

show accounting

To display accounting setup and configuration information on the switch, use the **show accounting** command.

show accounting

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 the configuration details of a switch with RADIUS accounting enabled:

```

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

```

```
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 acllog

To display the status of ACL log rate limiting, use the **show acllog** command.

show acllog

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 status of ACL log rate limiting:

```
Console> show acllog
ACL log rate limit enabled, rate = 500 pps.
Console>
```

Related Commands [clear acllog](#)
[set acllog ratelimit](#)

show acl mac-packet-classify

To display a list of VLANs that have the MAC-based ACL feature enabled, use the **show acl mac-packet-classify** command.

show acl mac-packet-classify

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 VLANs with the MAC-based ACL feature enabled:

```
Console> show acl mac-packet-classify
Feature enabled on source vlan(s) 1,5.
Console>
```

Related Commands [clear acl mac-packet-classify](#)
[set acl mac-packet-classify](#)

show aclmerge algo

To display information about the ACL merge algorithm, use the **show aclmerge algo** command.

show aclmerge algo

Syntax Description This command has no arguments or keywords.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Privileged.

Examples This example shows how to display the ACL merge algorithm currently in use:

```
Console> (enable) show aclmerge algo  
Current acl merge algorithm is odm.  
Console> (enable)
```

show alias

To display a listing of defined command aliases, use the **show alias** command.

```
show alias [name]
```

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

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

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

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

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

To display the ARP table, use the **show arp** command.

```
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) Forces the display to show only IP addresses, not IP aliases.

Defaults This command has no default settings.

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

To display authentication information, use the **show authentication** command.

show authentication

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 authentication information:

```

Console> show authentication

```

Login Authentication:	Console Session	Telnet Session	Http Session
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

To display authorization setup and configuration information on the switch, use the **show authorization** command.

show authorization

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 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 autoshut

To display the automatic module shutdown configuration and current status information, use the **show autoshut** command.

show autoshut

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 The run-time variable states for Ethernet modules do not synchronize with the standby supervisor engine. The output of the **show autoshut** command on a standby supervisor engine does not track with the number of resets or the reasons for the resets. If the module is powered down by the **set autoshut** command, the output stays the same.

Examples This example shows how to display the automatic module shutdown configuration and current status information:

```

Console> show autoshut
AutoShut Frequency:    3 times
AutoShut Period:      5 minutes

Mod Autoshut Current  Number Reason for last Time of last reset
num status  status  resets reset
-----
1  NA      ok      -      -      -
2  enabled shutdown 4      inband failure Mon Jul 14 2003, 22:55:45
3  disabled ok      0      None      -
4  enabled ok      1      scp failure  Mon Jul 14 2003, 21:03:17
Console>

```

Related Commands

- [clear autoshut](#)
- [set autoshut](#)
- [set module autoshut](#)

show banner

To view the message of the day (MOTD), the Catalyst 6500 series Switch Fabric Module LCD banner, and the status of the Telnet banner stored in NVRAM, use the **show banner** command.

show banner

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 MOTD, the Catalyst 6500 series Switch Fabric Module LCD banner, and the status of the Telnet banner:

```
Console> show banner
MOTD banner:

LCD config:

Telnet Banner:
disabled
Console>
```

Related Commands [set banner lcd](#)
[set banner motd](#)
[set banner telnet](#)

show boot

To display the contents of the BOOT environment variables and the configuration register setting, use the **show boot** command.

show boot [*mod*]

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

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

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

To display the NAM boot string stored in NVRAM, use the **show boot device** command.

show boot device *mod*

Syntax Description	<i>mod</i>	Number of the module containing the Flash device.
---------------------------	------------	---

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

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:	
-----------------	---	--

```
Console> show boot device 2  
Device BOOT variable = hdd:2  
Console>
```

Related Commands	clear boot device set boot device
-------------------------	--

show cam

To display CAM table entries, use the **show cam** command.

```
show cam {dynamic | static | permanent | system | duplicate} [{mod/port} | vlan]
```

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

Syntax Description

dynamic	Displays dynamic CAM entries.
static	Displays static CAM entries.
permanent	Displays permanent CAM entries.
system	Displays system CAM entries.
duplicate	Displays duplicate CAM entries.
<i>mod/port</i>	(Optional) Number of the module and the port on the module.
<i>vlan</i>	(Optional) Number of the VLAN; valid values are from 1 to 4094.
<i>mac_addr</i>	MAC address.

Defaults

This command has no default settings.

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, CAM entries for all VLANs are displayed.

If the MAC address belongs to a router, it is shown by appending an “R” to the MAC address.

You can set the traffic filter for unicast addresses only; you cannot set the traffic filter for multicast addresses.

To continue displaying the entire list of CAM entries when you enter the **show cam dynamic** command, press the Y key or the space bar.

