indicates the port is operational. *connected* is also displayed for the status of a port that is receiving remote fault indications. Remote fault indications are not sent until the link comes up and both ends can hear each other. This means that the link is up and everything is working correctly.
- *notconnected* indicates the port is off or there is no GBIC in port.
- *faulty* indicates the port failed diagnostics tests.
- *remfault* indicates the far end station cannot synchronize with its receive signal.
- *disable* indicates the port has been manually disabled.
- *remdisable* indicates the far end port has been manually disabled.
- *configerr* indicates that this port is not satisfied with the output of flow control and or duplex negotiation.
- *remcfgerr* indicates that the far end port is not satisfied with the output of flow control and or duplex negotiation.
- *disagree* indicates that the two ports have failed to agree on a duplex condition or that autonegotiation has failed.

Examples This example shows how to display the status and counters for port 1 on module 3:

```
Console> show port 3/1
Port Name          Status      Vlan      Level Duplex Speed Type
-----
3/1                connected  1         normal half   100 100BaseFX MM
```

■ **show port**

```

Port Security Secure-Src-Addr Last-Src-Addr Shutdown Trap IfIndex
-----
3/1 disabled No disabled 58

Port Broadcast-Limit Broadcast-Drop
-----
3/1 - 0

Port Status Channel Channel Neighbor Neighbor
      mode status device port
-----
3/1 connected off not channel

Port Align-Err FCS-Err Xmit-Err Rcv-Err UnderSize
-----
3/1 3384 16 0 0 0

Port Single-Col Multi-Coll Late-Coll Excess-Col Carri-Sen Runts Giants
-----
3/1 0 0 0 0 0 521 0

Last-Time-Cleared
-----
Thu Mar 2 2000, 14:24:55
Console>

```

[Table 2-47](#) describes the possible fields (depending on the port type queried) in the **show port** command output.

Table 2-47 show port Command Output Fields

Field	Description
Port	Module and port number.
Name	Name (if configured) of the port.
Status	Status of the port; possible displays are connected, notconnect, connecting, standby, faulty, inactive, shutdown, disabled, or monitor.
Vlan	VLANs to which the port belongs.
Duplex	Duplex setting for the port (auto, full, fdx, half, hdx, a-half, a-hdx, a-full, or a-fdx).
Speed	Speed setting for the port (auto, 10, 100, 155, a-10, a-100, 4, 16, a-14, or a-16).
Type ¹	Port type, for example, 100BASE-FX MM, 100BASE-FX SM, 10/100BASE-TX, or RSM.
Security	Status of whether port security is enabled or disabled.
Secure-Src-Addr	Secure MAC address for the security enabled port.
Last-Src-Addr	Source MAC address of the last packet received by the port.
Shutdown	Status of whether the port was shut down because of security.
Trap	Status of whether port trap is enabled or disabled.

Table 2-47 show port Command Output Fields (continued)

Field	Description
IfIndex	Number of the ifIndex.
Broadcast-Limit	Broadcast threshold configured for the port.
Broadcast-Drop	Number of broadcast/multicast packets dropped because the broadcast limit for the port was exceeded.
Send admin	Flow-control administration. Possible settings: on indicates the local port sends flow control to the far end; off indicates the local port does not send flow control to the far end; desired indicates the local end sends flow control to the far end if the far end supports it.
FlowControl oper	Flow-control operation. Possible setting: disagree indicates the two ports could not agree on a link protocol.
Receive admin	Flow-control administration. Possible settings: on indicates the local port requires the far end to send flow control; off indicates the local port does not allow the far end to send flow control; desired indicates the local end allows the far end to send flow control.
FlowControl oper	Flow-control operation. Possible setting: disagree indicates the two ports could not agree on a link protocol.
RxPause	Number of Pause frames received.
TxPause	Number of Pause frames transmitted.
Unsupported Opcodes	Number of unsupported operating codes.
Align-Err	Number of frames with alignment errors (frames that do not end with an even number of octets and have a bad CRC) received on the port.
FCS-Err	The number of valid size frames with FCS errors but no framing errors.
Xmit-Err	Number of transmit errors that occurred on the port (indicating that the internal transmit buffer is full).
Rcv-Err	Number of receive errors that occurred on the port (indicating that the internal receive buffer is full).
UnderSize	Number of received frames less than 64 octets long (but are otherwise well-formed).
Single-Coll	Number of times one collision occurred before the port transmitted a frame to the media successfully.
Multi-Coll	Number of times multiple collisions occurred before the port transmitted a frame to the media successfully.
Late-Coll	Number of late collisions (collisions outside the collision domain).
Excess-Col	Number of excessive collisions that occurred on the port (indicating that a frame encountered 16 collisions and was discarded).

Table 2-47 show port Command Output Fields (continued)

Field	Description
Carri-Sen	Number of times the port sensed a carrier (to determine whether the cable is currently being used).
Runts	Number of received runt frames (frames that are smaller than the minimum IEEE 802.3 frame size) on the port.
Giants	Number of received giant frames (frames that exceed the maximum IEEE 802.3 frame size) on the port.
Last-Time-Cleared	Last time the port counters were cleared.
Auto-Part	The number of times the port entered the auto-partition state due to excessive consecutive collisions.
Data-rate mismatch	The number of valid size frames experienced overrun or underrun.
Src-addr change	The number of times the last source address changed.
Good-bytes	The total number of octets in frames with no error.
Short-event	The number of times activity with a duration less than the ShortEventMax Time (74-82 bit times) is detected.

1. These fields will change according to the system configuration.

show port auxiliaryvlan

Use the **show port auxiliaryvlan** command to display the port auxiliary VLAN status for a specific port.

show port auxiliaryvlan *vlan*

Syntax Description	<i>vlan</i> Number of the VLAN; valid values are from 1 to 1000 .
---------------------------	---

Defaults	This command has no default settings.
-----------------	---------------------------------------

Command Types	Switch command.
----------------------	-----------------

Command Modes	Normal.
----------------------	---------

Examples	This example shows how to display the port information for a specific auxiliary VLAN:
-----------------	---

```
Console> (enable) show port auxiliaryvlan 123
AuxiliaryVlan AuxVlanStatus Mod/Ports
-----
123             active           1/2, 2/1-3
Console> (enable)
```

[Table 2-48](#) describes the possible fields (depending on the port type queried) in the **show port auxiliaryvlan** command output.

Table 2-48 *show port auxiliaryvlan* Output

Field	Description
AuxiliaryVlan	Number of the auxiliary VLAN.
AuxVlanStatus	Status of the auxiliary VLAN.
Mod/Ports	Number of the module and ports assigned to the auxiliary VLAN.

Related Commands	set port auxiliaryvlan
-------------------------	--

show port broadcast

Use the **show port broadcast** command to display broadcast information.

```
show port broadcast [mod[/port]]
```

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
<i>/port</i>	(Optional) Number of the port on the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines On the 1000BASE-X switching module, when you specify a port for broadcast suppression, the traffic is suppressed only in the network-to-Catalyst 5000 family switch bus direction.

If you do not specify a *mod*, the ports on all modules are shown. If you do not specify a */port*, all the ports on the module are shown.

Examples This example shows how to display broadcast information for port 2 on module 1:

```
Console> show port broadcast 1/2
Port      Broadcast-Limit Broadcast-Drop
-----
1/2              75%           25%
Console>
```

[Table 2-49](#) describes the possible fields in the **show port broadcast** command output.

Table 2-49 show port broadcast Command Output Fields

Field	Description
Port	Module and port number.
Broadcast-Limit	Broadcast threshold configured for the port in percent or packets per second.
Broadcast-Drop	Number of broadcast/multicast packets dropped because the broadcast limit for the port was exceeded.

