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CHAPTER **22**

Show Commands

The commands in this chapter apply to the Cisco MDS 9000 Family of multilayer directors and fabric switches. All commands are shown here in alphabetical order regardless of command mode. See [“About the CLI Command Modes”](#) section on page 1-3 to determine the appropriate mode for each command. For more information, refer to the *Cisco MDS 9000 Family CLI Configuration Guide*.

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show aaa accounting

To display the accounting configuration, use the **show aaa accounting** command.

show aaa accounting

Syntax Description This command has no other arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines None.

Examples The following example displays accounting log configuration.

```
switch# show aaa accounting
      default: local
```

Related Commands	Command	Description
	aaa accounting default	Configure the default accounting method

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show aaa authentication

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

```
show aaa authentication [login {error-enable | mschap}]
```

Syntax Description	login error-enable	Displays the authentication login error message enable configuration.
	login mschap	Displays the authentication login MS-CHAP enable configuration.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.
	2.0(x)	Added the login error-enable option.
	3.0(1)	Added the login mschap option.

Usage Guidelines None.

Examples The following example displays the configured authentication parameters.

```
switch# show aaa authentication
      default: group TacServer local none
      console: local
      iscsi: local
      dhchap: local
```

The following example displays the authentication login error message enable configuration.

```
switch# show aaa authentication login error-enable
disabled
```

The following example displays the authentication login MS-CHAP enable configuration.

```
switch# show aaa authentication login mschap
disabled
```

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show aaa authentication login password-aging

To display the status of password aging notification, use the **show aaa authentication login password-aging** command.

show aaa authentication login password-aging

Syntax Description	This command has no other arguments or keywords.
---------------------------	--

Defaults	None.
-----------------	-------

Command Modes	EXEC mode.
----------------------	------------

Command History	Release	Modification
	3.2(1)	This command was introduced.

Usage Guidelines	None.
-------------------------	-------

Examples	The following example displays the status of the password aging notification.
-----------------	---

```
switch(config)# show aaa authentication login password-aging
```

Related Commands	Command	Description
	aaa authentication login password-aging enable	Configures the password aging notification from AAA server.

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show aaa groups

To display configured server groups, use the **show aaa groups** command.

```
show aaa groups
```

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.

Usage Guidelines None.

Examples To display configured server groups.

```
switch# show aaa groups
radius
TacServer
```

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show accounting log

To display the accounting log contents, use the **show accounting log** command.

show accounting log [*size*]

Syntax Description	<i>size</i>	Specifies the size of the log to display in bytes. The range is 0 to 250000.
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines None.

Examples

The following example displays the entire accounting log.

```
switch# show accounting log
2002:stop:snmp_1033151784_171.71.49.83:admin:
Fri Sep 27 18:36:24 2002:start:_1033151784:root
Fri Sep 27 18:36:28 2002:update:::fcc configuration requested
Fri Sep 27 18:36:33 2002:start:snmp_1033151793_171.71.49.83:admin:
Fri Sep 27 18:36:33 2002:stop:snmp_1033151793_171.71.49.83:admin:
Fri Sep 27 18:39:28 2002:start:snmp_1033151968_171.71.49.96:admin:
Fri Sep 27 18:39:28 2002:stop:snmp_1033151968_171.71.49.96:admin:
Fri Sep 27 18:39:28 2002:start:_1033151968:root
Fri Sep 27 18:39:31 2002:update:::fcc configuration requested
Fri Sep 27 18:39:37 2002:start:snmp_1033151977_171.71.49.96:admin:
Fri Sep 27 18:39:37 2002:stop:snmp_1033151977_171.71.49.96:admin:
Fri Sep 27 18:39:37 2002:start:snmp_1033151977_171.71.49.96:admin:
Fri Sep 27 18:42:12 2002:start:snmp_1033152132_171.71.49.96:admin:
Fri Sep 27 18:42:12 2002:stop:snmp_1033152132_171.71.49.96:admin:
Fri Sep 27 18:42:12 2002:start:snmp_1033152132_171.71.49.96:admin:
Fri Sep 27 18:42:40 2002:start:snmp_1033152160_171.71.49.96:admin
...
```

The following example displays 400 bytes of the accounting log.

```
switch# show accounting log 400

Tue Dec 8 22:06:59 1981:start:/dev/pts/2_376697219:admin:
Tue Dec 8 22:07:03 1981:stop:/dev/pts/2_376697219:admin:shell terminated
Tue Dec 8 22:07:13 1981:start:/dev/pts/2_376697233:admin:
Tue Dec 8 22:07:53 1981:stop:/dev/pts/2_376697233:admin:shell terminated
Tue Dec 8 22:08:15 1981:update:/dev/ttyS0_376628597:admin:iSCSI Interface Vsan Enabled
```

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Related Commands

Command	Description
clear accounting log	Clears the accounting log.