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.
```

```
X = Port Security Entry
```

```
VLAN  Dest MAC/Route Des      [CoS]  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 how to display dynamic CAM entries for VLAN 1:

```

Console> show cam dynamic 1

```

```

* = Static Entry. + = Permanent Entry. # = System Entry. R = Router Entry.
X = Port Security Entry

```

VLAN	Dest MAC/Route Des	[CoS]	Destination Ports or VCs / [Protocol Type]
1	00-40-0b-60-d7-3c		2/1-2 [IP]
1	00-e0-34-8b-d3-ff		2/1-2 [IP]
1	00-e0-14-0f-df-ff		2/1-2 [IP]
1	00-00-0c-35-7f-42		2/1-2 [IP]
1	00-90-6f-a3-bb-ff		2/1-2 [IP]
1	00-e0-8f-63-7f-ff		2/1-2 [IP]
1	00-00-0c-35-7f-42		2/1-2 [GROUP]
.	.	.	.
.	. Display truncated		
.	.	.	.
1	00-e0-f9-c8-33-ff		2/1-2 [IP]

```

Console>

```

This example shows routers listed as CAM entries:

```

Console> show cam 00-00-81-01-23-45

```

```

* = Static Entry. + = Permanent Entry. # = System Entry. R = Router Entry
X = Port Security Entry

```

```

Router Watergate with IP address 172.25.55.1 has CAM entries:

```

VLAN	Dest MAC/Route Des	[CoS]	Destination Ports or VCs / [Protocol Type]
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>

```

```

Console> (enable) show cam 00-00-81-01-23-45

```

```

* = Static Entry. + = Permanent Entry. # = System Entry. R = Router Entry.
X = Port Security Entry

```

VLAN	Dest MAC/Route Des	[CoS]	Destination Ports or VCs / [Protocol Type]
1	00-00-81-01-23-45R	*	FILTER

```

Console>

```

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

```
console> (enable) sh cam duplicate
* = Static Entry. + = Permanent Entry. # = System Entry. R = Router Entry. X = Port
Security Entry $ = Dot1x Security Entry M = Mac-Auth-Bypass Entry & = Duplicate MAC entry
VLAN   Dest MAC/Route Des [CoS] Destination Ports or VCs / [Protocol Type]
-----
401    00-d0-02-83-eb-89 &      12/1
426    00-d0-02-83-eb-89 &      12/16
401    d8-d9-02-83-ef-ff &      12
429    d8-d9-02-83-ef-ff &      3/86

Total Matching CAM Entries Displayed = 2
```

Related Commands

- [clear cam](#)
- [set cam](#)
- [show cam agingtime](#)
- [show config](#)

show cam agingtime

To display CAM aging time information for all configured VLANs, use the **show cam agingtime** command.

```
show cam agingtime [vlan]
```

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

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

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

To display the number of CAM entries only, use the **show cam count** command.

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

Syntax Description	dynamic	Displays dynamic CAM entries.
	static	Displays static CAM entries.
	permanent	Displays permanent CAM entries.
	system	Displays system CAM entries.
	<i>vlan</i>	(Optional) Number of the VLAN; valid values are from 1 to 4094.

Defaults This command has no default settings.

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 monitor

To display the global configuration for CAM monitoring or the configuration for specific interfaces, use the **show cam monitor** command.

show cam monitor [*mod/ports* | *vlan* | **all**]

Syntax Description	
<i>mod/ports</i>	(Optional) Number of the module and ports on the module.
<i>vlan</i>	(Optional) VLAN number; valid values are from 1 to 4094.
all	(Optional) Displays monitoring configuration on all interfaces.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify a *mod/port* or *vlan* argument or the **all** keyword, the global CAM monitoring configuration displays.

Examples This example shows how to display the global CAM monitoring configuration:

```
Console> show cam monitor
Cam monitor global configuration:
enabled : TRUE
interval : 20
Console>
```

This example shows how to display the CAM monitoring configuration on all interface:

```
Console> show cam monitor all

mod/port Enabled Low      Low      High      High      No. of
           Threshold Action  Threshold Action mac addr
-----
 3/1      Y         500 warning 28000 shutdown 0
Console>
```

Related Commands [clear cam monitor](#)
[set cam monitor](#)

show cam msfc

To display the router's MAC-VLAN entries, use the **show cam msfc** command.

```
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; valid values are from 1 to 4094.

Defaults This command has no default settings.

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 cam notification

To display the status of CAM table notifications, notification intervals, MAC addresses added and deleted, and MAC move counters statistics, use the **show cam notification** command.

```
show cam notification {all | counters | enable | historysize | interval | move | threshold |
  mod/port}
```

```
show cam notification history [{[-]number_of_log_entries}]
```

```
show cam notification move counters [vlan]
```

Syntax Description		
all		Displays the CAM notification counters, enable, interval, and historysize information.
counters		Displays CAM notification counter information.
enable		Displays CAM notification feature information.
historysize		Displays the size of the CAM notification log.
interval		Displays the CAM notification interval.
move		Displays MAC move notification status.
threshold		Displays CAM usage monitoring status and parameters.
<i>mod/port</i>		Number of the module and port.
history		Displays CAM notification history logs.
-		(Optional) Specifies the most recent log entries.
<i>number_of_log_entries</i>		(Optional) Number of the CAM notification log entries to display; if a CAM notification log number is not specified, the entire log is displayed.
move counters		Displays MAC move statistics.
<i>vlan</i>		(Optional) Number of the VLAN; valid values are from 1 to 4094.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines The MAC move counter records a maximum of 1000 MAC moves per VLAN only. Once this maximum has been exceeded, new moves are not recorded on the VLAN. You can enter the **clear cam notification move counters** command to clear the counters.