Related Commands [clear port broadcast](#)
[set port broadcast](#)

show port capabilities

Use the **show port capabilities** command to display the capabilities of the modules and ports in a switch.

show port capabilities [*mod*[/*port*]]

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
<i>/port</i>	(Optional) Number of the port on the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify a *mod*, the ports on all modules are shown.
If you do not specify a */port*, all the ports on the module are shown.

Examples This example shows how to show the port capabilities for module 1, port 1:

```

Console> show port capabilities 1/1
Model                WS-X5530
Port                 1/1
Type                 10/100BaseTX
Speed                auto,10,100
Duplex                half,full
Trunk encap type     802.1Q,ISL
Trunk mode            on,off,desirable,auto,nonegotiate
Channel              1/1-2,1/1-4
Broadcast suppression percentage(0-100)
Flow control         receive-(off,on),send-(off,on)
Security              yes
Membership            static,dynamic
Fast start            yes
QOS scheduling        rx-(none),tx-(none)
CoS rewrite           yes
ToS rewrite           IP-Precedence
Rewrite               yes
UDLD                  Capable
Voice vlan            no

```

Table 2-50 describes the possible fields (depending on the type of port queried) and the values in the **show port capabilities** command output.

Table 2-50 show port capabilities Command Output Fields

Field	Description
Model	Module model number.
Port	Module number and port number.
Type ¹	Port type, for example, 100BASE-FX MM, 100BASE-FX SM, or 10/100BASE-TX.
Speed ¹	Port speed setting (for example, auto, 100, or 1000).
Duplex	Duplex mode (half, full, auto, fdx, hdx, or no).
Trunk encap type	Trunk encapsulation type (ISL, 802.1Q, 802.10, or no).
Trunk mode	Trunk administrative status of the port (on, off, auto, desirable, nonegotiate, or no).
Channel	Status of which ports can form a channel group. The ports are shown in <i>mod/port</i> format. For example, 3/1-2 indicates module 3, ports 1 and 2. Also, any ports in range [<i>mod/l-mod/high_port</i>] or no ports may be indicated.
Broadcast suppression	Number of packets-per-second (pps) of broadcast/multicast traffic allowed on the port (0–150000) or the percentage of total available bandwidth that can be used by broadcast/multicast traffic (0–100).
Flow control	Flow-control options you can set (receive-[off, on, desired], send-[off, on, desired], or no).
Security	Status of whether port security is enabled (yes, no).
Membership	Method of membership assignment of a port or range of ports to a VLAN (static, dynamic).
Fast Start	Status of whether the spanning-tree port fast-start feature on the port is enabled (yes, no).
QoS Scheduling	(rx-(none),tx-(none)).
CoS Rewrite	Status of whether the port supports CoS rewrite (yes, no).
ToS Rewrite	Status of whether the port supports TOS rewrite (IP-Precedence).
Rewrite	Status of whether the port supports inline rewrite (yes, no).
UDLD	Status of whether the port supports UDLD (Capable, Not capable).
Voice Vlan	Status of whether the port supports voice or VLAN (yes, no).

1. These fields will change depending on the system configuration.

Related Commands

[set port broadcast](#)
[set port channel](#)
[set port security](#)
[set port speed](#)
[set spantree portfast](#)
[set trunk](#)

show port cdp

Use the **show port cdp** command to display port CDP enable state and message interval on the port.

```
show port cdp [mod[/port]]
```

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
<i>/port</i>	(Optional) Number of the port on the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify a *mod* value, the ports on all modules are shown.
If you do not specify a */port* value, all the ports on the module are shown.

Examples This example shows how to display CDP information for all ports:

```
Console> show port cdp
CDP                :enabled
Message Interval   :60
Hold Time          :180

Port      CDP Status
-----
2/1      enabled
2/2      enabled
5/1      enabled
5/2      enabled
5/3      enabled
5/4      enabled
5/5      enabled
5/6      enabled
5/7      enabled
5/8      enabled
Console>
```

Table 2-51 describes the fields in the **show port cdp** command output.

Table 2-51 *show port cdp Command Output Fields*

Field	Description
Port	Module and port number.
CDP Status	CDP status of the port (enabled, disabled).
Message-Interval	Interval between CDP message exchange with neighbor.

Related Commands

[set cdp](#)

[set cdp interval](#)

show port channel

Use the **show port channel** command to display EtherChannel information for a specific module or port.

```
show port channel [mod[/port]] [statistics | info [spantree | trunk | protocol |
gmrp | gvrp | qos]]
```

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
<i>port</i>	(Optional) Number of the port.
statistics	(Optional) Keyword to display EtherChannel PAgP statistics.
info	(Optional) Keyword to display EtherChannel configuration information.
spantree	(Optional) Keyword to display only spanning tree-related configuration information.
trunk	(Optional) Keyword to display only VLAN-trunk-related configuration information.
protocol	(Optional) Keyword to display only protocol-filtering-related configuration information.
gmrp	(Optional) Keyword to display only GMRP-related configuration information.
gvrp	(Optional) Keyword to display only GVRP-related configuration information.
qos	(Optional) Keyword to display only QoS-related configuration information.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If the module and port are not specified, EtherChannel information is shown for all channeling ports on all modules.

Examples This example shows how to display Fast EtherChannel information for port 1/4:

```
Console> show port channel 1/4
Port  Status      Channel          Admin Ch
      Mode                Group  Id
-----
 1/1  connected  auto silent          22   769
 1/2  connected  auto silent          22   769
 1/3  connected  auto silent          22   769
 1/4  connected  auto silent          22   769
-----
```

show port channel

Port	Device-ID	Port-ID	Platform
1/1	069003103 (5500)	3/13	WS-C5500
1/2	069003103 (5500)	3/14	WS-C5500
1/3	069003103 (5500)	3/15	WS-C5500
1/4	069003103 (5500)	3/16	WS-C5500

Console>

This example shows how to display PAGP packet statistics:

Console> **show port channel statistics**

Port	Admin Group	PAGP Pkts Transmitted	PAGP Pkts Received	PAGP Pkts InFlush	PAGP Pkts RetnFlush	PAGP Pkts OutFlush	PAGP Pkts InError
1/1	22	5063	5073	0	0	0	0
1/2	22	5062	5075	0	0	0	0
1/3	22	5068	5077	0	0	0	0
1/4	22	5076	5066	0	0	0	0

Console>

This example shows how to display EtherChannel configuration information:

Console> **show port channel info**

Switch Frame Distribution Method: mac both

Port	Status	Channel mode	Admin group	Channel id	Speed	Duplex	Vlan
1/1	connected	auto silent	22	769	a-100	a-full	1
1/2	connected	auto silent	22	769	a-100	a-full	1
1/3	connected	auto silent	22	769	a-100	a-full	1
1/4	connected	auto silent	22	769	a-100	a-full	1

Port	ifIndex	Oper-group	Neighbor Oper-group	Oper-Distribution Method	PortSecurity/Dynamic port
1/1	626	1		mac both	
1/2	626	1		mac both	
1/3	626	1		mac both	
1/4	626	1		mac both	

Port	Device-ID	Port-ID	Platform
1/1	069003103 (5500)	3/13	WS-C5500
1/2	069003103 (5500)	3/14	WS-C5500
1/3	069003103 (5500)	3/15	WS-C5500
1/4	069003103 (5500)	3/16	WS-C5500

Port	Trunk-status	Trunk-type	Trunk-vlans
1/1	trunking	n-isl	1-1005
1/2	trunking	n-isl	1-1005
1/3	trunking	n-isl	1-1005
1/4	trunking	n-isl	1-1005

```

Port  Portvlancost-vlans
-----
1/1
1/2
1/3
1/4
-----

Port  Port      Portfast  Port      Port
      priority          vlanpri  vlanpri-vlans
-----
1/1      32 disabled      0
1/2      32 disabled      0
1/3      32 disabled      0
1/4      32 disabled      0
-----

Port  IP          IPX          Group
-----
1/1  on          auto-on     auto-on
1/2  on          auto-on     auto-on
1/3  on          auto-on     auto-on
1/4  on          auto-on     auto-on
-----

Port  GMRP      GMRP          GMRP
      status   registration  forwardAll
-----
1/1  enabled   normal        disabled
1/2  enabled   normal        disabled
1/3  enabled   normal        disabled
1/4  enabled   normal        disabled
-----

Port  GVRP      GVRP          GVRP
      status   registration  applicant
-----
1/1  disabled  normal        normal
1/2  disabled  normal        normal
1/3  disabled  normal        normal
1/4  disabled  normal        normal
-----

Port  Qos-Tx  Qos-Rx  Qos-Trust  Qos-DefCos
      PortType PortType Type
-----
1/1  -        -        untrusted  0
1/2  -        -        untrusted  0
1/3  -        -        untrusted  0
1/4  -        -        untrusted  0
-----

```

Console>

Table 2-52 describes the fields in the **show port channel** output.