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show arp

To display Address Resolution Protocol (ARP) entries, use the **show arp** command.

show arp

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples This displays the ARP table.

```
switch# show arp
Protocol Address          Age (min)   Hardware Addr  Type   Interface
-----
Internet 171.1.1.1             0           0006.5bec.699c ARPA   mgmt0
Internet 172.2.0.1             4           0000.0c07.ac01 ARPA   mgmt0
```

Related Commands	Command	Description
	clear arp-cache	Clears the arp-cache table entries.

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show autonomous-fabric-id database

To display the contents of the AFID database, use the **show autonomous-fabric-id database** command in EXEC mode.

show autonomous-fabric-id database

Syntax Description This command has no arguments or keywords.

Defaults None

Command Modes EXEC mode.

Command History	Release	Modification
	2.1(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example shows contents of the AFID database.

```
switch# show autonomous-fabric-id database
SWITCH WWN                               Default-AFID
-----
20:00:00:0c:91:90:3e:80                   5

Total: 1 entry in default AFID table

SWITCH WWN                               AFID      VSANS
-----
20:00:00:0c:91:90:3e:80                   10        1,2,5-8

Total: 1 entry in AFID table
```

Related Commands	Command	Description
	autonomous-fabric-id (IVR topology database configuration)	Configures an autonomous fabric ID into the Inter-VSAN Routing (IVR) topology database.

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Command	Description
autonomous-fabric-id (IVR service group configuration)	Configures an autonomous fabric ID into the IVR service group.
autonomous-fabric-id- database	Configures an autonomous fabric ID (AFID) database

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show banner motd

To display a configured message of the day (MOTD) banner, use the **show banner motd** command.

show banner motd

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(4)	This command was introduced.

Usage Guidelines The configured MOTD banner is displayed before the login prompt on the terminal whenever a user logs in to a switch.

Examples The following example displays the configured banner message.

```
switch# show banner motd
Testing the MOTD Feature
```

The configured message is visible the next time you log in to the switch:

```
Testing the MOTD Feature
switch login:
```

Related Commands	Command	Description
	banner motd	Configures the required banner message.

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show boot

To display the boot variables or modules, use the **show boot** command.

```
show boot [module [slot | variable-name] | sup-1 | sup-2 | variables]
```

Syntax Description		
module		Displays the boot variables for modules.
slot		Specifies a module by the slot number.
variable-name		Specifies the variable. Maximum length is 80 characters.
sup-1		Displays the upper sup configuration.
sup-2		Displays the lower sup configuration.
variables		Displays the list of boot variables.

Defaults	None.
----------	-------

Command Modes	EXEC mode.
---------------	------------

Command History	Release	Modification
	1.2(2)	This command was introduced.

Usage Guidelines	None.
------------------	-------

Examples	The following example displays the current contents of the boot variable.
----------	---

```
switch# show boot
kickstart variable = bootflash:/kickstart-image
system variable = bootflash:/system-image
Module 2
asm-sfn variable = bootflash:/asm-image
```

The following example displays the images on the specified module.

```
switch# show boot module
Module 2
asm-sfn variable = bootflash:/asm-image
```

The following example displays a list of all boot variables.

```
switch# show boot variables
List of boot variables are:
asm-sfn
system
kickstart
```

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show boot auto-copy

To display state of the auto-copy feature, use the **show boot auto-copy** command.

show boot auto-copy [list]

Syntax Description	list	Displays the list of files to be auto-copied
--------------------	------	--

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows the message that displays on the console when you enable the auto-copy feature.

```
switch(config)# boot auto-copy
Auto-copy administratively enabled
```

The following example shows the message that displays on the console when you disable the auto-copy feature.

```
switch(config)# boot auto-copy
Auto-copy administratively disabled
```

The following example displays the current state of the auto-copy feature when it is enabled.

```
switch# show boot auto-copy
Auto-copy feature is enabled
```