Due to differences between the CPU and the ASIC processing speed differences, the number of moves reported by the MAC move counter may differ from the actual number of MAC moves.

MAC move counter notification is not supported on EARL 4 and earlier.

Examples

This example shows how to display CAM notification counters:

```
Console> show cam notification counters
MAC addresses added = 3
MAC addresses removed = 5
MAC addresses added overflowed = 0
MAC addresses removed overflowed = 0
MAC address SNMP traps generated = 0
Console>
```

This example shows how to display CAM notification feature information:

```
Console> show cam notification enable
MAC address change detection enabled
Console>
```

This example shows how to display CAM notification information for ports 1-6 on module 2:

```
Console> show cam notification 2/1-6
Mod/Port   Added      Removed
-----
2/1        enabled   disabled
2/2        enabled   disabled
2/3        enabled   enabled
2/4        enabled   enabled
2/5        disabled  enabled
2/6        disabled  enabled
Console>
```

This example shows how to display CAM notification intervals:

```
Console> show cam notification interval
CAM notification interval = 10 second(s).
Console>
```

This example shows how to display CAM notification history information:

```
Console> show cam notification history
Index Timestamp  Operation Address          Vlan Mod/Port
=====
      4  16676708  Unlearned 00:00:00:00:00:64  2 2/6
                Unlearned 00:00:00:00:00:63  2 2/6
                Unlearned 00:00:00:00:00:62  2 2/6
                Learned   00:00:00:00:00:61  2 2/4
                Learned   00:00:00:00:00:60  2 2/4
                Unlearned 00:00:00:00:00:5f  2 2/4
                Unlearned 00:00:00:00:00:5e  2 2/5
      5  16697903  Learned   00:00:00:00:00:1a  1 2/1
Console>
```

This example shows how to display CAM notification history size information:

```
Console> show cam notification historysize
MAC address change history log size = 300
Console>
```

This example shows how to display CAM notification configuration information:

```
Console> show cam notification all
MAC address change detection enabled
CAM notification interval = 15 second(s).
MAC address change history log size = 1
MAC addresses added = 22936547
MAC addresses removed = 262132
MAC addresses added overflowed = 0
```

```

MAC addresses removed overflowed = 0
MAC address SNMP traps generated = 0
MAC address move notification disabled
CAM notification threshold disabled
CAM notification threshold limit = 100%
CAM notification threshold interval = 120 seconds
Console>

```

This example shows how to display the CAM notification move counters when MMC is disabled:

```

Console> show cam notification move counters
MAC move counters are disabled
Console>

```

This example shows how to display the CAM notification move counters when no entries are present:

```

Console> show cam notification move counters
No entries found
Console>

```

This example shows how to display the CAM notification move counters when you do not specify a VLAN:

```

Console> show cam notification move counters
MAC move statistics of all the Vlans will be displayed
Console>

```

This example shows how to display the CAM notification move counters when MMC is enabled:

```

Console> show cam notification move counters
-----
Vlan   Mac Address           From Mod/Port           To Mod/Port           Count
-----
   1 00-01-02-04-04-01           2/3                     3/1                    10
  200 00-01-05-03-02-01           5/3                     5/1                    20
Console>

```

This example shows how to display the CAM notification move counters when you specify a VLAN:

```

Console> show cam notification move counters 1
-----
Vlan   Mac Address           From Mod/Port           To Mod/Port           Count
-----
   1 00-01-02-04-04-01           2/3                     3/1                    15
6.2.2.4 From Mod/Port is part of an EtherChannel
Console>

```

This example shows how to display the CAM notification move counters when the To Mod/Port is part of an EtherChannel:

```

Console> show cam notification move counters
-----
Vlan   Mac Address           From Mod/Port           To Mod/Port           Count
-----
   1 00-01-02-07-08-01           3/1                     2/1,2/3,2/5,2/7      10
Console>

```

This example shows how to display the CAM notification move counters when both the From Mod/Port and To Mod/Port are part of an EtherChannel:

```

Console> show cam notification move counters
-----
Vlan   Mac Address           From Mod/Port           To Mod/Port           Count
-----
   1 00-01-02-06-08-01           3/1,3/3,3/5,3/7       2/1,2/3,2/5,2/7      15

```

```
Console>
```

Related Commands

- [clear cam](#)
- [clear cam notification](#)
- [set cam](#)
- [set cam notification](#)
- [set snmp trap](#)
- [show cam](#)

show cam zero-mac-filter

To display the global status of the EARL zero mac filter, use the **show cam zero-mac-filter** command.

show cam zero-mac-filter

Syntax Description This command has no arguments or keywords.