Table 2-52 show port channel Command Output Fields

Field	Description
Port	Module and port number
Status	Port connection status
Channel mode	EtherChannel mode
Admin Group	EtherChannel administrative group
Ch Id	EtherChannel ID
Device-ID	Serial number and hostname of neighboring device
Port-ID	Connected port number on neighboring device
Platform	Neighboring device platform

Table 2-53 describes the fields in the **show port channel statistics** output.

Table 2-53 show port channel statistics Command Output Fields

Field	Description
Port	Port number
Admin Group	EtherChannel administrative group
PAGP Pkts Transmitted	Number of PAGP packets transmitted on the port
PAGP Pkts Received	Number of PAGP packets received on the port
PAGP Pkts InFlush	Number of PAGP flush packets received
PAGP Pkts RetnFlush	Number of PAGP flush packets returned
PAGP Pkts OutFlush	Number of PAGP flush packets transmitted
PAGP Pkts InError	Number of PAGP error packets received

Table 2-54 describes the fields in the **show port channel info** output.

Table 2-54 show port channel info Command Output Fields

Field	Description
Switch Frame Distribution Method	Frame distribution method for all EtherChannels on the switch
Port	Port number
Status	Port connection status
Channel mode	EtherChannel mode
Admin group	EtherChannel administrative group

Table 2-54 show port channel info Command Output Fields (continued)

Field	Description
Channel id	EtherChannel ID
Speed	Port speed
Duplex	Port duplex
Vlan	Port VLAN membership
if-index	Interface index number
Oper-group	Capability of the group
Neighbor Oper-group	Device ID of the neighboring device with which the port is channeling
Chan cost	EtherChannel spanning-tree port cost
Oper-Distribution Method	EtherChannel frame distribution method
PortSecurity/Dynamic Port	Status of whether the port is secure or dynamic
Device-ID	Serial number and hostname of neighboring device
Port-ID	Connected port number on neighboring device
Platform	Neighboring device platform
Trunk-status	VLAN trunking mode
Trunk-type	VLAN trunk encapsulation type
Trunk-vlans	Allowed VLAN list for the trunk
Portvlancost-vlans	Spanning-tree port-VLAN cost and associated VLAN IDs
Port priority	Spanning-tree port priority
Portfast	Spanning-tree PortFast enable state
Port vlanpri-vlans	Spanning-tree port-VLAN priority and associated VLAN IDs
IP	IP protocol filtering mode
IPX	IPX protocol filtering mode
Group	Group protocol filtering mode
GMRP status	GMRP enable state
GMRP registration	GMRP registration mode
GMRP forwardAll	GMRP forward-all enable status
GVRP status	GVRP enable state
GVRP registration	GVRP registration mode
GVRP applicant	GVRP applicant mode
Qos-Tx	Transmit queue and threshold port type
Qos-Rx	Receive queue and threshold port type
Qos-Trust	QoS port trust
QoS-DefCos	QoS default CoS

■ show port channel

Related Commands

[set channel cost](#)
[set channel vlancost](#)
[set port channel](#)
[show channel](#)
[show channel group](#)

show port counters

Use the **show port counters** command to show all the counters for a port.

show port counters [*mod/port*]

Syntax Description	<i>mod</i>	(Optional) Number of the module for which to show port counter information.
	<i>/port</i>	(Optional) Number of the port on the module for which to show port counter information.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify a *mod* value, the ports on all modules are shown.
If you do not specify a */port* value, all the ports on the module are shown.

Examples This example shows the output of the **show port counters** command:

```

Console> show port counters
Port Align-Err  FCS-Err    Xmit-Err   Rcv-Err    Broad-Limit  Broad-Drop
-----
1/1    0           0           0           0           -            0
1/2    0           0           0           0           -            0
4/1    0           0           0           0           10000p/s     0
4/2    0           0           0           0           100p/s       53728
4/3    0           0           0           0           -            0
4/4    0           0           0           0           11.50p/s     52
Port Single-Col Multi-Coll  Late-Coll  Excess-Col  Carri-Sens  Runts  Giants
-----
1/1    0           0           0           0           0           0       -
1/2    0           0           0           0           0           0       -
4/1    0           0           0           0           0           0       -
4/2    0           0           0           0           0           0       -
4/3    0           0           0           0           0           0       -
4/4    0           0           0           0           0           0       -

Port CE-State Conn-State Type Neig  Ler
Con Est Alm Cut Lem-Ct  Lem-Rej-Ct Tl-Min
-----
3/1  isolated connecting A  U    no   9   9   7   0   0 102
3/2  isolated connecting B  U    no   9   8   7   0   0 40
Last-Time-Cleared
-----

```

■ show port counters

```

Last-Time-Cleared
-----
Fri Sep 1 2000, 20:03:06

Last-Time-Cleared
-----
Fri Sep 1 2000, 20:03:06

Last-Time-Cleared
-----
Fri Sep 1 2000, 20:03:06
Console>

```

Table 2-55 describes the possible fields (depending on the port type queried) in the **show port counters** command output.

Table 2-55 show port counters Command Output Fields

Field	Description
Port	Module and port number.
Align-Err	Number of frames with alignment errors (frames that do not end with an even number of octets and have a bad CRC) received on the port.
FCS-Err	Number of frame check sequence errors that occurred on the port.
Xmit-Err	Number of transmit errors that occurred on the port (indicating that the internal transmit buffer is full).
Rcv-Err	Number of receive errors that occurred on the port (indicating that the internal receive buffer is full).
UnderSize	Number of received frames less than 64 octets long (but are otherwise well formed).
Broadcast-Limit	Broadcast threshold configured for the port in percent or packets per second.
Broadcast-Drop	Number of broadcast/multicast packets dropped because the broadcast limit for the port was exceeded.
Single-Coll	Number of times one collision occurred before the port successfully transmitted a frame to the media.
Multi-Coll	Number of times multiple collisions occurred before the port successfully transmitted a frame to the media.
Late-Coll	Number of late collisions (collisions outside the collision domain).
Excess-Col	Number of excessive collisions that occurred on the port (indicating that a frame encountered 16 collisions and was discarded).
Carri-Sen	Number of times the port sensed a carrier (to determine whether the cable is currently being used).
Runts	Number of received runt frames (frames that are smaller than the minimum IEEE 802.3 frame size) on the port.
Giants	Number of received giant frames (frames that exceed the maximum IEEE 802.3 frame size) on the port.
CE-State	Connection entity status.

