

show accounting

Use the **show accounting** command to display accounting setup and configuration information on the switch.

show accounting

Syntax Description	This command has no arguments or keywords.
Defaults	This command has no default setting.
Command Types	Switch command.
Command Modes	Privileged.
Examples	<p>This example shows the configuration details of a switch with RADIUS accounting enabled:</p> <pre> Console> (enable) show accounting Event Method1 Mode ----- - exec: Radius stop-only connect: Radius stop-only system: - - commands: config: - - all: - - TACACS+ Suppress for no username: disabled Update Frequency: newinfo Accounting information: ----- Active Accounted actions on tty21680592841, User NULL Priv 15 Task ID 3, EXEC Accounting record, 0,00:00:22 Elapsed task_id=3 start_time=934463479 timezone=UTC service=shell Active Accounted actions on tty01, User kannank Priv 15 Task ID 2, EXEC Accounting record, 0,00:01:23 Elapsed task_id=2 start_time=934463418 timezone=UTC service=shell Active Accounted actions on tty21680592841, User danny Priv 15 Task ID 4, Connection Accounting record, 0,00:00:07 Elapsed task_id=4 start_time=934463495 timezone=UTC service=connection protocol=telnet addr=-1407968771 cmd=telnet 172.20.25.253 </pre>

```
Overall Accounting Traffic:
      Starts  Stops  Active
Exec      1      0      2
Connect   0      0      1
Command   0      0      0
System    0      0      0
```

Console> (enable)

This example shows the configuration details of a switch with TACACS+ accounting enabled:

Console> (enable) **show accounting**

TACACS+:

Update: periodic (25 seconds)

Supress: disabled

```

      Status      Mode
-----  -
exec:      disabled   stop-only
connect:   disabled   stop-only
system:    disabled   stop-only
network:   disabled   stop-only
commands:
  config:   disabled   stop-only
  all:      disabled   stop-only
```

Radius:

```

      Status      Mode
-----  -
exec:      disabled   stop-only
connect:   disabled   stop-only
system:    disabled   stop-only
```

TACACS+ Suppress for no username: disabled

Update Frequency: newinfo

Accounting information:

```
Active Accounted actions on tty21680592841, User NULL Priv 15
Task ID 3, EXEC Accounting record, 0,00:00:22 Elapsed
task_id=3 start_time=934463479 timezone=UTC service=shell
```

```
Active Accounted actions on tty01, User kannank Priv 15
Task ID 2, EXEC Accounting record, 0,00:01:23 Elapsed
task_id=2 start_time=934463418 timezone=UTC service=shell
```

```
Active Accounted actions on tty21680592841, User danny Priv 15
Task ID 4, Connection Accounting record, 0,00:00:07 Elapsed
task_id=4 start_time=934463495 timezone=UTC service=connection protocol=telnet
addr=-1407968771 cmd=telnet 172.20.25.253
```

```
Overall Accounting Traffic:
      Starts  Stops  Active
Exec      1      0      2
Connect   0      0      1
Command   0      0      0
System    0      0      0
```

Console> (enable)

Related Commands

set accounting commands
set accounting connect
set accounting exec
set accounting suppress
set accounting system
set accounting update

show alias

Use the **show alias** command to display a listing of defined command aliases.

show alias [*name*]

Syntax Description	<i>name</i> (Optional) Name of the alias to be displayed.
---------------------------	---

Defaults	This command has no default setting.
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Command Types	Switch command.
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Command Modes	Normal.
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Usage Guidelines	If <i>name</i> is not specified, all defined aliases are displayed.
-------------------------	---

Examples	This example shows how to display all aliases:
-----------------	--

```
Console> show alias
shint          show interface
cc            clear config
shf           show flash
sip           show ip route
Console>
```

Related Commands	clear alias set alias
-------------------------	--

show arp

Use the **show arp** command to display the ARP table.

```
show arp [ip_addr | hostname] [noalias]
```

Syntax Description	
<i>ip_addr</i>	(Optional) Number of the IP address.
<i>hostname</i>	(Optional) Name of the host.
noalias	(Optional) Keyword to force the display to show only IP addresses, not IP aliases.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines ARP aging time is the period of time that indicates when an ARP entry is removed from the ARP table. Set this value by entering the **set arp agingtime** command. The remaining lines of the display show the mappings of IP addresses (or IP aliases) to MAC addresses.

Use the *ip_addr* or the *hostname* options to specify an IP host when the ARP cache is large.

Examples This example shows how to display the ARP table:

```
Console> (enable) show arp
ARP Aging time = 300 sec
+ - Permanent Arp Entries
* - Static Arp Entries
* 2.2.2.2                at 00-08-cc-44-aa-18 on vlan 5
+ 1.1.1.1                at 00-08-94-cc-02-aa on vlan 5
142.10.52.195           at 00-10-07-3c-05-13 port 7/1-4 on vlan 5
192.70.31.126           at 00-00-0c-00-ac-05 port 7/1-4 on vlan 5
121.23.79.121           at 00-00-1c-03-00-40 port 7/1-4 on vlan 5
Console> (enable)
```

Related Commands **clear arp**
set arp

show authentication

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

show authentication

Syntax Description This command has no arguments or keywords.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display authentication information:

```

Console> show authentication
                               Console Session  Telnet Session  Http Session
Login Authentication:
-----
tacacs                        disabled      disabled      disabled
radius                        disabled      disabled      enabled(*)
kerberos                      disabled      disabled      disabled
local                        enabled(*)   enabled(*)   enabled
local                        enabled(primary)  enabled(primary)  enabled(primary)
attempt limit                 3            3            3
lockout timeout (sec)        disabled     disabled     disabled

Enable Authentication: Console Session  Telnet Session  Http Session
-----
tacacs                        disabled      disabled      disabled
radius                        disabled      disabled      disabled
kerberos                      disabled      disabled      disabled
local                        enabled(primary)  enabled(primary)  enabled(primary)
attempt limit                 3            3            3
lockout timeout (sec)        disabled     disabled     disabled
Console>

```

Related Commands **set authentication enable**
set authentication login

show authorization

Use the **show authorization** command to display authorization setup and configuration information on the switch.

show authorization

Syntax Description This command has no arguments or keywords.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display authorization setup and configuration information:

```

Console> (enable) show authorization
Telnet:
-----
                Primary   Fallback
                -----   -
exec:           tacacs+   deny
enable:         tacacs+   deny
commands:
  config:       tacacs+   deny
  all:          -         -

Console:
-----
                Primary   Fallback
                -----   -
exec:           tacacs+   deny
enable:         tacacs+   deny
commands:
  config:       tacacs+   deny
  all:          -         -

Console> (enable)

```

Related Commands

- set authorization commands**
- set authorization enable**
- set authorization exec**

show boot

Use the **show boot** command to display the contents of the BOOT environment variables and the configuration register setting.

show boot [*mod*]

Syntax Description	<i>mod</i> (Optional) Number of the supervisor engine containing the Flash device.
---------------------------	--

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

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

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

Examples	This example shows how to display the BOOT environment variable:
-----------------	--

```
Console> show boot
BOOT variable = bootflash:cat6000-sup.5-5-1.bin,1;slot0:cat6000-sup.5-4-1.bin,1;
CONFIG_FILE variable = slot0:switch.cfg
```

```
Configuration register is 0x800f
ignore-config: disabled
auto-config: non-recurring, overwrite, sync disabled
console baud: 9600
boot: image specified by the boot system commands
Console>
```