Defaults EARL zero mac filter is disabled.

Command Types Switch command.

Command Modes Privileged.

Examples This example shows how to display the global status of the EARL zero mac filter:

```
Console> (enable) show cam zero-mac-filter
Earl zero-mac-filter is enabled
Console> (enable)
```

Related Commands [set cam zero-mac-filter](#)

show cdp

To display Cisco Discovery Protocol (CDP) information, use the **show cdp** command.

show cdp

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

show cdp neighbors exclude ip-phone

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

Syntax	Description
neighbors	Shows 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) Shows the native VLAN number for the neighboring Cisco products.
duplex	(Optional) Shows the duplex type of the neighboring Cisco products.
capabilities	(Optional) Shows 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) Shows detailed information about neighboring Cisco products.
exclude ip-phone	Excludes IP phone information from the display of neighboring Cisco products.
port	Shows CDP port settings.

Defaults

This command has no default settings.

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.

Examples

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

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

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> (enable) show cdp neighbors capabilities
* - indicates vlan mismatch.
# - indicates duplex mismatch.
Capability Codes:R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
```

Port	Device-ID	Port-ID	Capabilities
4/30	TBA04200588	4/34	T S I
4/31	TBA04200588	4/35	T S I
4/32	TBA04200588	4/36	T S I
4/33	TBA04200588	4/37	T S I
4/34	TBA04200588	4/38	T S I
4/35	TBA04200588	4/39	T S I
4/36	TBA04200588	4/40	T S I
4/45	19991108	4/46	T S I
4/46	19991108	4/45	T S I
5/1	TBA04200588	1/2	T S I
5/2	TBA04200588	1/1	T S I
5/3	TBA04200588	2/1	T S I

Console> (enable)

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>

Related Commands [set cdp](#)

show channel

To display EtherChannel information for a channel, use the **show channel** command.

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

```
show channel [channel_id] [info [type]]
```

```
show channel [channel_id | all] protocol
```

Syntax Description	
<i>channel_id</i>	(Optional) Number of the channel.
info	(Optional) Displays channel information.
statistics	(Optional) Displays statistics about the port (PAgP packets sent and received).
mac	(Optional) Displays MAC information about the channel.
<i>type</i>	(Optional) Displays feature-related parameters; valid values are spantree , trunk , protocol , gmrp , gvrp , qos , rsvp , cops , dot1qtunnel , auxiliaryvlan , and jumbo .
all	(Optional) Displays protocols of all channels.
protocol	Displays channel protocol.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines If you do not specify the *channel_id* value, 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 type**, the specified feature-related parameters are displayed in the output. To display protocols on all channels, enter the **show channel all protocol** command.

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

```
Console> show channel 865
Channel Ports                               Status    Channel
id                                           Mode
-----
      865 4/1-2                             connected desirable
                                           non-silent
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
Chan Port  Port      Portfast  Port      Port
id         priority          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         Status      mode     group   1000 100  full 1 -
-----
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 -
```

show channel

```

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

.
.
.
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         0         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

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 protocol
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 channel group](#)
[show port channel](#)

show channel group

To display EtherChannel group status information, use the **show channel group** command.

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

```
show channel group [admin_group] [info [type]]
```

Syntax Description

<i>admin_group</i>	(Optional) Number of the administrative group; valid values are from 1 to 1024.
info	(Optional) Displays group information.
statistics	(Optional) Displays statistics about the group.
<i>type</i>	(Optional) Displays feature-related parameters; valid values are spantree , trunk , protocol , gmrp , gvrp , qos , rsvp , cops , dot1qtunnel , auxiliaryvlan , and jumbo .

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

If you do not specify the *admin_group* value, EtherChannel information is shown for all administrative groups.

If you enter the optional **info type**, the specified feature-related parameters are displayed in the output.

Examples

This example shows how to display Ethernet channeling information for all administrative 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 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          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

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  disabled 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

```

show channel group

```
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 channel](#)
[show port channel](#)

show channel hash

To display the channel port the traffic goes to based on the current channel distribution mode, use the **show channel hash** command.

```
show channel hash channel_id src_ip_addr [dest_ip_addr]
```

```
show channel hash channel_id dest_ip_addr
```

```
show channel hash channel_id src_mac_addr [dest_mac_addr]
```

```
show channel hash channel_id dest_mac_addr
```

```
show channel hash channel_id src_port dest_port
```

```
show channel hash channel_id dest_port
```

```
show channel hash channel_id src_ip_addr vlan src_port [dest_ip_addr vlan dest_port]
```

```
show channel hash channel_id dest_ip_addr vlan dest_port
```

Syntax Description

<i>channel_id</i>	Number of the channel.
<i>src_ip_addr</i>	Source IP address.
<i>dest_ip_addr</i>	(Optional) Destination IP address.
<i>src_mac_addr</i>	Source MAC address.
<i>dest_mac_addr</i>	(Optional) Destination MAC address.
<i>src_port</i>	Number of the source port; valid values are from 0 to 65535.
<i>dest_port</i>	Number of the destination port; valid values are from 0 to 65535.
<i>vlan</i>	Number of the VLAN of the packet.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

If you do not specify the *channel_id* value, EtherChannel information is shown for all channels. No information is displayed if the channel specified is not in use.