The following example displays the current state of the auto-copy feature when it is disabled.

```
switch# show boot auto-copy
Auto-copy feature is disabled
```

The following example displays the ilc1.bin image being copied to the standby supervisor module's bootflash, and once this is successful, the next file will be lasilc1.bin. This command only displays files on the active supervisor module.

```
switch# show boot auto-copy list
File: /bootflash/ilc1.bin
Bootvar: ilce

File:/bootflash/lasilc1.bin
Bootvar: lasilc
```

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The following example displays a typical message when the auto-copy option is disabled or if no files are copied.

```
switch# show boot auto-copy list
No file currently being auto-copied
```

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show callhome

To display Call Home information configured on a switch, use the **show callhome** command.

```
show callhome [destination-profile [profile {profile | full-txt-destination | short-txt-destination
| XML-destination}] | last {action status | merge status} | pending | pending-diff |
transport-email | user-def-cmds]
```

Syntax Description		
destination-profile		Displays the Call Home destination profile information.
profile		Specifies the destination profile.
<i>profile</i>		Specifies a user-defined destination profile.
full-txt-destination		Specifies the full text destination profile.
short-txt-destination		Specifies the short text destination profile.
XML-destination		Specifies the XML destination profile.
last action status		Displays the status of the last CFS commit or discard operation.
last merge status		Displays the status of the last CFS merge operation.
pending		Displays the status of pending Call Home configuration.
pending-diff		Displays the difference between running and pending Call Home configurations.
transport-email		Displays the Call Home e-mail transport information.
user-def-cmds		Displays the CLI commands configured for each alert group.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.
	2.0(x)	Added last action status , pending , and pending-diff options.
	3.0(1)	Added the user-def-cmds argument.

Usage Guidelines None.

Examples The following example displays configured Call Home information.

```
switch# show callhome
callhome enabled
Callhome Information:
contact person name:who@where
contact person's email:person@place.com
contact person's phone number:310-408-4000
```

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```

street addr:1234 Picaboo Street, Any city, Any state, 12345
site id:Site1ManhattanNewYork
customer id:Customer1234
contract id:Andiamo1234
switch priority:0
duplicate message throttling : enabled
periodic inventory : disabled
periodic inventory time-period : 7 days
distribution of callhome configuration data using cfs : disabled

```

The following example displays all destination profile information.

```

switch# show callhome destination-profile
XML destination profile information
maximum message size:250000
email addresses configured:
findout@cisco.com

```

```

Short-txt destination profile information
maximum message size:4000
email addresses configured:
person1@epage.company.com

```

```

full-txt destination profile information
maximum message size:250000
email addresses configured:
person2@company2.com

```

The following example displays the full-text destination profile.

```

switch# show callhome destination-profile profile full-txt-destination
full-txt destination profile information
maximum message size:250000
email addresses configured:
person2@company2.com

```

The following example displays the short-text destination profile.

```

switch# show callhome destination-profile profile short-txt-destination
Short-txt destination profile information
maximum message size:4000
email addresses configured:
person2@company2.com

```

The following example displays the XML destination profile.

```

switch# show callhome destination-profile profile XML-destination
XML destination profile information
maximum message size:250000
email addresses configured:
findout@cisco.com

```

The following example displays e-mail and SMTP information.

```

switch# show callhome transport-email
from email addr:user@company1.com
reply to email addr:pointer@company.com
return receipt email addr:user@company1.com
smtp server:server.company.com
smtp server port:25

```


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The following example displays user-defined CLI commands for the alert groups.

```
switch# show callhome user-def-cmds
User configured commands for alert groups :
alert-group test user-def-cmd "show version"
```

Related Commands

Command	Description
alert-group	Customizes a Call Home alert group with user-defined show commands.
callhome	Configures Call Home.
callhome test	Sends a dummy test message to the configured destination(s).

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show cdp

To display CDP parameters configured globally or for a specific interface, use the **show cdp** command.