Table 2-55 *show port counters Command Output Fields (continued)*

Field	Description
Conn-State	<p>Connection state of the port:</p> <ul style="list-style-type: none"> • Disabled—The port has no line module or was disabled by the user. • Connecting—The port attempted to connect or was disabled. • Standby—The connection was withheld or was the inactive port of a dual-homing concentrator. • Active—The port made a connection. • Other—The concentrator was unable to determine the Conn-State.
Type	Type of port, such as A—A port and B—B port.
Neig	<p>Type of port attached to this port. The neighbor can be one of these types:</p> <ul style="list-style-type: none"> • A—A port • B—B port • M—M port • S—Slave port • U—The concentrator cannot determine the type of the neighbor port.
Ler Con	Status of whether the port is currently in a LER condition.
Est	Estimated LER.
Alm	LER at which a link connection exceeds the LER alarm threshold.
Cut	LER cutoff value (the LER at which a link connection is flagged as faulty).
Lem-Ct	Number of LEM errors received on the port.
Lem-Rej-Ct	Number of times a connection was rejected because of excessive LEM errors.
Tl-Min	TL-min value (the minimum time to transmit a FDDI PHY line state) before advancing to the next PCM state.
Last-Time-Cleared	Last time the port counters were cleared.

Related Commands [show port](#)

show port dot1x

Use the **show port dot1x** command to display all the configurable and current state values associated with the authenticator PAE and backend authenticator and statistics for the different types of EAP packets transmitted and received by the authenticator on a specific port.

```
show port dot1x [mod[/port]]
```

```
show port dot1x statistics [mod[/port]]
```

Syntax Description

<i>mod</i>	(Optional) Number of the module.
<i>port</i>	(Optional) Number of the port on the module.
statistics	Keyword to display statistics for different EAP packets transmitted and received by the authenticator on a specific port.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Normal.

Examples

This example shows how to display all the configurable and current state values associated with the authenticator PAE and backend authenticator on a specific port:

```
Console> show port dot1x 3/3
Port  Auth-State          BEnd-State  Port-Control      Port-Status
-----
 3/3  force-authorized    idle       force-authorized  authorized
Port  Multiple-Host Re-authentication
-----
 3/3  disabled           disabled
Console>
```

This example displays the statistics of different types of EAP packet that are transmitted and received by the authenticator on a specific port:

```
Console> show port dot1x statistics 4/1,4/2
Port  Tx_Req/Id  Tx_Req  Tx_Total  Rx_Start  Rx_Logff  Rx_Resp/Id  Rx_Resp
4/1   1          2       4         2         0         1           0
4/2   3          4       6         0         1         1           0

Port  Rx_Invalid  Rx_Len_Err  Rx_Total  Last_Rx_Frm_Ver  Last_Rx_Frm_Src_Mac
4/1   0           0           3         1                 00-f0-3b-2b-d1-a9
4/2   0           0           3         1                 00-d0-62-95-7b-ff
Console>
```

Related Commands

[clear dot1x config](#)
[set dot1x](#)
[set port dot1x](#)
[show dot1x](#)

show port filter

Use the **show port filter** command to view MAC addresses and protocol filters that have been configured on the Token Ring module ports.

show port filter [*mod*] [**canonical**]

show port filter *mod/port* [**canonical**]

show port filter *mac_addr* [**canonical**]

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
canonical	(Optional) Keyword to display the MAC address in canonical format.
<i>lport</i>	Number of the port on the module.
<i>mac_addr</i>	MAC address contained in the packets to be filtered. You need to enter this address in canonical format (00-11-33-44-55) or in noncanonical format (00:11:22:33:44:55).

Defaults By default, MAC addresses are shown in noncanonical format.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display the filters configured for a port on the Token Ring module:

```

Console> show port filter 3/1
Port  Mac-Addr          Type
-----
 3/1  00:00:00:00:00:00 deny
      00:00:00:00:00:00 deny
      00:00:00:00:00:00 deny
      00:00:00:00:00:00 deny

Port  Protocol           Type
-----
 3/1  0x8038              deny
      0xf0f0              deny

```

Table 2-56 describes the fields in the **show port filter** command output.

Table 2-56 show port filter Command Output Fields

Field	Description
Port	Module and port number.
MAC-Addr	MAC address contained in packets to be filtered.

Table 2-56 *show port filter Command Output Fields (continued)*

Field	Description
Type	Type of MAC address filter configured. Possible types are deny (block any packet containing a specific MAC address) or permit (allow any packet containing a specific MAC address).
Protocol	Types of protocols that you want to filter.
Type	Type of protocol filter configured. Possible types are deny (block any packet containing a specific protocol type) or permit (allow any packet containing a specific protocol type).

Related Commands

[clear port filter](#)
[set port filter](#)

show port flowcontrol

Use the **show port flowcontrol** command to display per-port status information and statistics related to flow control.

```
show port flowcontrol [mod[/port]]
```

Syntax Description	mod	(Optional) Number of the module.
	/port	(Optional) Number of the port on the module. If you do not specify a number, filters configured on all the ports on the module are shown.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display the flow-control port status and statistics for a specific module:

```
Console> show port flowcontrol 1
```

```
Port      Send FlowControl   Receive FlowControl   RxPause TxPause Unsupported
         admin   oper             admin   oper                opcodes
-----
1/1      on     off              off     off                  0        0        0
1/2      off    off              on      on                    0        0        0
1/3      off    off              on      on                    0        0        0
1/4      off    off              on      on                    0        0        0
```

```
Console>
```

[Table 2-57](#) describes the fields in the **show port flowcontrol** command output.

Table 2-57 show port flowcontrol Command Output Fields

Field	Description
Port	Module and port number.
Send Flowcontrol Admin	Flow-control administration. Possible settings: on indicates the local port sends flow control to the far end; off indicates the local port does not send flow control to the far end; desired indicates the local end sends flow control to the far end if the far end supports it.
Send Flowcontrol Oper	Flow-control operation. Possible setting: on indicates flow control is operational; off indicates flow control is not operational; disagree indicates the two ports could not agree on a link protocol.

Table 2-57 *show port flowcontrol Command Output Fields (continued)*

Field	Description
Receive Flowcntl Admin	Flow-control administration. Possible settings: on indicates the local port requires the far end to send flow control; off indicates the local port does not allow the far end to send flow control; desired indicates the local end allows the far end to send flow control.
Receive Flowcntl Oper	Flow-control operation. Possible setting: on indicates flow control is operational; off indicates flow control is not operational; disagree indicates the two ports could not agree on a link protocol.
RxPause	Number of Pause frames received.
TxPause	Number of Pause frames transmitted.

Related Commands [set port flowcontrol](#)

show port ifindex

Use the **show port ifindex** command to view ifIndex information on a per-port or per-module basis.

show port ifindex [*mod*]

show port ifindex *mod/port*

Syntax Description	<i>mod</i>	(Optional) Number of the module.
	<i>port</i>	Number of the port.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display ifIndex information for all the ports:

```

Console> show port ifindex
Port    ifIndex
-----  -
1/1     3
1/2     4
3/1     383
3/2     384
4/1     385
4/2     386
4/3     387
4/4     388
4/5     389
4/6     390
4/7     391
4/8     392
4/9     393
4/10    394
4/11    395
4/12    396
4/13    397
Console>

```

show port jumbo

Use the **show port jumbo** command to display the jumbo frame settings for all ports with the jumbo frame feature enabled.

show port jumbo

Syntax Description This command has no keywords or arguments.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display the jumbo frame settings for ports with the feature enabled:

```
Console> show port jumbo
Jumbo frames MTU size is 9216 bytes.
Jumbo frames enabled on port(s) 6/1-2,7/1-8.
Console>
```

This example shows the display if the jumbo frame feature could not be enabled on some ports at system startup:

```
Console> show port jumbo
Jumbo frames MTU size is 9216 bytes.
Jumbo frames enabled on port(s) 6/1-2.
Jumbo frames error-disabled on port(s) 7/1-8.
Console>
```

Related Commands [set port jumbo](#)

show port mac

Use the **show port mac** command to display port MAC counter information.

```
show port mac [mod[/port]]
```

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
<i>port</i>	(Optional) Number of the port on the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display port MAC counter information for a specific module:

```
Console> show port mac 1
```

```

Port      Rcv-Unicast      Rcv-Multicast      Rcv-Broadcast
-----
 1/1              0                  0                  0
 1/2              0                  0                  0
 1/3              0                  0                  0
 1/4              0                  0                  0

Port      Xmit-Unicast      Xmit-Multicast      Xmit-Broadcast
-----
 1/1              0                  0                  0
 1/2              0                  0                  0
 1/3              0                  0                  0
 1/4              0                  0                  0

Port      Rcv-Octet      Xmit-Octet
-----
 1/1              0              0
 1/2              0              0
 1/3              0              0
 1/4              0              0

MAC      Dely-Exced  MTU-Exced  In-Discard  Lrn-Discrd  In-Lost  Out-Lost
-----
 1/1              0          0          0          0          0          0
 1/2              0          0          0          0          0          0
 1/3              0          0          0          0          0          0
 1/4              0          0          0          0          0          0

Last-Time-Cleared
-----
Fri Sep 1 2000, 20:03:06
Console>
```

Table 2-58 describes the possible fields in the **show port mac** command output.