Examples

This example shows how to display hash information in a channel:

```
Console> show channel hash 769 10.6.1.1 10.6.2.3
Selected channel port:1/2
Console>
```

Related Commands

[set port channel](#)

show channel mac

To display MAC information in the channel, use the **show channel mac** command.

show channel mac

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 MAC information in a channel:

```

Console> (enable) show channel mac
Channel  Rcv-Unicast          Rcv-Multicast          Rcv-Broadcast
-----  -----
Channel  Xmit-Unicast           Xmit-Multicast         Xmit-Broadcast
-----  -----
Channel  Rcv-Octet             Xmit-Octet
-----  -----
Channel  Dely-Exced MTU-Exced  In-Discard Lrn-Discrd  In-Lost  Out-Lost
-----  -----

```

show channelprotocol

To display the channeling protocol used by each module in the system, use the **show channelprotocol** command.

show channelprotocol

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 PAgP and LACP manage channels differently. When all the ports in a channel get disabled, PAgP removes them from its internal channels list; **show** commands do not display the channel. With LACP, when all the ports in a channel get disabled, LACP does not remove the channel; **show** commands continue to display the channel even though all its ports are down. To determine if a channel is actively sending and receiving traffic with LACP, use the **show port** command to see if the link is up or down.

LACP does not support half-duplex links. If a port is in active or passive mode and becomes half duplex, the port is suspended (and a syslog message is generated). The port is shown as “connected” using the **show port** command and as “not connected” using the **show spantree** command. This discrepancy occurs because the port is physically connected, but it never joined spanning tree. If you set the duplex to full or set the channel mode to off for the port, the port will join spanning tree

For more information about PAgP and LACP, refer to the “Guidelines for Port Configuration” section of the “Configuring EtherChannel” chapter of the *Catalyst 6500 Series Switch Software Configuration Guide*.

Examples This example shows how to display the protocol used by each module in the system:

```

Console> show channelprotocol
      Channel
Module  Protocol
-----  -
1       LACP
2       LACP
3       PAGP
4       LACP
Console>

```

Related Commands [set channelprotocol](#)

show channel traffic

To display channel port utilization based on MAC counters, use the **show channel traffic** command.

show channel traffic [*channel_id*]

Syntax Description	<i>channel_id</i> (Optional) Number of the channel.
---------------------------	---

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

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

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

Usage Guidelines	If you do not specify the <i>channel_id</i> value, EtherChannel information is shown for all channels. No information is displayed if the channel specified is not in use.
-------------------------	---

Examples	This example shows how to display traffic information in a channel:
-----------------	---

```

Console> show channel traffic 769
ChanId Port  Rx-Ucst Tx-Ucst Rx-Mcst Tx-Mcst Rx-Bcst Tx-Bcst
-----
   769  1/1   0.00%  0.00%   0.00%   0.00%   0.00%   0.00%
   769  1/2  100.00% 100.00% 100.00% 100.00%   0.00%   0.00%
Console>

```

show config

To display the nondefault system or module configuration, use the **show config** command.

show config [all]

show config [system | mod] [all]

show config acl location

Syntax Description	
all	(Optional) Specifies all module and system configuration information, including the IP address.
system	(Optional) Displays system configuration.
mod	(Optional) Displays module configuration.
acl location	Displays ACL configuration file location.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

To view specific information within the **show config** output, if you enter */text* and press the **Return** key at the --More-- prompt, the display starts two lines above the line containing the *text* string. If the text string is not found, "Pattern Not Found" is displayed. You can also enter "**n**" at the --More-- prompt to search for the last entered *text* string.

A comment appears in the configuration file to help you to determine where the QoS configuration originated—traditional QoS or automatic QoS.

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 active
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

#port security
set port security auto-configure enable
!
#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> (enable) 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
!
.
.
.
Console>
```

This example shows how to display nondefault system configuration information:

```
Console> (enable) 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> (enable) 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> (enable) 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 the ACL configuration file location:

```
Console> (enable) show config acl location
ACL configuration is being saved in NVRAM.
Console> (enable)
```

This example shows that the QoS configuration was made through automatic QoS:

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

.....

.....