```
show cdp {all | entry [all | name cdp-name] | global | interface [gigabitethernet slot/port | mgmt 0] | neighbors [detail | interface {gigabitethernet slot/port | mgmt 0}] | traffic interface [gigabitethernet slot/port | mgmt 0]}
```

Syntax Description		
all		Displays all enabled CDP interfaces.
entry		Displays CDP database entries.
all		Displays all CDP entries in the database
name <i>cdp-name</i>		Displays CDP entries that match a specified name. Maximum length is 256 characters.
global		Displays global CDP parameters.
gigabitethernet <i>slot/port</i>		Specifies the Gigabit Ethernet interface at the slot number and port number separated by a slash (/).
mgmt 0		Specifies the Ethernet management interface.
neighbors		Displays all CDP neighbors.
detail		Displays detailed information for all CDP neighbors
interface		Displays CDP information for neighbors on a specified interface.
traffic		Displays CDP traffic statistics for an interface.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.1(1)	This command was introduced.

Usage Guidelines This command is allowed only on the active supervisor module in the Cisco MDS 9500 Series.

Examples The following example displays all CDP capable interfaces and parameters.

```
switch# show cdp all
GigabitEthernet4/1 is up
  CDP enabled on interface
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
GigabitEthernet4/8 is down
  CDP enabled on interface
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds
```

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```

mgmt0 is up
  CDP enabled on interface
  Sending CDP packets every 100 seconds
  Holdtime is 200 seconds

```

The following example displays all CDP neighbor entries.

```

switch# show cdp entry all
-----
Device ID:Switch
System Name:
Interface address(es):
Platform: cisco WS-C2950T-24, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): FastEthernet0/24
Holdtime: 152 sec

Version:
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(19)EA1c, RELEASE SOFTWARE
(fc2)
Copyright (c) 1986-2004 by cisco Systems, Inc.
Compiled Mon 02-Feb-04 23:29 by yenanh

Advertisement Version: 2
Native VLAN: 1
Duplex: full

```

The following example displays the specified CDP neighbor.

```

switch# show cdp entry name 0
-----
Device ID:0
Entry address(es):
  IP Address: 0.0.0.0
Platform: DS-X9530-SF1-K9, Capabilities: Host
Interface: GigabitEthernet4/1, Port ID (outgoing port): GigabitEthernet4/1
Holdtime: 144 sec

Version:
1.1(0.144)

Advertisement Version: 2
Duplex: full

```

The following example displays global CDP parameters.

```

switch# show cdp global
Global CDP information:
  CDP enabled globally
  Sending CDP packets every 60 seconds
  Sending a holdtime value of 180 seconds
  Sending CDPv2 advertisements is enabled

```

The following example displays CDP parameters for the management interface.

```

switch# show cdp interface mgmt 0
mgmt0 is up
  CDP enabled on interface
  Sending CDP packets every 60 seconds
  Holdtime is 180 seconds

```

The following example displays CDP parameters for the Gigabit Ethernet interface.

```

switch# show cdp interface gigabitethernet 4/1
GigabitEthernet4/1 is up

```

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```

CDP enabled on interface
Sending CDP packets every 80 seconds
Holdtime is 200 seconds

```

The following example displays CDP Neighbors (brief).

```

switch# show cdp neighbors
Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater

Device ID          Local Intrfce  Hldtme  Capability  Platform  Port ID
0                  Gig4/1        135     H           DS-X9530-SF1-  Gig4/1
069038732(Kiowa2  mgmt0        132     T S        WS-C5500      8/11
069038747(Kiowa3  mgmt0        156     T S        WS-C5500      6/20
069038747(Kiowa3  mgmt0        158     T S        WS-C5500      5/22

```

The following example displays CDP neighbors (detail).

```

switch# show CDP neighbor detail
-----
Device ID:Switch
System Name:
Interface address(es):
Platform: cisco WS-C2950T-24, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): FastEthernet0/24
Holdtime: 137 sec

Version:
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(19)EA1c, RELEASE SOFTWARE
(fc2)
Copyright (c) 1986-2004 by cisco Systems, Inc.
Compiled Mon 02-Feb-04 23:29 by yenanh

Advertisement Version: 2
Native VLAN: 1
Duplex: full

```

The following example displays the specified CDP neighbor (detail).

```

switch# show CDP neighbors interface gigabitethernet 4/1 detail
-----
Device ID:0
Entry address(es):
  IP Address: 0.0.0.0
Platform: DS-X9530-SF1-K9, Capabilities: Host
Interface: GigabitEthernet4/1, Port ID (outgoing port): GigabitEthernet4/1
Holdtime: 144 sec

Version:
1.1(0.144)

Advertisement Version: 2
Duplex: full

```

The following example displays CDP traffic statistics for the management interface.