Table 2-58 show port mac Command Output Fields

Field	Description
Rcv-Unicast	Number of unicast frames received on the port.
Rcv-Multicast	Number of multicast frames received on the port.
Rcv-Broadcast	Number of broadcast frames received on the port.
Xmit-Unicast	Number of unicast frames transmitted by the port.
Xmit-Multicast	Number of multicast frames transmitted by the port.
Xmit-Broadcast	Number of broadcast frames transmitted by the port.
Rcv-Octet	Number of octet frames received on the port.
Xmit-Octet	Number of octet frames transmitted on the port.
Dely-Exced	Number of transmit frames aborted due to excessive deferral.
MTU-Exced	Number of frames for which the MTU size was exceeded.
In-Discard	Number of incoming frames that were discarded because the frame did not need to be switched.
Out-Discard	Number of outbound packets to be discarded even though no errors had been detected to prevent their being transmitted.
In-Lost	Number of incoming frames.
Out-Lost	Number of outbound packets.

Related Commands

[clear counters](#)

show port negotiation

Use the **show port negotiation** command to display the link negotiation protocol setting for the specified port.

```
show port negotiation [mod[/port]]
```

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
<i>port</i>	(Optional) Number of the port on the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines This command is supported on Gigabit Ethernet and some Fast Ethernet ports. If the port does not support the command, the following message appears (where N/N is the module and port number):

```
Feature not supported on Port N/N.
```

Examples This example shows how to display the link negotiation protocol settings on module 3, port 1:

```
Console> show port negotiation 3/1
Port      Link Negotiation
-----
3/1              enabled
Console>
```

Related Commands [set port negotiation](#)
[show port flowcontrol](#)

show port protocol

Use the **show port protocol** command to view protocol filters configured on the ports.

show port protocol [*mod*[/*port*]]

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
<i>/port</i>	(Optional) Number of the port on the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify a port number, filters configured on all the ports on the module are shown.

Examples This example shows how to view protocol filters on configured ports:

```
Console> show port protocol
Port      Vlan      IP      IP Hosts  IPX      IPX Hosts  Group      Group Hosts
-----
1/1       1         on      0         on       0          on         0
1/2       1         on      0         on       0          on         0
Console>
```

This example shows how to view protocol filters on port 15 of module 3:

```
Console> show port protocol 3/15
Port      Vlan      IP      IP Hosts  IPX      IPX Hosts  Group      Group
Hosts
-----
3/15     1000     auto-on 2         auto-off 0          auto-off 0

To:

Port      Vlan      AuxVlan  IP      IP      IPX      IPX      Group      Group
Status   Hosts   Status   Hosts   Status   Hosts   Status   Hosts
-----
3/15     1000     234     auto-on 2         auto-off 0          auto-off 0
Console>
```

Related Commands [set port protocol](#)

show port qos

Use the **show port qos** command to display QoS-related information.

```
show port qos [mod[/port]]
```

Syntax Description	<i>mod[/port]</i> (Optional) Number of the module and port.
---------------------------	---

Defaults	This command has no default settings.
-----------------	---------------------------------------

Command Types	Switch command.
----------------------	-----------------

Command Modes	Normal.
----------------------	---------

Usage Guidelines



Note

When a switchover occurs, you cannot view the ACLs and policers deployed using COPS-DS until the COPS-DS client on the new active supervisor engine establishes connection to the PDP and downloads the QoS policy. The runtime fields in the output display will be blank until QoS policy is downloaded to the new active supervisor engine.

This command is supported only on Supervisor Engine II G or III G, or Supervisor Engine III.

Examples

This example shows how to display QoS-related information for a specific module and port:

```
Console> show port qos 2/1
```

```
QoS is enabled for the switch.
```

```
QoS policy source for the switch set to local.
```

Port	Interface	Type	Interface	Type	Policy	Source	Policy	Source
	config		runtime		config		runtime	
2/1	vlan-based		vlan-based		COPS		local	

Port	TxPort	Type	RxPort	Type	Trust	Type	Trust	Type	Def	CoS	Def	CoS
					config		runtime		config		runtime	
2/1	2q2t		1q4t		untrusted		untrusted		0			

```
Config:
```

Port	ACL name	Type

```
No ACL is mapped to port 2/1.
```

```
Runtime:
```

```

Port  ACL name                               Type
-----
No ACL is mapped to port 2/1.
Console>

```

This example shows how to display QoS-related information for a single port on a specific module, which in this example is connected to a port on a phone device:

```

Console> show port qos 3/4
QoS is disabled for the switch.
Configured settings are not used.
QoS policy source for the switch set to local.

Port  Interface Type Interface Type Policy Source Policy Source
      config      runtime  config      runtime
-----
  3/4          -          -          local      local

Port  TxPort Type  RxPort Type  Trust Type  Trust Type  Def CoS Def CoS
      Ext-Trust Ext-Cos  config runtime  config runtime
-----
  3/4          2q2t      1q4t  untrusted  trust-cos      0      0
Port  Ext-Trust Ext-Cos
-----
  3/4  untrusted      0

(*)Trust type set to untrusted.

Config:
Port  ACL name                               Type
-----
No ACL is mapped to port 3/4.

Runtime:
Port  ACL name                               Type
-----
No ACL is mapped to port 3/4.
Console>

```

Related Commands

- [set port qos](#)
- [set port qos cos](#)
- [set port qos trust](#)
- [set qos](#)
- [set qos ip-filter](#)
- [set qos mac-cos](#)
- [set qos map](#)
- [set qos router-mac](#)
- [set qos wred-threshold](#)

show port security

Use the **show port security** command to view port security configuration information and statistics.

show port security *mod**ports...* [**statistics**]

Syntax Description		
<i>mod</i>		Number of the module.
<i>ports...</i>		Number of the ports.
statistics		Keyword to display security statistics.

Defaults By default configuration information is displayed.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you enter this command on a Token Ring port, the following message is generated:

```
Feature not supported for Module x.
```

This command is not supported by the three-port Gigabit Ethernet switching module (WS-X5403).