Related Commands	set boot auto-config set boot config-register set boot system flash
-------------------------	--

show boot device

Use the **show boot device** command to display the NAM boot string stored in NVRAM.

show boot device *mod*

Syntax Description	<i>mod</i> Number of the module containing the Flash device.
Defaults	This command has no default setting.
Command Types	Switch command.
Command Modes	Normal.
Usage Guidelines	This command is supported by the NAM module only.
Examples	This example shows how to display the boot device information for module 2: <pre>Console> show boot device 2 Device BOOT variable = hdd:2 Console></pre>
Related Commands	clear boot device set boot device

show cam

Use the **show cam** command set to display CAM table entries.

```
show cam { dynamic | static | permanent | system } mod/port
```

```
show cam mac_addr [vlan]
```

Syntax Description		
dynamic	Keyword to display dynamic CAM entries.	
static	Keyword to display static CAM entries.	
permanent	Keyword to display permanent CAM entries.	
system	Keyword to display system CAM entries.	
<i>mod/port</i>	Number of the module and the port on the module.	
<i>mac_addr</i>	MAC address.	
<i>vlan</i>	(Optional) Number of the VLAN.	

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines

- If you specify a VLAN, then only those CAM entries matching the VLAN number are displayed.
- If you do not specify a VLAN, all VLANs are displayed.
- If the MAC address belongs to a router, it is shown by appending an “R” to the MAC address.

Examples This example shows how to display dynamic CAM entries for all VLANs:

```
Console> show cam dynamic
* = Static Entry. + = Permanent Entry. # = System Entry. R = Router Entry.
```

```
VLAN  Dest MAC/Route Des      Destination Ports or VCs / [Protocol Type]
-----
1      00-60-5c-86-5b-81      4/1 [ALL]
1      00-60-2f-35-48-17      4/1 [ALL]
1      00-80-24-f3-47-20      1/2 [ALL]
1      00-60-09-78-96-fb      4/1 [ALL]
1      00-80-24-1d-d9-ed      1/2 [ALL]
1      00-80-24-1d-da-01      1/2 [ALL]
1      08-00-20-7a-63-01      4/1 [ALL]
```

```
Total Matching CAM Entries Displayed = 7
Console>
```

This example shows routers listed as the CAM entries:

```
Console> show cam 00-00-81-01-23-45
* = Static Entry. + = Permanent Entry. # = System Entry. R = Router Entry

Router Watergate with IP address 172.25.55.1 has CAM entries:
VLAN  Dest MAC/Route Des      Destination Ports or VCs
----  -
1      00-00-81-01-23-45R    2/9 [IP]
2      00-00-81-01-23-45R    2/10 [IP]
Total Matching CAM Entries = 2
Console>
```

Related Commands

clear cam
set cam
show config
show cam agingtime

show cam agingtime

Use the **show cam agingtime** command to display CAM aging time information for all configured VLANs.

show cam agingtime [*vlan*]

Syntax Description	<i>vlan</i> (Optional) Number of the VLAN or range of VLANs; valid values are from 1 to 1005 and from 1025 to 4094 .
---------------------------	--

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display CAM aging time information:

```
Console> show cam agingtime
VLAN 1 aging time = 300 sec
VLAN 3 aging time = 300 sec
VLAN 5 aging time = 300 sec
VLAN 9 aging time = 300 sec
VLAN 100 aging time = 300 sec
VLAN 200 aging time = 300 sec
VLAN 201 aging time = 300 sec
VLAN 202 aging time = 300 sec
VLAN 203 aging time = 300 sec
Console>
```

This example shows how to display CAM aging time information for a specific VLAN:

```
Console> show cam agingtime 1005
VLAN 1005 aging time = 300 sec
Console>
```

Related Commands

- clear cam**
- set cam**
- show cam**

show cam count

Use the **show cam** command to display the number of CAM entries only.

show cam count { **dynamic** | **static** | **permanent** | **system** } [*vlan*]

Syntax Description	dynamic	Keyword to display dynamic CAM entries.
	static	Keyword to display static CAM entries.
	permanent	Keyword to display permanent CAM entries.
	system	Keyword to display system CAM entries.
	<i>vlan</i>	(Optional) Number of the VLAN.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify a VLAN, all VLANs are displayed.

Examples This example shows how to display the number of dynamic CAM entries:

```
Console> (enable) show cam count dynamic
Total Matching CAM Entries = 6
Console> (enable)
```

Related Commands

- clear cam**
- set cam**

show cam msfc

Use the **show cam msfc** command to display the router's MAC-VLAN entries.

```
show cam msfc {mod} [vlan]
```

Syntax Description	<i>mod</i>	Number of the module for which MSFC information is displayed.
	<i>vlan</i>	(Optional) Number of the VLAN.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you specify the VLAN, only CAM entries that belong to that VLAN are displayed.

Examples This example shows how to display all CAM entries:

```
Console> (enable) show cam msfc
VLAN  Destination MAC      Destination-Ports or VCs      Xtag  Status
-----
194   00-e0-f9-d1-2c-00R      7/1                            2     H
193   00-00-0c-07-ac-c1R      7/1                            2     H
193   00-00-0c-07-ac-5dR      7/1                            2     H
202   00-00-0c-07-ac-caR      7/1                            2     H
204   00-e0-f9-d1-2c-00R      7/1                            2     H
195   00-e0-f9-d1-2c-00R      7/1                            2     H
192   00-00-0c-07-ac-c0R      7/1                            2     H
192   00-e0-f9-d1-2c-00R      7/1                            2     H
204   00-00-0c-07-ac-ccR      7/1                            2     H
202   00-e0-f9-d1-2c-00R      7/1                            2     H
Total Matching CAM Entries Displayed = 14
Console> (enable)
```

This example shows how to display CAM entries for a specific VLAN:

```
Console> show cam msfc 15 192
VLAN  Destination MAC      Destination-Ports or VCs      Xtag  Status
-----
192   00-00-0c-07-ac-c0R      7/1                            2     H
192   00-e0-f9-d1-2c-00R      7/1                            2     H
Console>
```

Related Commands **show cam**

show cdp

Use the **show cdp** command set to display CDP information.

show cdp

show cdp neighbors [*mod[/port]*] [**vlan** | **duplex** | **capabilities** | **detail**]

show cdp port [*mod[/port]*]

Syntax Description	
neighbors	Keyword to show CDP information for Cisco products connected to the switch.
[<i>mod[/port]</i>]	(Optional) Number of the module for which CDP information is displayed and optionally, the number of the port for which CDP information is displayed.
vlan	(Optional) Keyword to show the native VLAN number for the neighboring Cisco products.
duplex	(Optional) Keyword to show the duplex type of the neighboring Cisco products.
capabilities	(Optional) Keyword to show the capability codes for the neighboring Cisco products; valid values are R , T , B , S , H , I , and r (R = Router, T = Trans Bridge, B = Source Route Bridge, S = Switch, H = Host, I = IGMP, and r = Repeater).
detail	(Optional) Keyword to show detailed information about neighboring Cisco products.
port	Keyword to show CDP port settings.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines The per-port output of the **show cdp port** command is not displayed if you globally disable CDP. If you globally enable CDP, the per-port status is displayed.

If you enter the **show cdp neighbors** command for a device that supports earlier versions of CDP, “unknown” is displayed in the VTP Management Domain, Native VLAN, and Duplex fields.

If you do not specify a module number, CDP information for the entire switch is displayed.