```

switch# show cdp traffic interface mgmt 0
-----
Traffic statistics for mgmt0
Input Statistics:
  Total Packets: 1148
  Valid CDP Packets: 1148
    CDP v1 Packets: 1148
    CDP v2 Packets: 0

```

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```
Invalid CDP Packets: 0
  Unsupported Version: 0
  Checksum Errors: 0
  Malformed Packets: 0
```

```
Output Statistics:
  Total Packets: 2329
    CDP v1 Packets: 1164
    CDP v2 Packets: 1165
  Send Errors: 0
```

The following example displays CDP traffic statistics for the Gigabit Ethernet interface.

```
switch# show cdp traffic interface gigabitethernet 4/1
-----
Traffic statistics for GigabitEthernet4/1
Input Statistics:
  Total Packets: 674
  Valid CDP Packets: 674
    CDP v1 Packets: 0
    CDP v2 Packets: 674
  Invalid CDP Packets: 0
    Unsupported Version: 0
    Checksum Errors: 0
    Malformed Packets: 0

Output Statistics:
  Total Packets: 674
    CDP v1 Packets: 0
    CDP v2 Packets: 674
  Send Errors: 0
```

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show cfs

To display Cisco Fabric Services (CFS) information, use the **show cfs** command.

```
show cfs { application [name app-name] | lock [name app-name] | merge status name app-name]
          | peers [name app-name] | status [name app-name]}
```

Syntax Description

application	Displays locally registered applications.
name <i>app-name</i>	Specifies a local application information by name. Maximum length is 64 characters.
lock	Displays the state of application logical or physical locks.
merge status	Displays CFS merge information.
peers	Displays logical or physical CFS peers.
status	Displays if CFS distribution is enabled or disabled. Enabled is the default configuration.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(1b)	This command was introduced.
2.1(1a)	<ul style="list-style-type: none"> Added status keyword. Replaced <code>vsan</code> with <code>fc_ttimer</code> for the <code>fc_ttimer</code> application in the Application field in the command output.
3.0(1)	Modified the show cfs application example with output that shows which applications support CFS distribution over IP and Fibre Channel and those that support only CFS distribution over Fibre Channel.

Usage Guidelines

None.

Examples

The following example shows how to display CFS physical peer information for all applications.

```
switch# show cfs peers
```

```
Physical Fabric
```

```
-----
Switch WWN                IP Address
-----
20:00:00:05:30:00:61:de    172.22.46.223    [Local]
20:00:00:0d:ec:08:66:c0    172.22.46.233
20:00:00:05:30:00:f1:e2    172.22.46.225
20:00:00:05:30:00:eb:46    172.22.46.222
```

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```
20:00:00:05:30:00:cb:56 172.22.46.224
20:00:00:05:30:00:5b:5e 172.22.46.182
20:00:00:05:30:00:34:9e 172.22.46.220
```

Total number of entries = 7

The following example shows how to display CFS information for all applications on the switch.

```
switch# show cfs application
```

```
-----
Application      Enabled   Scope
-----
ntp              No       Physical-all
fscm             Yes      Physical-fc
role            No       Physical-all
rscn            No       Logical
radius          No       Physical-all
fctimer         No       Physical-fc
syslogd         No       Physical-all
callhome        No       Physical-all
fcdomain        Yes      Logical
device-alias    Yes      Physical-fc
```

Total number of entries = 10



Note

The **show cfs application** command displays only those applications that are registered with CFS. Conditional services that use CFS do not appear in the output unless those services are running.

The following example shows how to display CFS information for the device alias application.

```
switch# show cfs application name device-alias
```

```
Enabled          : Yes
Timeout          : 5s
Merge Capable    : Yes
Scope           : Physical
```

The following example shows how to display CFS merge operation information for the device alias application.

```
switch# show cfs merge status device-alias
```

```
Physical Merge Status: Success
Local Fabric
-----
Switch WWN                IP Address
-----
20:00:00:05:30:00:34:9e 172.22.46.220 [Merge Master]
20:00:00:05:30:00:5b:5e 172.22.46.182
20:00:00:05:30:00:61:de 172.22.46.223
20:00:00:05:30:00:cb:56 172.22.46.224
20:00:00:05:30:00:eb:46 172.22.46.222
20:00:00:05:30:00:f1:e2 172.22.46.225
```

The following example shows whether or not CFS distribution is enabled.

```
switch# show cfs status
Fabric distribution Enabled
switch#
```

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show cfs regions

To display the list of distribution-enabled applications with peers in a region, use the **show cfs region** command.