Examples This example shows how to display port security configuration information on a secured port and the output:

```
Console> (enable) show port security 4/1
Port Security Violation Shutdown-Time Age-Time Maximum-Addrs Trap IfIndex
-----
4/1 enabled shutdown 120 1440 25 disabled 3

Port Secure-Src-Addrs Age-Left Last-Src-Addr Shutdown Shutdown-Time-Left
-----
4/1 00-11-22-33-44-55 4 00-11-22-33-44-55 No -
    00-10-14-da-77-f1 100
Console> (enable)
```

This example shows the output on a port that has experienced a security violation:

```
Console> (enable) show port security 4/1
Port Security Violation Shutdown-Time Age-Time Maximum-Addrs Trap IfIndex
-----
4/1 enabled shutdown 120 600 25 disabled 3

Port Secure-Src-Addrs Age-Left Last-Src-Addr Shutdown Shutdown-Time-Left
-----
4/1 00-11-22-33-44-55 60 00-11-22-33-44-77 Yes -
    00-10-14-da-77-f1 200
    00-11-22-33-44-66 200
Console> (enable)
```

This example shows that port 4/1 has been shut down and that the timeout left is 60 minutes before the port will be reenabled:

```

Console> (enable) show port security 4/1
Port Security Violation Shutdown-Time Age-Time Maximum-Addrs Trap IfIndex
-----
4/1 enabled restrict 120 600 25 disabled 3

Port Secure-Src-Addrs Age-Left Last-Src-Addr Shutdown Shutdown-Time-Left
-----
4/1 00-11-22-33-44-55 60 00-11-22-33-44-77 Yes -
    00-10-14-da-77-ff
Console> (enable)

```

Related Commands

[clear qos config](#)
[set port security](#)

show port security statistics

Use the **show port security** command to view port security configuration statistics.

```
show port security statistics mod | mod/port [system]
```

Syntax Description		
	<i>mod</i>	Number of the module.
	<i>mod/port</i>	Number of the module and port.
	system	(Optional) Keyword to display systemwide configuration statistics.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you enter this command on a Token Ring port, the following message is generated:

```
Feature not supported for Module x.
```

This command is not supported by the three-port Gigabit Ethernet switching module (WS-X5403).

Examples This example shows how to display port security configuration information on a secured port and the output:

```
Console> (enable) show port security statistics system
Module 1:
  Total ports: 4
  Total MAC address(es): 4
  Total global address space used (out of 1024): 0
  Status: installed

Module 3:
  Total ports: 24
  Total MAC address(es): 24
  Total global address space used (out of 1024): 0
  Status: installed

Module 8:
  Module does not support port security feature
Module 10:
  Module does not support port security feature
Console> (enable)
```

Related Commands [clear qos config](#)
[set port security](#)

show port status

Use the **show port status** command to display port status information.

```
show port status [mod[/port]]
```

Syntax Description	
<i>mod</i>	(Optional) Number of the module.
<i>/port</i>	(Optional) Number of the port on the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify a module number, the ports on all modules are shown.
If you do not specify a port number, all the ports on the module are shown.

Examples This example shows how to display port status information for all ports:

```
Console> show port status
Port  Name                Status      Vlan      Level Duplex Speed Type
-----
1/1   connected 523        normal   half  100 100BaseTX
1/2   notconnect 1          normal   half  100 100BaseTX
2/1   connected trunk      normal   half  400 Route Switch
3/1   notconnect trunk      normal   full  155 OC3 MMF ATM
5/1   notconnect 1          normal   half  100 FDDI
5/2   notconnect 1          normal   half  100 FDDI
Console>
```

Table 2-59 describes the fields in the **show port status** command output.

Table 2-59 *show port status* Command Output Fields

Field	Description
Port	Module and port number.
Name	Name (if configured) of the port.
Status	Status of the port (connected, notconnect, connecting, standby, faulty, inactive, shutdown, disabled, or monitor).
Vlan	VLANs to which the port belongs.
Level	Level setting for the port (normal or high).

Table 2-59 *show port status Command Output Fields (continued)*

Field	Description
Duplex	Duplex setting for the port (auto, full, fdx, half, hdx, a-half, a-hdx, a-full, or a-fdx).
Speed	Speed setting for the port (auto, 10, 100, 155, a-10, a-100, 4, 16, a-14, or a-16).
Type ¹	Port type, for example, 10BASE-T, 10BASE-FL MM, 100BASE-TX, 100BASE-T4, 100BASE-FX MM, 100BASE-FX SM, 10/100BASE-TX, TokenRing, FDDI, CDDI, or RSM.

1. These fields will change according to the system configuration.

show port trap

Use the **show port trap** command to display port trap status.

```
show port trap [mod[/port]]
```

Syntax Description

<i>mod</i>	(Optional) Number of the module.
<i>port</i>	(Optional) Number of the port on the module.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

If you do not specify a *mod*, the ports on all modules are shown. If you do not specify a *port*, all the ports on the module are shown.

Examples

This example shows how to display port trap status for a specific module:

```
Console> show port trap 1

Port   Trap
-----
 1/1   disabled
 1/2   enabled
 1/3   disabled
 1/4   disabled
Console>
```

Related Commands

[set port trap](#)

show port trunk

Use the **show port trunk** command to display port trunk information.

```
show port trunk [mod[/port]]
```

Syntax Description	<i>mod</i>	(Optional) Number of the module.
	<i>port</i>	(Optional) Number of the port on the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify a *mod*, the ports on all modules are shown. If you do not specify a *port*, all the ports on the module are shown.

Examples This example shows how to display trunking information for a specific port:

```
Console> (enable) show port trunk 4/5
* - indicates vtp domain mismatch
```

```
Port      Mode           Encapsulation  Status      Native vlan
-----  -
4/5      nonegotiate   dot1q          trunking    1
```

```
Port      Vlans allowed on trunk
```

```
-----
4/5      1-1005
```

```
Port      Vlans allowed and active in management domain
```

```
-----
4/5      1-3,1003,1005
```

```
Port      Vlans in spanning tree forwarding state and not pruned
```

```
-----
4/5      1005
```

```
Console> (enable)
```

Table 2-60 describes the fields in the **show port trunk** command output.

Table 2-60 show port trunk Command Output Fields

Field	Description
Port	Module and port numbers.
Mode	Trunk administrative status of the port (on, off, auto, or desirable).
Encapsulation	Trunking type configured by administration.
Status	Status of whether the port is trunking or nontrunking.
Native VLAN	Number of the native VLAN for the trunk link (for 802.1Q trunks, the VLAN for which untagged traffic can be transmitted and received over the trunk; for ISL trunks, packets are tagged on all VLANs, including the native VLAN).
Vlans allowed on trunk	Range of VLANs allowed to go on the trunk (default is 1 to 1000).
Vlans allowed and active in management domain	Range of active VLANs within the allowed range.
Vlans in spanning tree forwarding state and not pruned	Range of VLANs that actually go on the trunk with Spanning Tree Protocol forwarding state.

Related Commands [set trunk](#)

show proc

Use the **show proc** command to display CPU, memory allocation, and process utilization information.

```
show proc [cpu | mem] {mod}
```

Syntax Description	
cpu	(Optional) Keyword to display CPU information.
mem	(Optional) Keyword to display malloced memory information.
<i>mod</i>	Number of the module.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Privileged.

Usage Guidelines This command can only be entered in privileged mode. If you do not specify **cpu** or **mem**, process information is displayed.

The **mem** keyword allows you to display malloced memory information, such as how much each process has allocated and how much memory it has freed can be obtained.