Examples This example shows how to display CDP information for the system:

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

■ show cdp

This example shows how to display detailed CDP neighbor information. The display varies depending on your network configuration at the time you run the command.

```

Console> show cdp neighbors 4 detail
Port (Our Port):4/4
Device-ID:69046406
Device Addresses:
  IP Address:172.20.25.161
Holdtime:150 sec
Capabilities:TRANSPARENT_BRIDGE SWITCH
Version:
  WS-C6009 Software, Version NmpSW: 5.4(1)CSX
  Copyright (c) 1995-1999 by Cisco Systems
Port-ID (Port on Device):4/8
Platform:WS-C6009
VTP Management Domain:unknown
Native VLAN:1
Duplex:half
Console>

```

This example shows how to display CDP information about neighboring systems:

```

Console> show cdp neighbors
* - indicates vlan mismatch.
# - indicates duplex mismatch.

```

Port	Device-ID	Port-ID	Platform
3/5	002267619	3/6 *	WS-C6000
3/6	002267619	3/5	WS-C6000
4/1	002267619	4/2	WS-C6000
4/2	002267619	4/1 #	WS-C6000
4/20	069000057	8/5	WS-C6000
5/1	005763872	2/1	WS-C6009
5/1	066506245	2/1	WS-C6009
5/1	066508595	5/12 *#	WS-C6009
5/1	066508596	5/1	WS-C6009

```

Console>

```

This example shows how to display duplex information about neighboring systems:

```

Console> show cdp neighbors duplex
* - indicates vlan mismatch.
# - indicates duplex mismatch.

```

Port	Device-ID	Port-ID	Duplex
3/5	002267619	3/6 *	half
3/6	002267619	3/5	half
4/1	002267619	4/2	full
4/2	002267619	4/1 #	full
4/20	069000057	8/5	-
5/1	005763872	2/1	-
5/1	066506245	2/1	-
5/1	066508595	5/12 *#	half
5/1	066508596	5/1	half

```

Console>

```

This example shows how to display VLAN information about neighboring systems:

```

Console> show cdp vlan
* - indicates vlan mismatch.
# - indicates duplex mismatch.

Port      Device-ID                Port-ID                NativeVLAN
-----
3/5       002267619                3/6 *                  1
3/6       002267619                3/5                    1
4/1       002267619                4/2                    1
4/2       002267619                4/1 #                  1
4/20      069000057                8/5                    -
5/1       005763872                2/1                    -
5/1       066506245                2/1                    -
5/1       066508595                5/12 *#                1
5/1       066508596                5/1                    1
Console>

```

This example shows how to display capability information about neighboring systems:

```

Console> show cdp neighbors capabilities
* - indicates vlan mismatch.
# - indicates duplex mismatch.

Port      Device-ID                Port-ID                Capabilities
-----
3/5       002267619                3/6 *                  T S
3/6       002267619                3/5                    T S
4/1       002267619                4/2                    T S
4/2       002267619                4/1 #                  T S
4/20      069000057                8/5                    T B S
5/1       005763872                2/1                    T B S
5/1       066506245                2/1                    T B S
5/1       066508595                5/12 *#                T B S
5/1       066508596                5/1                    T B S
Console>

```

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

```

Console> show cdp port
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>

```

■ show cdp

Related Commands set cdp

show channel

Use the **show channel** command to display EtherChannel information for a channel.

```
show channel [channel_id] [info | statistics | mac]
```

```
show channel [channel_id] [info [spantree | trunk | protocol | gmrp | gvrp | qos]]
```

Syntax Description	
<i>channel_id</i>	(Optional) Number of the channel.
info	(Optional) Keyword to display channel information.
statistics	(Optional) Keyword to display statistics about the port (PAgP packets sent and received).
mac	(Optional) Keyword to display MAC information about the channel.
spantree trunk protocol gmrp gvrp qos	(Optional) Keyword to display feature-related parameters.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify *channel_id*, EtherChannel information is shown for all channels. No information is displayed if the channel specified is not in use. If you enter the optional **info** keyword with any of the options (**spantree** | **trunk** | **protocol** | **gmrp** | **gvrp** | **qos**), the specified feature-related parameters are displayed in the output.

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

```
Console> show channel 768
Channel Ports                               Status    Channel
id                                             Mode
-----
768    2/1-2                               connected on
Console>
```

This example shows how to display channel information for all channels:

```

Console> show channel
Channel Id  Ports
-----
768        2/1-2
769        4/3-4
770        4/7-8
Console>

```

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

```

Console> show channel 769 info
Chan Port  Status      Channel  Admin Speed Duplex Vlan PortSecurity/
id         mode       group    group
-----
769 1/1  notconnect on         195 1000 full    1 -
769 1/2  notconnect on         195 1000 full    1 -

Chan Port  if-  Oper-group Neighbor  Chan  Oper-Distribution
id      Index      Oper-group  Oper-group cost  Method
-----
769 1/1  -      1          -          0 ip both
769 1/2  -      1          -          0 ip both

Chan Port  Device-ID          Port-ID          Platform
id
-----
769 1/1
769 1/2

Chan Port  Trunk-status Trunk-type  Trunk-vlans
id
-----
769 1/1  not-trunking negotiate  1-1005
769 1/2  not-trunking negotiate  1-1005

Chan Port  Portvlancost-vlans
id
-----
769 1/1
769 1/2

Chan Port  Port  Portfast  Port  Port
id      priority      disabled  vlanpri  vlanpri-vlans
-----
769 1/1      32 disabled      0
769 1/2      32 disabled      0

Chan Port  IP      IPX      Group
id
-----
769 1/1  on      auto-on  auto-on
769 1/2  on      auto-on  auto-on

Chan Port  GMRP      GMRP      GMRP
id      status    registration  forwardAll
-----
769 1/1  enabled  normal      disabled
769 1/2  enabled  normal      disabled

```

```

Chan Port  GVRP      GVRP      GVRP
id        status   registration applicant
-----
769  1/1  disabled normal      normal
769  1/2  disabled normal      normal

Chan Port  Qos-Tx Qos-Rx Qos-Trust  Qos-DefCos Qos-Port-based
id
-----
769  1/1  2q2t  1q4t  untrusted      0 false
769  1/2  2q2t  1q4t  untrusted      0 false

Chan Port  ACL name          Protocol
id
-----
769  1/1
                                IP
                                IPX
                                MAC
769  1/2
                                IP
                                IPX
                                MAC

```

Console

This example shows how to display port information for all channels:

Console> **show channel info**

```

Chan Port  Status      Channel  Admin Speed Duplex Vlan PortSecurity/
id        mode      group
-----
769  1/1  notconnect on        195 1000 full    1 -
769  1/2  notconnect on        195 1000 full    1 -
865  4/1  notconnect on        194 100  half    1 -
865  4/2  notconnect on        194 100  half    1 -

```

```

Chan Port  if-  Oper-group Neighbor  Chan  Oper-Distribution
id        Index Oper-group Oper-group cost  Method
-----
769  1/1  -      1          0 ip both
769  1/2  -      1          0 ip both
865  4/1  -      1          0 ip both
865  4/2  -      1          0 ip both

```

```

Chan Port  Device-ID          Port-ID          Platform
id
-----
769  1/1
769  1/2
865  4/1
865  4/2