```
show cfs regions [brief [ region-id ] | name [ name app-name ] | region [ region-id ] ]
```

Syntax Description		
brief <i>region-id</i>	Displays all configured regions and applications without peers.	
name <i>app-name</i>	Displays all peers and region information for a given application.	
region <i>region-id</i>	Displays all configured applications with peers.	

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows all the region information with peers.

```
switch# show cfs regions
Region-ID : 1
Application: callhome
Scope      : Physical-all
-----
Switch WWN          IP Address
-----
20:00:00:0d:ec:04:99:c0 10.64.66.48          [Local]
                        switch-
20:00:00:0d:ec:04:99:c1 10.64.66.48          switch-2.cisco.com
20:00:00:0d:ec:04:99:c2 10.64.66.48          switch-3.cisco.com
Total number of entries = 3
Region-ID : 1
Application: ntp
Scope      : Physical-all
-----
Switch WWN          IP Address
-----
20:00:00:0d:ec:06:55:c0 10.64.66.47          [Local]
                        switch-1
Total number of entries = 1
```


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The following example shows the list of applications without peers in a region.

```
switch# show cfs regions brief
-----
Region           Application  Enabled
-----
1                callhome    yes
1                ntp         yes
```

The following example shows the peer and region information for a given application in a region.

```
switch# show cfs regions name callhome
Region-ID : 1
Application: callhome
Scope     : Physical-all
-----
Switch WWN           IP Address
-----
20:00:00:0d:ec:06:55:c0 10.64.66.47           [Local]
                        switch 1
Total number of entries = 1
```

Related Commands

Command	Description
cfs regions	Creates a region that restricts the scope of application distribution to a selected switch.

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show cfs status

To display the Cisco Fabric Services(CFS) status, use the **show cfs region** command.

show cfs status

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	3.4(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the CFS status:

```
switch# show cfs status
Distribution: Enabled
Distribution over IP: Enabled (static)
IPv4 multicast address : 239.255.70.83
IPv6 multicast address : ff15::efff:4563
```

Related Commands	Command	Description
	cfs enable	Starts cfs.

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show cfs static peers

To display all the configured static peers with status, use the **show cfs static peers** command.

show cfs static peers

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.4(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the cfs static peers:

```

-----
IP address                WWN name                Status
-----
1.2.3.4                   00:00:00:00:00:00:00:00 Un Reachable
1.2.3.5                   00:00:00:00:00:00:00:00 Un Reachable
10.64.66.47              20:00:00:0d:ec:06:55:c0 Reachable
10.64.66.56              20:00:08:00:88:04:99:80 Local
Total number of entries = 4

```

Related Commands	Command	Description
	cfs static peers	Displays configured static peers with status.

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show cimserver

To display the Common Information Models (CIM) configurations and settings, use the **show cimserver** command.

show cimserver [**certificateName** | **HttpsStatus** | **HttpStatus** | **status**]

Syntax Description	Parameter	Description
	certificateName	Displays the installed Secure Socket Layer (SSL) certificate.
	HttpsStatus	Displays the HTTP (non-secure) protocol settings for the CIM server.
	HttpStatus	Displays the HTTPS (secure) protocol for the CIM server.
	status	Displays the CIM server status.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays CIM server certificate files.

```
switch# show cimserver certificateName
cimserver certificate file name is servcert.pem
```

The following example displays the CIM server configuration.

```
switch# show cimserver
cimserver is enabled
cimserver Http is not enabled
cimserver Https is enabled
cimserver certificate file name is servcert.pem
```

The following example displays the CIM server HTTPS status.

```
switch# show cimserver httpsstatus
cimserver Https is enabled
```

The following example displays the CIM server HTTP status.

```
switch# show cimserver httpstatus
cimserver Http is not enabled
```

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show cimserver indications

To display cimserver indications such as filters, recipients, and subscriptions, use the **show cimserver indication** command.

show cimserver indication

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the cimserver indications.

```
switch# show cimserver indication
Filter:          root/cimv2:Feb 7, 2008 2:32:11 PM
Query:          "SELECT * FROM CISCO_LinkUp"
Query Language:  WQL
-----
Handler:        root/cimv2:CIM_ListenerDestinationCIMXML.Thu Feb 07 14:32:44 IST
20081202374964083
Destination:    http://10.77.91.110:59901
PersistenceType: Transient
-----
Namespace:     root/cimv2
Filter:        root/cimv2:Feb 7, 2008 2:32:11 PM
Handler:       root/cimv2:CIM_ListenerDestinationCIMXML.Thu Feb 07 14:32:44 IST
20081202374964083
Query:        "SELECT * FROM CISCO_LinkUp"
Destination:  http://10.77.91.110:59901
SubscriptionState: Enabled
```

The following example displays the cimserver's indication filters.