Examples This example shows how to display CPU information:

```
Console> (enable) show proc cpu
```

```

CPU utilization for five seconds:  1.44%
                             one minute:  1.96%
                             five minutes:  1.02%
```

PID	Runtime(ms)	Invoked	uSecs	5Sec	1Min	5Min	TTY	Process
1	0	0	0	98.56%	98.04%	98.98%	0	Kernel and Idle
2	4	38	1000	0.00%	0.00%	0.00%	0	Flash MIB Updat
3	1421	5547	466000	0.00%	0.00%	0.00%	0	SynDiags
4	166212	519822	19000	0.22%	0.00%	0.00%	0	SynConfig
5	185	94681	1000	0.00%	0.00%	0.00%	0	Statuspoll
6	472	297	0	0.00%	0.00%	0.00%	0	SWPoll64bCnt
7	90	3548211	1000	0.00%	0.00%	0.00%	0	SL_TASK
8	113	141960	106000	0.00%	0.00%	0.00%	0	RedundantTask

```
Console> (enable)
```

This example shows how to display process information:

```
Console> show proc mem
```

```
Memory Used: 1281040
Freed: 9597104
Total: 10878144
```

```

PID      TTY      Allocated  Freed    Holding  Process
-----
1        0        711008    2832    708176   Kernel and Idle
2        0        240       0        240      Flash MIB Updat
3        0        284128    283712   416      SynDiags
4        0        211856    1920    209936   SynConfig
5        0        96        0        96       Statuspoll
6        0        4944     4352    592      SWPoll164bCnt
7        0        80       0        80       SL_TASK
8        0        2272     1952    320      RedundantTask
Console>
```

This example shows how to display process utilization information:

```
Console> show proc
```

```
CPU utilization for five seconds: 0.44%
one minute: 1.00%
five minutes: 1.00%
```

```

PID Q  T  PC      Runtime(ms)  Invoked  uSecs  Stacks  TTY  Process
-----
1   1  rd 0x8041ab80 0           0        0      1580/6144 0   Kernel and Idle
2   1  st 0x8041adfc 4           38       1000   1604/6144 0   Flash MIB Updat
3   2  st 0x8041adfc 1421        5547    466000 3364/6144 0   SynDiags
4   1  si 0x8041adfc 166438     520543  19000  1764/6144 0   SynConfig
5   2  si 0x8041adfc 186        94812   1000   1576/6144 0   Statuspoll
6   4  si 0x8041adfc 472        297     0       244/6144 0   SWPoll164bCnt
7   2  si 0x8041adfc 92         3553068 1000   904/6144 0   SL_TASK
8   2  si 0x8041adfc 113        142157  106000 1172/6144 0   RedundantTask
Console>
```

Table 2-61 describes the possible fields in the **show proc** command outputs.

Table 2-61 show proc Command Output Fields

Field	Definition
CPU Utilization	Sum of all the loads from all the processes running on the CPU in the last 5 seconds, 1 minute, and 5 minutes.
PID	Process ID.
Runtime	Time the process has run since initiation (in milliseconds).
Invoked	Number of times the process was invoked since initiation.
uSecs	Maximum time a process ran in a single invocation.
5sec	Amount of time this process ran on the CPU in the last 5-second interval.
1Min	Amount of time this process ran on the CPU in the last 1-minute interval.
5Min	Amount of time this process ran on the CPU in the last 5-minute interval.
TTY	TTY associated with the process.
Process	Name of the process.

Table 2-61 show proc Command Output Fields (continued)

Field	Definition
Allocated	Amount of all the memory allocated by the process since it was initiated, including the memory previously freed up.
Freed	Amount of memory the process has freed up until now.
Holding	Amount of memory the process is currently holding.
PC	Calling PC for “show_process” function.
Q	Process priority in terms of numbers. Low number means high priority.
T	State of the process (Running, we=waiting for event, st=sleeping, si=sleeping on an interval, rd=ready to run, id=idle, xx=dead/zombie).
Stacks	Size of the stack used by the process or the total stack size allocated to the process (in bytes).

show protocolfilter

Use the **show protocolfilter** command to list whether protocol filtering is enabled or disabled.

show protocolfilter

Syntax Description This command has no keywords or arguments.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines This command is not supported by the three-port Gigabit Ethernet switching module (WS-X5403).

Examples This example shows how to display whether protocol filtering is enabled or disabled:

```
Console> show protocolfilter
Protocol filtering is enabled on this switch.
Console>
```

Related Commands [set port protocol](#)

show qos info

Use the **show qos info** command to display QoS-related information for a specified port.

```
show qos info {runtime | config} modlport
```

```
show qos info config port_type tx
```

Syntax Description	Parameter	Description
	runtime	Keyword to show the current QoS run time information.
	config	Keyword to show the NVRAM setting of QoS.
	<i>modlport</i>	Number of the module and the port.
	<i>port_type</i>	QoS port type. Valid port type is 1q4t .
	tx	Keyword to specify the transmit drop threshold.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines This command is supported only with Supervisor Engine II G or III G, or Supervisor Engine III.

The **show qos info runtime** command display shows both the absolute values and the percentages you specified for the drop thresholds, queue sizes, and WRR. However, the absolute values may not exactly match the percentages specified because of the precision limitations of the hardware.

The transmit drop threshold percentages specified select a buffer usage level where each threshold applies. The percentages to buffer usage level shown below are approximate values that depend on the packet buffer size, which depends on the ASIC type.

- 1% is a threshold when 2,044 bytes of the transmit queue buffer have been used
- 2% and 3% = 4,092 bytes have been used
- 4% through 7% = 8,188 bytes have been used
- 8% through 14% = 16,380 bytes have been used
- 15% through 28% = 32,767 bytes have been used
- 29% through 57% = 65,532 bytes have been used
- 58% through 100% = 131,068 bytes have been used

The number preceding the **t** in the *port-type* value determines the number of threshold values that the hardware supports. For example, with **1q4t**, four thresholds are specified. The number preceding the **q** in the *port-type* value determines the number of the queues that the hardware supports. For example, with **1q4t**, one queue is specified.

Examples

This example shows how to display QoS-related NVRAM transmit threshold information:

```

Console> show qos info config 1q4t tx
QoS setting in NVRAM for 1q4t transmit:
QoS is enabled
Queue and Threshold Mapping:
Queue Threshold CoS
-----
1      1      0 1
1      2      2 3
1      3      4 5
1      4      6 7
Tx WRED thresholds:
Queue #  Thresholds in percentage ( in abs values )
-----
1          14% 28% 57% 100%
Console>

```

This example shows how to display the current QoS runtime information for a port:

```

Console> show qos info runtime 8/1
Run time setting of QoS:
QoS is enabled
Port 8/1 has 1 transmit queue with 4 drop thresholds (1q4t).
Default CoS = 0
Queue and Threshold Mapping:
Queue Threshold CoS
-----
1      1      0 1
1      2      2 3
1      3      4 5
1      4      6 7
Tx WRED thresholds:
Queue #  Thresholds in percentage ( in abs values )
-----
1          14% (16380 bytes) 28% (32764 bytes) 57% (65532 bytes) 100% (131068 bytes)
Console>

```

Related Commands

[set qos](#)
[set qos ip-filter](#)
[set qos mac-cos](#)
[set qos map](#)
[set qos router-mac](#)
[set qos wred-threshold](#)

show qos ip

Use the **show qos ip** command to display the access control list.

show qos ip [runtime]

Syntax Description	runtime
	(Optional) Keyword to display the runtime configuration versus the user-configured configuration.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines This command is supported only on Supervisor Engine II G or III G, or Supervisor Engine III. The runtime and user-configured settings are different only if the QoS runtime policy source for the switch is COPS.