```

```

Chan Port  Trunk-status Trunk-type  Trunk-vlans
id
-----
769  1/1  not-trunking negotiate  1-1005
769  1/2  not-trunking negotiate  1-1005
865  4/1  not-trunking negotiate  1-1005
865  4/2  not-trunking negotiate  1-1005

```

```

Chan Port  Portvlancost-vlans
id
-----
769  1/1
769  1/2

```

show channel

```
865 4/1
865 4/2
```

Chan id	Port	Port priority	Portfast	Port vlanpri	Port vlanpri-vlans
769	1/1	32	disabled		0
769	1/2	32	disabled		0
865	4/1	32	disabled		0
865	4/2	32	disabled		0

Chan id	Port	IP	IPX	Group
769	1/1	on	auto-on	auto-on
769	1/2	on	auto-on	auto-on
865	4/1	on	auto-on	auto-on
865	4/2	on	auto-on	auto-on

Chan id	Port	GMRP status	GMRP registration	GMRP forwardAll
769	1/1	enabled	normal	disabled
769	1/2	enabled	normal	disabled
865	4/1	enabled	normal	disabled
865	4/2	enabled	normal	disabled

Chan id	Port	GVRP status	GVRP registration	GVRP applicant
769	1/1	disabled	normal	normal
769	1/2	disabled	normal	normal
865	4/1	disabled	normal	normal
865	4/2	disabled	normal	normal

Chan id	Port	Qos-Tx	Qos-Rx	Qos-Trust	Qos-DefCos	Qos-Port-based
769	1/1	2q2t	1q4t	untrusted	0	false
769	1/2	2q2t	1q4t	untrusted	0	false
865	4/1	2q2t	1q4t	untrusted	0	false
865	4/2	2q2t	1q4t	untrusted	0	false

Chan id	Port	ACL name	Protocol
769	1/1		IP IPX MAC
769	1/2		IP IPX MAC
865	4/1		IP IPX MAC
865	4/2		IP IPX MAC

```
Console>
```

This example shows how to display PAGP information for all channels:

```

Console> show channel statistics
Port Channel PAgP Pkts PAgP Pkts PAgP Pkts PAgP Pkts PAgP Pkts PAgP Pkts
      id      Transmitted Received InFlush RetnFlush OutFlush InError
-----
2/1    768          0          0          0          0          0          0
2/2    768          0          0          0          0          0          0
4/3    769          0          0          0          0          0          0
4/4    769          0          0          0          0          0          0
4/7    770          0          92         0          0          0          0
4/8    770          0          0          0          0          0          0
Console>

```

This example shows how to display PAGP information for a specific channel:

```

Console> show channel 768 statistics
Port Channel PAgP Pkts PAgP Pkts PAgP Pkts PAgP Pkts PAgP Pkts PAgP Pkts
      id      Transmitted Received InFlush RetnFlush OutFlush InError
-----
2/1    768          0          0          0          0          0          0
2/2    768          0          0          0          0          0          0
Console>

```

This example shows how to display statistics for a specific channel:

```

Console> show channel 768 mac
Channel Rcv-Unicast Rcv-Multicast Rcv-Broadcast
-----
768          525          959          827

Channel Xmit-Unicast Xmit-Multicast Xmit-Broadcast
-----
768          384          88          1
Port Rcv-Octet Xmit-Octet
-----
768          469263          48083

Channel Dely-Exced MTU-Exced In-Discard Lrn-Discrd In-Lost Out-Lost
-----
768          0          0          0          0          0          0
Console>

```

This example shows how to display statistics for all channels:

```

Console> show channel mac
Channel Rcv-Unicast Rcv-Multicast Rcv-Broadcast
-----
768          532290          163          6
769          0          0          0
771          4          64          0

Channel Xmit-Unicast Xmit-Multicast Xmit-Broadcast
-----
768          602591          77          3
769          0          0          0
771          636086          222          12

Port Rcv-Octet Xmit-Octet
-----
768          44873880          45102132
769          0          0
771          64153          64831844

```

show channel

```

Channel  Dely-Exced MTU-Exced  In-Discard Lrn-Discrd In-Lost  Out-Lost
-----
768      0          0          0          0          0          0
769      0          0          0          0          0          0
771      0          18         0          0          0          0
Last-Time-Cleared
-----
Wed Jun 10 1999, 20:31:13
Console>

```

These examples show how to display feature-specific parameter information:

```

Console> show channel 769 info trunk
Chan Port  Trunk-status Trunk-type  Trunk-vlans
id
-----
769 1/1  not-trunking negotiate  1-1005
769 1/2  not-trunking negotiate  1-1005

Chan Port  Portvlancost-vlans
id
-----
769 1/1
769 1/2
Console>

Console> show channel 769 info spantree
Chan Port  Port  Portfast Port  Port
id        priority  vlanpri vlanpri-vlans
-----
769 1/1      32 disabled  0
769 1/2      32 disabled  0
Console>

Console> show channel 769 info protcol
Chan Port  IP      IPX      Group
id
-----
769 1/1  on      auto-on auto-on
769 1/2  on      auto-on auto-on
Console>

Console> show channel 769 info gmrp
Chan Port  GMRP  GMRP  GMRP
id        status registration forwardAll
-----
769 1/1  enabled normal  disabled
769 1/2  enabled normal  disabled
Console>

Console> show channel 769 info gvrp
Chan Port  GVRP  GVRP  GVRP
id        status registration applicant
-----
769 1/1  disabled normal  normal
769 1/2  disabled normal  normal
Console>

```

```

Console> show channel 769 info qos
Chan Port  Qos-Tx  Qos-Rx  Qos-Trust  Qos-DefCos  Qos-Interface
id       PortType PortType Type                Type
-----
769  1/1    2q2t    1q4t    untrusted                0 port-based
769  1/2    2q2t    1q4t    untrusted                0 port-based

Chan Port  ACL name                Type
id
-----
769  1/1
                        IP
                        IPX
                        MAC
769  1/2
                        IP
                        IPX
                        MAC

Console>

```

Related Commands

show port channel
show channel group

show channel group

Use the **show channel group** command set to display EtherChannel group status information.

show channel group [*admin_group*] [**info** | **statistics**]

show channel group [*admin_group*] [**info** [**spantree** | **trunk** | **protocol** | **gmrp** | **gvrp** | **qos**]]

Syntax Description	<i>admin_group</i>	(Optional) Number of the administrative group; valid values are from 1 to 1024.
	info	(Optional) Keyword to display group information.
	statistics	(Optional) Keyword to display statistics about the group.
	spantree trunk protocol gmrp gvrp qos	(Optional) Keyword to display feature-related parameters.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify *admin_group*, EtherChannel information is shown for all admin groups. If you enter the optional **info** keyword with any of the options (**spantree** | **trunk** | **protocol** | **gmrp** | **gvrp** | **qos**), the specified feature-related parameters are displayed in the output.