..

begin
<snip>
#qos - qos configuration via autoqos
set qos enable
set qos map 2q2t tx 2 1 cos 1
set qos map 2q2t tx 2 1 cos 2
<snip>
Console> (enable)
```

Related Commands

[clear config](#)
[write](#)

show config checkpoints

To display configuration checkpoint file information, use the **show config checkpoints** command.

show config checkpoints

Syntax Description This command has no keywords or arguments.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Privileged.

Usage Guidelines The output of this command shows all configuration checkpoint filenames, the devices on which they have been saved, and the date and time when they were saved.

Examples This example shows how to display configuration checkpoint information:

```
Console> (enable) show config checkpoints
Checkpoint          File id                               Date
=====
CKP0_0722040712    bootflash:CKP0_07220407128.4(0.79)COC Thu Jul 22 2000, 07:12:43
SARAH_07122002     bootflash:SARAH_071220028.4(0.79)COC  Thu Jul 22 2000, 07:19:05
Console> (enable)
```

Related Commands

- [clear config checkpoint](#)
- [set config checkpoint](#)
- [set config rollback](#)

show config differences

To compare configuration files that are stored on the system to determine differences between configuration files or to check if changes have been made to the system configuration, use the **show config differences** command.

```
show config differences [ignorecase] [context [val]] all file
```

```
show config differences [ignorecase] [context [val]] file [file]
```

Syntax Description

ignorecase	(Optional) Ignores case sensitivity while comparing files.
context	(Optional) Displays differences with context.
<i>val</i>	(Optional) Number of lines of context.
all	Compares the file to both default and nondefault configurations.
<i>file</i>	Configuration filename.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Privileged.

Usage Guidelines

If you specify only one configuration filename, that configuration file is compared with the current configuration on the switch.

Examples

This example shows how to compare two configuration files:

```
Console> (enable) show config differences 1.cfg 2.cfg
--- bootflash:1.cfg
+++ bootflash:2.cfg
@@ -8,1 +8,1 @@
-#version 8.2(0.11-Eng)DEL
+#VERSION 8.2(0.11-eNG)del
@@ -11,1 +11,1 @@
-set config mode text auto-save interval 1
+SET CONFIG MODE TEXT AUTO-SAVE INTERVAL 1
Console> (enable)
```

This example shows how to ignore case sensitivity while comparing two files:

```
Console> (enable) show config differences ignorecase 1.cfg 2.cfg
Files bootflash:1.cfg and bootflash:2.cfg are identical
Console> (enable)
```

Related Commands [show config](#)

show config mode

To display the system configuration mode currently running on the switch, use the **show config mode** command.

show config mode

Syntax Description This command has no arguments or keywords.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Privileged.

Examples This example shows how to display the current system configuration mode when set to text:

```
Console> (enable) show config mode
System configuration mode set to text.
System configuration file = bootflash:switch.cfg
auto-save to nvram disabled
auto-save interval set to 45
Console> (enable)
```

This example shows how to display the current system configuration mode when set to binary:

```
Console> (enable) show config mode
System configuration mode set to binary.
auto-save to nvram disabled
auto-save interval set to 4320
Console> (enable)
```

This example shows how to display the current system configuration when the configuration mode is set to text and when the text configuration is saved in NVRAM:

```
Console> (enable) show config mode
System configuration mode set to text.
System configuration file set to nvram.
auto-save to nvram enabled
auto-save interval set to 2880
Console> (enable)
```

Related Commands [set config mode](#)

show config qos acl

To display the committed access lists in a command line format, use the **show config qos acl** command.

```
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	Specifies all committed access lists.

Defaults This command has no default settings.

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

To display COPS information, use the **show cops** command.

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

show cops roles

Syntax Description

info	Displays COPS status and configuration information.
diff-serv	(Optional) Specifies the differentiated services server table.
rsvp	(Optional) Specifies the RSVP server table.
noalias	(Optional) Forces the display to show only IP addresses, not IP aliases.
roles	Displays the ports assigned to each role.

Defaults

This command has no default settings.

Command Types

Switch command.

Command Modes

Normal.

Usage Guidelines

A few minutes after a switchover occurs between active and redundant supervisor engines, if you enter the **show cops roles** command, the output may be incorrect. If this is the case, the following warning is displayed:

```
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 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 : -

```

■ show cops

```
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

To display hardware counters for a port, all ports on a module, or a supervisor engine, use the **show counters** command.

```
show counters {mod | mod/port}
```

```
show counters supervisor
```

Syntax Description	
<i>mod</i>	Number of the module.
<i>mod/port</i>	Number of the module and the port.
supervisor	Displays counters for the supervisor engine.

Defaults This command has no default setting.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines The “Last-Time-Cleared” timestamp at the end of the **show counters** {*mod* | *mod/port*} command output is either the last time the counters were cleared on the specified port or the last time that the module was inserted or the switch was reset, whichever happened last.

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> 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 rxTxHCPkts512to1023Octets   =                  8
```

```

15 rxTxHCpkts1024to1518Octets      =          0
16 rxDropEvents                    =          0
17 txHCTrunkFrames                  =          0
18 rxHCTrunkFrames                  =          0
19 rxHCDropEvents                   =          0
32 bit counters
0  rxCRCAlignErrors                =          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
Last-Time-Cleared
-----
Tue Mar 21 2000, 19:19:03
Console>

```

This example shows how to display the counters for the supervisor engine:

```

Console> show counters supervisor
Acl Manager Error Stats Counter(s)
=====
IP checksum errors    = 00000

Forwarding Engine Error Stats Counters
=====
IP length errors     = 0
IP too short errors  = 0
IP checksum errors   = 0
IPX length errors    = 0
IPX too short errors = 0
Console>

```

Table 2-32 describes the possible fields in the **show counters** command output.