Examples This example shows how to display the access control list and its details when COPS is disabled:

```
Console> show qos ip runtime
There are 1 IP filter(s).
ACE# Src IP and Mask                               Dest IP and Mask
-----
 1 171.33.22.7 0.0.0.255                            172.22.33.5 0.0.255.255
  Protocol Src Port Dst Port CoS Action
  -----
  any      0      0      3      -
Console>
```

This example shows how to display the access control list and its details when COPS is enabled:

```
Console> show qos ip runtime
ACL# ACE# Src IP and Mask                               Dest IP and Mask
-----
 1   1 1.2.3.4 0.0.255.255                            host 5.6.7.8
  Protocol Src Port Range Dst Port Range CoS Action
  -----
  any      0 - 65535      0 - 65535      4  permit

 1   2 any any
  Protocol Src Port Range Dst Port Range CoS Action
  -----
  any      0 - 65535      0 - 65535      4  deny
```

```
ACL# ACE# Src IP and Mask                               Dest IP and Mask
-----
  2     1 1.2.3.4 0.0.255.255                             host 5.6.7.8
          Protocol Src Port Range Dst Port Range CoS Action
          -----
          any      0 - 65535      0 - 65535      0   permit
Console>
```

Related Commands

[clear qos ip-filter](#)
[set qos ip-filter](#)

show qos mac-cos

Use the **show qos mac-cos** command to display the currently configured QoS-related information for the MAC address and VLAN pair.

```
show qos mac-cos dest_mac [vlan]
```

```
show qos mac-cos all
```

Syntax Description	
<i>dest_mac</i>	MAC address of the destination host.
<i>vlan</i>	(Optional) Number of the VLAN; valid values are from 1 to 1005 .
all	Keyword to display all MAC address and VLAN pairs.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines This command is supported only on Supervisor Engine II G or III G, or Supervisor Engine III. You can enter the **show qos mac-cos** command to display the currently configured QoS-related information. You can enter the **show qos info config** to view the NVRAM setting of QoS. This command might be useful to check if the NVRAM setting is different from the hardware setting. For example, if you configure some settings for QoS while QoS is disabled, the setting is saved in NVRAM but the hardware operates with a different set of parameters.

Examples This example shows how to display currently configured QoS-related information for all MAC address and VLAN pairs:

```
Console> show qos mac-cos all
VLAN  Dest MAC          CoS
----  -
1      01-02-03-04-05-06    2
9      04-05-06-07-08-09    3
Console>
```

This example shows how to display currently configured QoS-related information for a specific MAC address:

```
Console> show qos mac-cos 01-02-03-04-05-06
VLAN  Dest MAC          CoS
-----
1      01-02-03-04-05-06  2
Console>
```

Related Commands

[clear qos mac-cos](#)
[set qos mac-cos](#)

show qos policy-source

Use the **show qos policy-source** command to display the QoS policy source information.

show qos policy-source

Syntax Description This command has no arguments or keywords.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines This command is supported only on Supervisor Engine II G or III G, or Supervisor Engine III.
This command displays whether the QoS policy source is set to local or COPS.

Examples This example shows how to view the QoS policy source:

```
Console> show qos policy-source
QoS policy source for the switch set to local.
QoS runtime policy source for the switch is local.
Console>
```

Related Commands [set qos policy-source](#)

show qos router-mac

Use the **show qos router-mac** command to display QoS router information for the MAC address and VLAN pair.

```
show qos router-mac [mac_addr | vlan]
```

Syntax Description

<i>mac_addr</i>	(Optional) MAC address of the router.
<i>vlan</i>	(Optional) Number of the VLAN; valid values are from 1 to 1005 .

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

This command is supported only on Supervisor Engine II G or III G, or Supervisor Engine III. The Number column displays a number indicating the order in which the entries were configured. This number has no functional significance to the entry.

Examples

This example shows how to display QoS router information for all MAC address and VLAN pairs:

```
Console> show qos router-mac
Number  MAC address      Vlan #
-----
      1  00-40-0b-30-03-48  2
      2  00-40-0b-30-03-48  3
Console>
```

This example shows how to display QoS router information for a specific MAC address:

```
Console> show qos router-mac 00-40-0b-30-03-48
Number  MAC address      Vlan #
-----
      1  00-40-0b-30-03-48  2
      2  00-40-0b-30-03-48  3
Console>
```

Related Commands

[clear qos router-mac](#)
[set qos router-mac](#)

show qos statistics

Use the **show qos statistics** command to display QoS-related counters for a specified module.

```
show qos statistics {mod[/port]}
```

Syntax Description	mod	Number of the module.
	/port	(Optional) Number of the port.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines This command is supported only on Supervisor Engine II G or III G, or Supervisor Engine III. In the output, the Threshold #:Packets dropped field lists each threshold and the number of packets dropped. For example, 1:0 pkt, 2:0 pkts indicates that thresholds 1 and 2 had 0 packets dropped.

Examples This example shows how to display QoS statistics information for module 2, port 1:

```
Console> show qos statistics 2/1
On Transmit: Port 2/1 has 2 Queue(s) 2 Threshold(s)
Q # Threshold #:Packets dropped
-----
1 1:0 pkts , 2:0 pkts
2 1:0 pkts , 2:0 pkts
On Receive: Port 2/1 has 1 Queue(s) 4 Threshold(s)
Rx drop threshold counters are disabled for untrusted ports.
Q # Threshold #:Packets dropped
-----
1 1:0 pkts, 2:0 pkts, 3:0 pkts, 4:0 pkts
Console>
```

Related Commands

- [set qos](#)
- [set qos ip-filter](#)
- [set qos mac-cos](#)
- [set qos map](#)
- [set qos router-mac](#)
- [set qos wred-threshold](#)

show qos status

Use the **show qos status** command to display whether QoS is enabled or disabled.

show qos status

Syntax Description This command has no arguments or keywords.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines This command is supported only on Supervisor Engine II G or III G, or Supervisor Engine III.

Examples This example shows the output from the **show qos status** command:

```
Console> show qos status
QoS is enabled on this switch.
Console>
```

Related Commands [set qos](#)

show radius

Use the **show radius** command to display configured RADIUS parameters.

show radius [noalias]

Syntax Description	noalias (Optional) Keyword to force the display to show IP addresses, not IP aliases.
---------------------------	--

Defaults	This command has no default settings.
-----------------	---------------------------------------

Command Types	Switch command.
----------------------	-----------------

Command Modes	Normal.
----------------------	---------

Usage Guidelines	The RADIUS key information is displayed only if this command is entered in privileged mode.
-------------------------	---

Examples	This example shows how to display RADIUS information:
-----------------	---

```

Console> (enable) show radius
Login Authentication: Console Session  Telnet Session
-----
tacacs                disabled          disabled
radius                enabled(primary) enabled(primary)
local                 enabled           enabled

Enable Authentication: Console Session  Telnet Session
-----
tacacs                disabled          disabled
radius                enabled(primary) enabled(primary)
local                 enabled           enabled

Radius deadtime:  0 minutes
Radius key:       hello
Radius retransmit:3
Radius timeout:   5 seconds

Radius-Server      Status  Auth-port  Acct-port
-----
198.32.67.9        primary 1645        1813
172.31.11.12       1645    1646

Console> (enable)

```

Related Commands	set radius key set radius timeout
-------------------------	--

show rcp

Use the **show rcp** command to display rcp information.

show rcp

Syntax Description This command has no keywords or arguments.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display rcp information:

```
Console> (enable) show rcp
rcp username for VMPS :xena
rcp username for others :jdoe
Console> (enable)
```

Related Commands [clear rcp](#)
[set rcp username](#)

show rgmp group

Use the **show rgmp group** command to display all multicast groups or the count of multicast groups that are joined by RGMP-capable routers.

```
show rgmp group [mac_addr] [vlan_id]
```

```
show rgmp group count [vlan_id]
```

Syntax Description	
<i>mac_addr</i>	(Optional) MAC destination address reserved for the use of RGMP packets.
<i>vlan_id</i>	(Optional) Number of the VLAN; valid values are from 1 to 1005 .

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Examples This example displays all multicast groups joined by RGMP-capable routers:

```
Console> show rgmp group
```

```
Vlan          Dest MAC/Route Des    RGMP Joined Router Ports
-----
1             01-00-5e-00-01-28    5/1,5/15
1             01-00-5e-01-01-01    5/1
2             01-00-5e-27-23-70*   3/1,5/1
Total Number of Entries=3
```

```
`*'- Configured manually
```

```
Console>
```

This example displays the total number of entries of VLAN group 1 that are joined by RGMP-capable routers:

```
Console> show rgmp group count 1
```

```
RGMP enabled.
```

```
Total Number of Entries=2
```

```
Console>
```

Related Commands

- [clear rgmp statistics](#)
- [set rgmp](#)
- [show rgmp statistics](#)