Examples This example shows how to display Ethernet channeling information for all admin groups:

```
Console> show channel group
Admin Group  Ports
-----
7           1/1-2
Console>
```

This example shows how to display Ethernet channeling information for a specific group:

```
Console> show channel group 154
Admin Port  Status      Channel  Channel
group      Mode        id
-----
154  1/1  notconnect on          769
154  1/2  connected  on          769
```

```

Admin Port  Device-ID                               Port-ID                               Platform
group
-----
 154  1/1
 154  1/2  066510644 (cat26-lnf (NET25))          2/1                               WS-C5505
Console>

```

This example shows how to display group information:

```

Console> show channel group 154 info
Admin Port  Status      Channel  Ch  Speed Duplex Vlan  PortSecurity/
group                               mode     id   1000 full   1 - Dynamic Port
-----
 154  1/1  notconnect on          769 1000 full   1 - Dynamic port
 154  1/2  connected on          769 1000 full   1 - Dynamic port

Admin Port  if-  Oper-group  Neighbor  Chan  Oper-Distribution
group      Index  Oper-group  Oper-group cost  Method
-----
 154  1/1  -          1          0 mac both
 154  1/2  868        1          0 mac both

Admin Port  Device-ID                               Port-ID                               Platform
group
-----
 154  1/1
 154  1/2  066510644 (cat26-lnf (NET25))          2/1                               WS-C5505

Admin Port  Trunk-status Trunk-type  Trunk-vlans
group
-----
 154  1/1  not-trunking negotiate  1-1005
 154  1/2  not-trunking negotiate  1-1005

Admin Port  Portvlancost-vlans
group
-----
 154  1/1
 154  1/2

Admin Port  Port  Portfast  Port  Port
group      priority  disabled  vlanpri  vlanpri-vlans
-----
 154  1/1  32 disabled  0
 154  1/2  32 disabled  0

Admin Port  IP      IPX      Group
group
-----
 154  1/1  on      auto-on  auto-on
 154  1/2  on      auto-on  auto-on

Admin Port  GMRP  GMRP  GMRP
group      status  registration  forwardAll
-----
 154  1/1  enabled  normal  disabled
 154  1/2  enabled  normal  disabled

Admin Port  GVRP  GVRP  GVRP
group      status  registration  applicant
-----
 154  1/1  disabled  normal  normal
 154  1/2  disabled  normal  normal

```

■ show channel group

```

Admin Port  Qos-Tx Qos-Rx Qos-Trust      Qos-DefCos Qos-Port-based
group
-----
 154  1/1  2q2t  1q4t  untrusted      0 false
 154  1/2  2q2t  1q4t  untrusted      0 false

Admin Port  ACL name                      Protocol
group
-----
 154  1/1  ip_acl                      IP
      ipx_acl                  IPX
      mac_acl                  MAC
 154  1/2
                        IP
                        IPX
                        MAC

```

Console>

These examples show how to display feature-specific parameter information:

```

Console> show channel group 154 info trunk
Admin Port  Trunk-status Trunk-type      Trunk-vlans
group
-----
 154  1/1  not-trunking negotiate  1-1005
 154  1/2  not-trunking negotiate  1-1005

```

Console>

```

Console> show channel group 154 info spantree
Admin Port  Portvlancost-vlans
group
-----
 154  1/1
 154  1/2

Admin Port  Port      Portfast Port      Port
group      priority  status   vlanpri  vlanpri-vlans
-----
 154  1/1      32 disabled      0
 154  1/2      32 disabled      0

```

Console>

```

Console> show channel group 154 info protocol
Admin Port  IP      IPX      Group
group
-----
 154  1/1  on      auto-on  auto-on
 154  1/2  on      auto-on  auto-on

```

Console>

```

Console> show channel group 154 info gmrp
Admin Port  GMRP      GMRP      GMRP
group      status    registration forwardAll
-----
 154  1/1  enabled  normal    disabled
 154  1/2  enabled  normal    disabled

```

Console>

```

Console> show channel group 154 info gvrp
Admin Port  GVRP      GVRP      GVRP
group       status   registration applicant
-----
  154  1/1  disabled normal      normal
  154  1/2  disabled normal      normal
Console>

```

```

Console> show channel group 769 info qos
Chan Port  Qos-Tx  Qos-Rx  Qos-Trust  Qos-DefCos  Qos-Interface
id        PortType PortType Type          Type
-----
769  1/1  2q2t    1q4t    untrusted          0 port-based
769  1/2  2q2t    1q4t    untrusted          0 port-based

Chan Port  ACL name          Type
id
-----
769  1/1
                                IP
                                IPX
                                MAC
769  1/2
                                IP
                                IPX
                                MAC
Console>

```

Related Commands

- show port channel**
- show channel**

show config

Use the **show config** command to display the nondefault system or module configuration.

show config {**system** | *mod*} [**all**]

Syntax Description		
	system	Keyword to display system configuration.
	<i>mod</i>	Keyword to display module configuration.
	all	(Optional) Keyword to specify all module and system configuration information, including the IP address.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display the nondefault system and module configuration:

```

Console> (enable) show config
This command shows non-default configurations only.
Use 'show config all' to show both default and non-default configurations.
.....
..

begin
!
# ***** NON-DEFAULT CONFIGURATION *****
!
!
#time: Mon Apr 17 2000, 08:33:09
!
#version 5.5(1)
#System Web Interface Version 5.0(0.25)
!
set editing disable
!
#frame distribution method
set port channel all distribution mac unknown
!
#snmp
set snmp trap 0.0.0.0
set snmp trap 0.0.0.0
!
#kerberos
set kerberos server 0.0.0.0
set kerberos server 0.0.0.0
set kerberos realm
set kerberos realm
!

```

```

#vtp
set vtp domain Lab_Network
set vtp v2 enable
set vtp pruning enable
set vlan 1 name default type ethernet mtu 1500 said 100001 state active
set vlan 2 name VLAN0002 type ethernet mtu 1500 said 100002 state active
set vlan 6 name VLAN0006 type ethernet mtu 1500 said 100006 state active
set vlan 10 name VLAN0010 type ethernet mtu 1500 said 100010 state active
set vlan 20 name VLAN0020 type ethernet mtu 1500 said 100020 state active
set vlan 50 name VLAN0050 type ethernet mtu 1500 said 100050 state active
set vlan 100 name VLAN0100 type ethernet mtu 1500 said 100100 state active
set vlan 152 name VLAN0152 type ethernet mtu 1500 said 100152 state active
set vlan 200 name VLAN0200 type ethernet mtu 1500 said 100200 state active
set vlan 300 name VLAN0300 type ethernet mtu 1500 said 100300 state active
set vlan 303 name VLAN0303 type fddi mtu 1500 said 100303 state active
set vlan 400 name VLAN0400 type ethernet mtu 1500 said 100400 state active
set vlan 500 name VLAN0500 type ethernet mtu 1500 said 100500 state active
set vlan 521 name VLAN0521 type ethernet mtu 1500 said 100521 state active
set vlan 524 name VLAN0524 type ethernet mtu 1500 said 100524 state active
set vlan 570 name VLAN0570 type ethernet mtu 1500 said 100570 state active
set vlan 801 name VLAN0801 type trbrf mtu 4472 said 100801 state active bridge
set vlan 850 name VLAN0850 type ethernet mtu 1500 said 100850 state active
set vlan 917 name VLAN0917 type ethernet mtu 1500 said 100917 state active
set vlan 999 name VLAN0999 type ethernet mtu 1500 said 100999 state active
set vlan 1002 name fddi-default type fddi mtu 1500 said 101002 state active
set vlan 1004 name fddinet-default type fddinet mtu 1500 said 101004 state acti
set vlan 1005 name trbrf-default type trbrf mtu 4472 said 101005 state active b
set vlan 802 name VLAN0802 type trcrf mtu 4472 said 100802 state active parent
set vlan 1003 name trcrf-default type trcrf mtu 4472 said 101003 state active p
set vlan 3 translation 303 translation 0
set vlan 4 translation 304 translation 0
set vlan 5 translation 305 translation 0
set vlan 303 translation 3 translation 0
set vlan 304 translation 4 translation 0
set vlan 305 translation 5 translation 0
set vlan 351 translation 524 translation 0
set vlan 524 translation 351 translation 0
!
#ip
set interface sc0 1 1.10.11.212/255.255.255.0 1.10.11.255

set ip route 0.0.0.0/0.0.0.0          172.20.52.126
set ip route 0.0.0.0/0.0.0.0          172.20.52.125
set ip route 0.0.0.0/0.0.0.0          172.20.52.121
!
#rcp
set rcp username 1
!
#dns
set ip dns server 171.68.10.70 primary
set ip dns server 171.68.10.140
set ip dns enable
set ip dns domain cisco.com
!
#spantree
set spantree fwddelay 4      801
set spantree maxage 10      801
#portfast
set spantree portfast bpdu-guard enable
#vlan 802
set spantree fwddelay 4      802
set spantree maxage 10      802
set spantree portstate 802 block 801
#vlan 1003