Table 2-32 *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.
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.

Table 2-32 show counters Command Output Fields (continued)

Field	Description
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 10BASE-T.
ifInErrors	Number of frames received on a particular interface with the following errors: dot3StatsAlignmentErrors, dot3StatsFCSErrors, dot3StatsFrameTooLongs, dot3StatsInternalMacReceiveErrors, and dot3StatsSymbolErrors.
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 outbound 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.

Table 2-32 *show counters Command Output Fields (continued)*

Field	Description
dot3StatsSingleColFrames	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.
dot3Stats MultiColFrames	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.
dot3StatsDeferred Transmissions	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.
dot3StatsInternalMacTransmit Errors 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.

Table 2-32 show counters Command Output Fields (continued)

Field	Description
dot3StatsSymbolErrors	<p>For an interface operating at 100 Mb per second, the number of times there was an invalid data symbol when a valid carrier was present.</p> <p>For an interface operating in half-duplex mode at 1000 Mb per second, the number of times the receiving media is non-idle (a carrier event) for a period of time equal to or greater than slotTime, and during which there was at least one occurrence of an event that causes the PHY to indicate 'Data reception error' or 'carrier extend error' on the GMII.</p> <p>For an interface operating in full-duplex mode at 1000 Mb per second, the number of times the receiving media is non-idle (a carrier event) for a period of time equal to or greater than minFrameSize, and during which there was at least one occurrence of an event that causes the PHY to indicate 'Data reception error' on the GMII.</p> <p>The count represented by an instance of this object is incremented at most once per carrier event, even if multiple symbol errors occur during the carrier event. This count does not increment if a collision is present.</p> <p>Discontinuities in the value of this counter can occur at reinitialization of the management system, and at other times as indicated by the value of ifCounterDiscontinuityTime.</p>
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.
rxTotalDrops	<p>The rxTotalDrops field includes these counters:</p> <ul style="list-style-type: none"> • Number of bad packets because of a CRC error, a coding violation, or a sequence error. • Number of CBL blocking drops. • Number of instances of invalid encapsulation. • Number of broadcast suppression drops. • Number of drops because the packet length is less than 64 or greater than 1518.

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](#)

show crypto key

To display RSA key pair information, use the **show crypto key** command.

show crypto key

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 The **crypto** commands are supported on systems that run these image types only:

- supk9 image—for example, cat6000-supk9.6-1-3.bin
- supcvk9 image—for example, cat6000-supcvk9.6-1-3.bin

Examples This example shows how to display key pair information:

```
Console> (enable) show crypto key
RSA keys was generated at: Tue Dec 14 1999, 14:22:48
1024 37 1120518394839901301166714853840995094745037456682394891249441779951543727187159999
643683033910964386179342272044371326668692894898498425705315929789724607692104535472010393
868648783669579338660482094092720514951237657028608860832162809370173090068651870589350241
85402826063185974102411558894697025607154868421
Console> (enable)
```

Related Commands [clear crypto key rsa](#)

show default

To check the status of the default port status setting, use the **show default** command.

show default

Syntax Description This command has no keywords or arguments.

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Privileged.

Usage Guidelines The command shows whether the [set crypto key rsa](#) command is in disable or enable mode.

Examples This example shows how to display the status of the default port status:

```
Console> (enable) show default
portstatus: disable
Console> (enable)
```

Related Commands [set crypto key rsa](#)

show dhcp-snooping bindings

To display DHCP bindings learned from DHCP snooping, use the **show dhcp-snooping bindings** command.

```
show dhcp-snooping bindings [ip_addr] [mac_addr] [vlan vlan] [port mod/port]
```

Syntax Description		
<i>ip_addr</i>	(Optional) IP address.	
<i>mac_addr</i>	(Optional) MAC address.	
vlan <i>vlan</i>	(Optional) Specifies the VLAN.	
port <i>mod/port</i>	(Optional) Specifies the module number and the port on the module.	

Defaults This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines The **show dhcp-snooping bindings** command displays DHCP bindings gathered through DHCP snooping. If you do not enter any arguments or keywords, all DHCP bindings are displayed.

Examples This example shows how to display DHCP binding information using a VLAN number:

```
Console> show dhcp-snooping bindings vlan 10
MacAddress      IpAddress      Lease(sec)    VLAN   Port
-----
00-01-7b-9b-05-3f  192.168.80.221  86377        10    1/8
Console>
```

This example shows how to display DHCP binding information using a port number:

```
Console> show dhcp-snooping bindings port 3/96
MAC Address      IP Address      Lease(sec)    VLAN   Port
-----
00-aa-06-02-00-03  192.168.80.3      86382        810   3/96
00-aa-06-02-00-09  192.168.80.9      86383        810   3/96
00-aa-06-02-00-06  192.168.80.6      86382        810   3/96
00-aa-06-02-00-05  192.168.80.5      86382        810   3/96
00-aa-06-02-00-07  192.168.80.7      86382        810   3/96
00-aa-06-02-00-0a  192.168.80.10     86383        810   3/96
00-aa-06-02-00-02  192.168.80.2      86382        810   3/96
00-aa-06-02-00-08  192.168.80.8      86382        810   3/96
00-aa-06-02-00-04  192.168.80.4      86382        810   3/96
00-aa-06-02-00-01  192.168.80.1      86381        810   3/96
Console>
```

■ show dhcp-snooping bindings

Related Commands [clear dhcp-snooping bindings](#)
 [set port dhcp-snooping](#)

show dhcp-snooping config

To display the DHCP snooping configuration, use the **show dhcp-snooping config** command.

show dhcp-snooping config

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 DHCP snooping configuration:

```
Console> show dhcp-snooping config  
DHCP Snooping MAC address matching is enabled.  
DHCP Snooping host-tracking information option is disabled.  
Remote ID used in information option is 00-d0-00-4c-1b-ff.  
Console>
```

Related Commands [set dhcp-snooping](#)
[show port dhcp-snooping](#)

show dhcp-snooping statistics

To display DHCP snooping statistics, use the **show dhcp-snooping statistics** command.

show dhcp-snooping statistics

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 DHCP snooping statistics:

```
Console> show dhcp-snooping statistics
Packets forwarded           =          245
Packets dropped              =           56
Packets dropped from untrusted ports =          56
Number of binding entries   =           23
Console>
```

Related Commands [clear dhcp-snooping statistics](#)

show diagnostic

To display the online diagnostic tests that are configured for specific modules and to check the results of these tests, use the **show diagnostic** command.

show diagnostic bootup level

show diagnostic content module {*mod_num* | **all**}

show diagnostic diagfail-action

show diagnostic events [*event-type* {**error** | **info** | **warning**} | **module** *mod_num*]

show diagnostic ondemand settings

show diagnostic result module {*mod_list* {**detail** | **test** *test_list*} | **all** [**detail**]}

show diagnostic schedule module *mod_list*

show diagnostic status

Syntax Description

bootup level	Displays the level of bootup diagnostics.
content	Displays diagnostics test content.
module	Specifies the module.
<i>mod_num</i>	Number of the module.
all	Specifies all modules.
diagfail-action	Displays how the supervisor engine responds in the event of an online diagnostics failure.
events	Displays information about the online diagnostics event log.
event-type	Specifies the event type to be displayed.
error	Displays error events.
info	Displays informative events.
warning	Displays warning events.
ondemand settings	Displays on-demand settings for online diagnostics.
result	Display online diagnostics results.
<i>mod_list</i>	List of module numbers.
detail	Displays detailed results.
test	Displays results for a specific test.
<i>test_list</i>	Test number.
all	Displays results for all tests.
schedule	Displays schedule for online diagnostics.
status	Displays online diagnostics status for all modules.

Defaults

This command has no default settings.

Command Types Switch command.

Command Modes Normal.

Usage Guidelines



Note

GOLD is supported on the Supervisor Engine 720 and the Supervisor Engine 32 only. Earlier diagnostic commands are still supported on the Supervisor Engine 1 and the Supervisor Engine 2.

Examples

This example shows how to display the level at which bootup diagnostics is configured:

```
Console> show diagnostic bootup level
Current bootup diagnostic level: bypass
Console>
```

This example shows how to display how the supervisor engine responds in the event of an online diagnostics failure

```
Console> show diagnostic diagfail-action
Diagnostic failure action for SUP at last bootup : offline
Diagnostic failure action for SUP at next reset : offline
Console>
```

This example shows how to display on-demand settings for online diagnostics:

```
Console> show diagnostic ondemand settings
Test iterations = 50
Action on test failure = continue until test failure limit reaches 100
Console>
```

This example show how to display the online diagnostics schedule for a specified module:

```
Console> show diagnostic schedule module 7

Current Time = Fri Apr 15 2005, 16:56:06

Diagnostic for Module 7:

Schedule #1:
  To be run daily 12:12
  Test ID(s) to be executed: 1-2.

Schedule #2:
  To be run daily 16:16
  Test ID(s) to be executed: 3.
  Port(s) to be tested: 1.

Console>
```

Related Commands

[clear diagnostic](#)
[diagnostic start](#)
[diagnostic stop](#)
[set diagnostic bootup level](#)
[set diagnostic diagfail-action](#)
[set diagnostic event-log size](#)

set diagnostic monitor
set diagnostic ondemand
set diagnostic schedule

show dot1q-all-tagged

To display the status of the dot1q tagging feature on the switch, use the **show dot1q-all-tagged** command.

show dot1q-all-tagged

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 dot1q tagging status:

```
Console> show dot1q-all-tagged
Dot1q-all-tagged feature globally disabled.
Console>
```

Related Commands [set dot1q-all-tagged](#)