```

```

set spantree fwddelay 4      1003
set spantree maxage 10      1003
set spantree portstate 1003 block 1005
!
#syslog
set logging server 172.20.101.182
!
#set boot command
set boot config-register 0x100
set boot system flash bootflash:cat6000-sup.5-5-1.bin
!
#HTTP commands
set ip http server enable
set ip http port 1922
!
# default port status is disable
!
#mls
set mls nde disable
!
#qos
set qos enable
set qos map 1q4t 1 1 cos 2
set qos map 1q4t 1 1 cos 3
set qos map 1q4t 1 1 cos 4
set qos map 1q4t 1 1 cos 5
set qos map 1q4t 1 1 cos 6
set qos map 1q4t 1 1 cos 7
!
#Accounting
set accounting commands enable config stop-only tacacs+
!
# default port status is enable
!
#module 1 : 2-port 1000BaseX Supervisor
!
#module 2 empty
!
#module 3 : 48-port 10/100BaseTX (RJ-45)
set spantree portfast 3/8 enable
!
#module 4 empty
!
#module 5 : 48-port 10/100BaseTX (RJ-45)
!
#module 6 empty
!
set vlan 100 6/1
set spantree portcost 6/1 200
!
#module 7 : 24-port 10/100BaseTX Ethernet
set vlan 5 7/5
set vlan 100 7/23
set vlan 200 7/9
set port disable 7/5

set port name 7/9 1528 Hub
set port security 7/10 enable
set port security 7/10 maximum 200
set port security 7/10 00-11-22-33-44-55
set port security 7/10 00-11-22-33-44-66
set port security 7/10 00-11-22-33-44-77
set port security 7/10 violation restrict
set port security 7/10 age 30

```

```

set trunk 7/1 desirable isl 1-1005
set trunk 7/2 desirable isl 1-1005
set trunk 7/3 desirable isl 1-1005
set trunk 7/4 desirable isl 1-1005
set trunk 7/10 off negotiate 1-1005
set trunk 7/23 on isl 1-1005
set spantree portcost 7/23 150
set spantree portvlancost 7/23 cost 50 100
!
#module 8 empty
!
#module 9 empty
!
#module 15 empty
!
#module 16 empty
end
Console>

```

This example shows how to display default and nondefault configuration information:

```

Console> show config all
begin
!
# ***** ALL (DEFAULT and NON-DEFAULT) CONFIGURATION *****
!
#Current time: Mon Apr 17 2000, 08:33:09
!
#version 5.51(1)
!
set password $1$FMFQ$HfZR5DUszVHIRhrz4h6V70
set enablepass $1$FMFQ$HfZR5DUszVHIRhrz4h6V70
set prompt Console>
set length 24 default
set logout 20
set banner motd ^C^C
!
#system
set system baud 9600
set system modem disable
set system name
set system location
set system contact
!
... <truncated display>
#gvrp
set gvrp dynamic-vlan-creation disable
set gvrp disable
end
console>

```

This example shows how to display nondefault system configuration information:

```

Console> show config system
begin
!
# ***** NON-DEFAULT CONFIGURATION *****
!
#time: Mon Apr 17 2000, 08:33:09
!
#version 5.5(1)
!
!

```

```
#set boot command
set boot config-register 0x2
set boot system flash bootflash:kk1
end
Console>
```

This example shows how to display all system default and nondefault configuration information:

```
Console> show config system all
begin
!
#system
set system baud 9600
set system modem disable
set system name
set system location
set system contact
!
end
Console>
```

This example shows how to display module nondefault configuration information:

```
Console> show config 1
.....
begin
!
# ***** NON-DEFAULT CONFIGURATION *****
!
!
#time: Mon Apr 17 2000, 08:33:09
!
#version 5.5(1)
!
!
#module 1 : 4-port 10/100BaseTX Supervisor
!
end
Console>
```

This example shows how to display default and nondefault configuration information for a specific module:

```
Console> show config 1 all
begin
!
#module 1 : 4-port 10/100BaseTX Supervisor
set module name 1
set vlan 1 1/1-4
set port channel 1/1-4 off
... <truncated display>
set port flowcontrol 1/1-4 receive on
set cdp enable 1/1-4
set trunk 1/1 auto negotiate 1-1005
... <truncated display>
set trunk 1/4 auto negotiate 1-1005
set spantree portfast 1/1-4 disable
... <truncated display>
set spantree portvlancost 1/4 cost 99
```

```
set port gvrp      1/1-4  disable
set gvrp registration normal  1/1-4
set gvrp applicant normal    1/1-4
set port gmrp     1/1-4  enable
set gmrp registration normal  1/1-4
set gmrp fwdall  disable    1/1-4
!
end
Console>
```

Related Commands

clear config
write

show config qos acl

Use the **show config qos acl** command to display the committed access lists in a command line format.

show config qos acl *acl_name* | **all**

Syntax Description	<i>acl_name</i>	Unique name that identifies the list to which the entry belongs.
	all	Keyword to specify all committed access lists.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Examples This example shows how to display all committed access lists:

```
Console> show config qos acl all
#ipx1:
set qos acl ipx ipx1 dscp 1 any AA BB
set qos acl ipx ipx1 dscp 1 0 AA CC
#default-action:
set qos acl default-action ip dscp 0
set qos acl default-action ipx dscp 0
set qos acl default-action mac dscp 0
Console>
```

This example shows how to display a specific committed access list:

```
Console> show config qos acl my_ip_acl
#my_ip_acl:
set qos acl ip my_ip_acl trust-dscp microflow my-micro tcp 1.2.3.4/255.0.0.0 eq
port 21 172.20.20.1/255.255.255.0 tos 5
set qos acl ip my_ip_acl trust-dscp microflow my-micro aggregate agg tcp
173.22.3.4/255.0.0.0 eq port 19 173.22.20.1/255.255.255.0 tos 5
Console>
```

Related Commands **commit**

show cops

Use the **show cops** command set to display COPS information.

show cops info [**diff-serv** | **rsvp+**] [**noalias**]

show cops pib

show cops roles

Syntax Description	info Keyword to display COPS status and configuration information.
	diff-serv (Optional) Keyword to specify the differentiated services server table.
	rsvp+ (Optional) Keyword to specify the RSVP+ server table.
	noalias (Optional) Keyword to force the display to show only IP addresses, not IP aliases.
	pib Keyword to display the COPS policy tree information.
	roles Keyword to display the ports assigned to each role.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines The display output of the **show cops pib** command is a numeric dump of the PIB in terms of a PRID and its vector of values.

For a few minutes after a switchover between active and standby supervisor engines, note that if you enter the **show cops roles** command, the output may be incorrect. If this is the case, the following warning displays:

```
COPS High Availability Switch Over in progress, hardware may be
programmed differently than as suggested by the output of these
commands.
```

Examples This example shows how to display COPS status and configuration information:

```
Console> show cops info
COPS general configuration
-----
COPS domain name           : -
Connection retry intervals : initial   = 30 seconds
                           increment  = 30 seconds
                           max        = 300 seconds
```

```

COPS Diff-Serv client state
-----
COPS connection state      :not-connected
Last active server         :172.20.25.3 [port:3288]
Primary configured server  :172.20.25.3 [port:3288]
Secondary configured server :-
COPS RSVP+ client state
-----
COPS connection state      : connected
Last active server         : 171.21.34.56
Primary configured server  : 171.21.34.56 [3288]
Secondary configured server : 171.21.34.57 [3288]
Console>

```

This example shows how to display COPS policy tree information:

```

Console> show cops pib
4.1.1.1      0 0 0 1 1 0 0 2 2 0 0 3 3 0 0 (etc.) .. 63 30 5 3 0
4.2.1        0 1 1 2 2 3 3 4 4 1 5 1 6 10 7 8
(display is truncated)
Console>

```

This example shows how to display COPS RSVP+ status and configuration information:

```

Console> show cops info rsvp
COPS general configuration
-----
COPS domain name          : -
Connection retry intervals : initial   = 30 seconds
                           increment = 30 seconds
                           max       = 300 seconds

COPS RSVP+ client state
-----
COPS connection state      : connected
Last active server         : 171.21.34.56
Primary configured server  : 171.21.34.56 [3288]
Secondary configured server : 171.21.34.57 [3288]
Console>

```

This example shows how to display the ports assigned to each role:

```

Console> show cops roles
Admin Roles                Mod/Ports
-----
access_port                1/1-2,3/1-5,3/8
backbone_port              1/1-2,3/8
branch_office_port         3/6-7,4/1-8
net_port                   -

Oper Roles                 Mod/Ports
-----
access_port                1/1-2,3/1-5,3/8
backbone_port              1/1-2,3/8
branch_office_port         3/6-7,4/1-8
Console>

```

This example shows how to display only IP addresses, not IP aliases:

```
Console> show cops noalias
COPS general configuration
-----
COPS domain name           : -
Connection retry intervals : initial   = 30 seconds
                           increment = 30 seconds
                           max         = 300 seconds

COPS Diff-Serv client state
-----
COPS connection state      : not-connected
TCP connection state       : not-connected
Last active server         : -
Primary configured server  : -
Secondary configured server : -

COPS RSVP client state
-----
COPS connection state      : not-connected
TCP connection state       : not-connected
Last active server         : -
Primary configured server  : -
Secondary configured server : -
Console>
```

Related Commands

clear cops
set cops

show counters

Use the **show counters** command to display hardware counters for a port.

show counters *mod/port*

Syntax Description	<i>mod/port</i> Number of the module and the port.
---------------------------	--

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

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

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

Examples	This example shows how to display the counters for module 2, port 1:
-----------------	--



Note

The counters displayed may change depending on the module type queried.

```

Console> (enable) show counters 2/1
Generic counters version 1
64 bit counters
0  rxHCTotalPkts                =                2170558
1  txHCTotalPkts                =                2588911
2  rxHCUnicastPkts              =                2142669
3  txHCUnicastPkts              =                2585457
4  rxHCMulticastPkts            =                 19552
5  txHCMulticastPkts            =                 1789
6  rxHCBroadcastPkts            =                 8332
7  txHCBroadcastPkts            =                 1665
8  rxHCOctets                   =                190513843
9  txHCOctets                   =                227423299
10 rxTxHCPkts64Octets           =                 20996
11 rxTxHCPkts65to127Octets      =                4737279
12 rxTxHCPkts128to255Octets     =                 1170
13 rxTxHCPkts256to511Octets     =                  16
14 rxTxHCpks512to1023Octets     =                  8
15 rxTxHCpks1024to1518Octets    =                  0
16 rxDropEvents                 =                  0

```

```

32 bit counters
0  rxCRCAAlignErrors           =          0
1  rxUndersizedPkts            =          0
2  rxOversizedPkts             =          0
3  rxFragmentPkts              =          0
4  rxJabbers                    =          0
5  txCollisions                 =          0
6  ifInErrors                   =          0
7  ifOutErrors                  =          0
8  ifInDiscards                 =          0
9  ifInUnknownProtos           =          0
10 ifOutDiscards                =          0
11 txDelayExceededDiscards      =          0
12 txCRC                        =          0
13 linkChange                   =          2
Dot3 counters version 1
0  dot3StatsAlignmentErrors     =          0
1  dot3StatsFCSErrors           =          0
2  dot3StatsSingleColFrames     =          0
3  dot3StatsMultiColFrames      =          0
4  dot3StatsSQETestErrors       =          0
5  dot3StatsDeferredTransmissions =          0
6  dot3StatsLateCollisions      =          0
7  dot3StatsExcessiveCollisions =          0
8  dot3StatsInternalMacTransmitErrors =          0
9  dot3StatsCarrierSenseErrors  =          0
10 dot3StatsFrameTooLongs       =          0
11 dot3StatsInternalMacReceiveErrors =          0
Flowcontrol counters version 1
0  txPause                      =          0
1  rxPause                      =          0
Console> (enable)

```

Table 2-15 describes the possible fields in the show counters command output.

Table 2-15 *show counters Command Output Fields*

Field	Description
64-bit counters	
rxHCTotalPkts	Number of packets (including bad packets, broadcast packets, and multicast packets) received on a link.
txHCTotalPkts	Number of packets (including bad packets, broadcast packets, and multicast packets) transmitted on a link.
rxHCUnicastPkts	Number of packets, delivered by this sublayer to a higher (sub)layer, which were not addressed to a multicast or broadcast address at this sublayer.
txHCUnicastPkts	Number of packets that higher-level protocols requested be transmitted, and which were not addressed to a multicast or broadcast address at this sublayer, including those that were discarded or not sent.
rxHCMulticastPkts	Number of packets, delivered by this sublayer to a higher (sub)layer, which were addressed to a multicast address at this sublayer. For a MAC layer protocol, this includes both Group and Functional addresses.
txHCMulticastPkts	Number of packets that higher-level protocols requested be transmitted, and which were addressed to a multicast address at this sublayer, including those that were discarded or not sent. For a MAC layer protocol, this includes both Group and Functional addresses.

Table 2-15 show counters Command Output Fields (continued)

Field	Description
rxHCBroadcastPkts	Number of packets, delivered by this sublayer to a higher (sub)layer, which were addressed to a broadcast address at this sublayer.
txHCBroadcastPkts	Number of packets that higher-level protocols requested be transmitted, and which were addressed to a broadcast address at this sublayer, including those that were discarded or not sent.
rxHCOctets	Number of octets received on the interface, including framing characters.
txHCOctets	Number of octets transmitted out of the interface, including framing characters.
rxTxHCPkts64Octets	Number of packets (including bad packets) received that were 64 octets in length (excluding framing bits but including FCS octets).
rxTxHCPkts65to127Octets	Number of packets (including bad packets) received that were between 65 and 127 octets in length inclusive (excluding framing bits but including FCS octets).
rxTxHCPkts128to255Octets	Number of packets (including bad packets) received that were between 128 and 255 octets in length inclusive (excluding framing bits but including FCS octets).
rxTxHCPkts256to511Octets	Number of packets (including bad packets) received that were between 256 and 511 octets in length inclusive (excluding framing bits but including FCS octets).
rxTxHCPkts512to1023Octets	Number of packets (including bad packets) received that were between 512 and 1023 octets in length inclusive (excluding framing bits but including FCS octets).
rxTxHCPkts1024to1518Octets	Number of packets (including bad packets) received that were between 1024 and 1518 octets in length inclusive (excluding framing bits but including FCS octets).
rxDropEvents ¹	Number of events in which packets were dropped by the probe due to lack of resources.
32-bit counters	
rxCRCAlignErrors	Number of packets received that had a length (excluding framing bits, but including FCS octets) between 64 and 1518 octets, inclusive, and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
rxUndersizedPkts	Number of packets received that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well-formed.
rxOversizedPkts	Number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets) and were otherwise well-formed.
rxFragmentPkts ²	Number of packets received that were less than 64 octets in length (excluding framing bits but including FCS octets) and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
rxJabbers ³	Number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets), and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
txCollisions ⁴	The best estimate of the total number of collisions on this Ethernet segment. The value returned will depend on the location of the RMON probe. Section 8.2.1.3 (10Base5) and section 10.3.1.3 (10Base2) of IEEE standard 802.3 states that a station must detect a collision in the receive mode if three or more stations are transmitting simultaneously. A repeater port must detect a collision when two or more stations are transmitting simultaneously. Thus, a probe placed on a repeater port could record more collisions than a probe connected to a station on the same segment would. Probe location plays a much smaller role when considering 10BaseT.

Table 2-15 *show counters Command Output Fields (continued)*

Field	Description
ifInErrors	For packet-oriented interfaces, the number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol. For character-oriented or fixed-length interfaces, the number of inbound transmission units that contained errors preventing them from being deliverable to a higher-layer protocol.
ifOutErrors	Number of octets transmitted out of the interface, including framing characters.
ifInDiscards	Number of inbound packets that were chosen to be discarded even though no errors had been detected to prevent their delivery to a higher-layer protocol. One possible reason for discarding such a packet could be to free up buffer space.
ifInUnknownProtos	Number of inbound packets with unknown protocols.
ifOutDiscards	Number of inbound packets chosen to be discarded even though no errors had been detected to prevent their delivery to a higher-layer protocol. One possible reason for discarding such a packet could be to free up buffer space.
txDelayExceededDiscards	Number of frames discarded by this port due to excessive transmit delay.
txCRC	Number of CRC errors.
linkChange	Number of times the port toggled between a connect state to a non-connect state.
Dot3 counters version 1	
dot3StatsAlignmentErrors ⁵	A count of frames received on a particular interface that are not an integral number of octets in length and do not pass the FCS check.
dot3StatsFCSErrors ⁶	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS check.
dot3StatsSingleCollisionFrames	A count of successfully transmitted frames on a particular interface for which transmission is inhibited by exactly one collision. A frame that is counted by an instance of this object is also counted by the corresponding instance of either the ifOutUcastPkts, ifOutMulticastPkts, or ifOutBroadcastPkts, and is not counted by the corresponding instance of the dot3StatsMultipleCollisionFrames object.
dot3StatsMultiCollisionFrames	A count of successfully transmitted frames on a particular interface for which transmission is inhibited by more than one collision. A frame that is counted by an instance of this object is also counted by the corresponding instance of either the ifOutUcastPkts, ifOutMulticastPkts, or ifOutBroadcastPkts, and is not counted by the corresponding instance of the dot3StatsSingleCollisionFrames object.
dot3StatsSQETestErrors	A count of times that the SQE TEST ERROR message is generated by the PLS sublayer for a particular interface. The SQE TEST ERROR message is defined in section 7.2.2.2.4 of ANSI/IEEE 802.3-1985 and its generation is described in section 7.2.4.6 of the same document.
dot3StatsDeferredTransmissions	A count of frames for which the first transmission attempt on a particular interface is delayed because the medium is busy. The count represented by an instance of this object does not include frames involved in collisions.
dot3StatsLateCollisions ⁷	Number of times that a collision is detected on a particular interface later than 512 bit-times into the transmission of a packet.
dot3StatsExcessiveCollisions	A count of frames for which transmission on a particular interface fails due to excessive collisions.

Table 2-15 show counters Command Output Fields (continued)

Field	Description
dot3StatsInternalMacTransmitErrors ⁸	A count of frames for which transmission on a particular interface fails due to an internal MAC sublayer transmit error. A frame is only counted by an instance of this object if it is not counted by the corresponding instance of either the dot3StatsLateCollisions object, the dot3StatsExcessiveCollisions object, or the dot3StatsCarrierSenseErrors object.
dot3StatsCarrierSenseErrors	Number of times that the carrier sense condition was lost or never asserted when attempting to transmit a frame on a particular interface. The count represented by an instance of this object is incremented at most once per transmission attempt, even if the carrier sense condition fluctuates during a transmission attempt.
dot3StatsFrameTooLongs	A count of frames received on a particular interface that exceeds the maximum permitted frame size. The count represented by an instance of this object is incremented when the frameTooLong status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions obtained are counted exclusively according to the error status presented to the LLC.
dot3StatsInternalMacReceiveErrors ⁹	A count of frames for which reception on a particular interface fails due to an internal MAC sublayer receive error. A frame is only counted by an instance of this object if it is not counted by the corresponding instance of either the dot3StatsFrameTooLongs object, the dot3StatsAlignmentErrors object, or the dot3StatsFCSErrors object.
Flowcontrol counters version 1	
txPause	Number of control frames transmitted at the gigabit level. This counter is valid only on a Gigabit Ethernet port.
rxPause	Number of control frames received at the gigabit level. This counter is valid only on a Gigabit Ethernet port.

1. This number is not necessarily the number of packets dropped; it is just the number of times this condition has been detected.
2. It is entirely normal for etherStatsFragments to increment because it counts both runts (which are normal occurrences due to collisions) and noise hits.
3. This definition of jabber is different than the definition in IEEE-802.3 section 8.2.1.5 (10Base5) and section 10.3.1.4 (10Base2), which define jabber as the condition where any packet exceeds 20 ms. The allowed range to detect jabber is between 20 ms and 150 ms.
4. An RMON probe inside a repeater should ideally report collisions between the repeater and one or more other hosts (transmit collisions as defined by IEEE 802.3k) plus receiver collisions observed on any coax segments to which the repeater is connected.
5. This number is incremented when the alignmentError status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions obtained are counted exclusively according to the error status presented to the LLC.
6. This number is incremented when the frameCheckError status is returned by the MAC service to the LLC (or other MAC user). Received frames for which multiple error conditions obtained are counted exclusively according to the error status presented to the LLC.
7. 512 bit-times corresponds to 51.2 microseconds on a 10-Mbps system. A (late) collision represented by an instance of this object is also considered as a (generic) collision for other collision-related statistics.
8. The precise meaning of the count represented by an instance of this object is implementation-specific. In particular, an instance of this object may represent a count of transmission errors on a particular interface not otherwise counted.
9. The precise meaning of the count represented by an instance of this object is implementation-specific. In particular, an instance of this object may represent a count of receive errors on a particular interface not otherwise counted.

Related Commands **clear counters**