```
switch# show cimserver indication filters
Filter:          root/cimv2:Feb 7, 2008 2:32:11 PM
Query:          "SELECT * FROM CISCO_LinkUp"
Query Language:  WQL
```

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The following example displays the cimserver's indication recipient.

```
switch# show cimserver indication recipients
Handler:          root/cimv2:CIM_ListenerDestinationCIMXML.Thu Feb 07 14:32:44 IST
20081202374964083
Destination:      http://10.77.91.110:59901
PersistenceType:  Transient
```

The following example displays the subscriptions on cimserver

```
switch# show cimserver indication subscriptions
Namespace:        root/cimv2
Filter:           root/cimv2:Feb 7, 2008 2:32:11 PM
Handler:          root/cimv2:CIM_ListenerDestinationCIMXML.Thu Feb 07 14:32:44 IST
20081202374964083
Query:            "SELECT * FROM CISCO_LinkUp"
Destination:      http://10.77.91.110:59901
SubscriptionState: Enabled
```

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show cimserver logs

To display the cimserver logs, use the **show cimserver logs** command.

show cimserver logs

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the cimserver logs.

```
switch# show cimserver logs
02/07/2008-16:38:14 INFO    cimserver: Sent response to: localhost
02/07/2008-16:38:26 INFO    cimserver: Received request from: 10.77.91.110
02/07/2008-16:38:27 INFO    cimserver: Sent response to: 10.77.91.110
```

Related Commands	Command	Description
	cimserver loglevel	Enters cimserver loglevel filters.

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show cimserver status

To display the cimserver status, use the **show cimserver status** command.

show cimserver status

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the cimserver status.

```
switch# show cimserver status
cimserver is enabled
```

Related Commands	Command	Description
	cimserver enable	Starts cimserver.

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show cli alias

To display configured aliases on a switch, use the **show cli alias** command.

show cli alias [**name** *name*]

Syntax Description	name <i>name</i>	Specifies an alias name. The maximum size of the name is 31 characters.
--------------------	-------------------------	---

Defaults	None.
----------	-------

Command Modes	EXEC mode.
---------------	------------

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines	The show cli alias command shows the default alias and other user-defined aliases. The default alias is alias , which means show cli alias .
------------------	---

Examples	The following example displays CLI aliases.
----------	---

```
switch# show cli alias
CLI alias commands
=====
alias  :show cli alias
env    :show environment
clock  :show clock
```

The following example displays a specific alias by name.

```
switch# show cli alias name qos
qos :show qos
```

Related Commands	Command	Description
	cli alias name	Defines a command alias name.

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show cli variables

To display user-defined session and persistent CLI variables, use the **show cli variables** command.

show cli variables

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines The **show CLI variables** command shows all available CLI variables, including user-defined session CLI variables, user-defined persistent CLI variables, and system-defined CLI variables. There is no distinction between the types of CLI variables in the output.

Examples The following example displays CLI variables.

```
switch# show cli variables
VSH Variable List
-----
TIMESTAMP="2005-10-24-21.29.33"
testinterface="fc 1/1"
```



Note

The **TIMESTAMP** variable shown in the output in the preceding example is a predefined variable supported by Cisco MDS SAN-OS. For more information about the **TIMESTAMP** variable, refer to the *Cisco MDS 9000 Family CLI Configuration Guide*.

Related Commands	Command	Description
	cli var name	Defines a CLI session variable.
	cli var name (configuration)	Defines a CLI persistent variable.

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show clock

To display the system date and time and verify the time zone configuration, use the **show clock** command.

show clock

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the system date, time, and time zone configuration.

```
switch# show clock
Fri Mar 14 01:31:48 UTC 2003
```

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show cloud discovery

To display discovery information about the cloud, use the **show cloud discovery** command.

```
show cloud discovery {config | stats | status}
```

Syntax Description	config	Displays global discovery configuration information.
	stats	Displays discovery statistics information.
	status	Displays discovery status information.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows information about a cloud.

```
switch# show cloud discovery config
Auto discovery: Enabled
```

The following example shows statistics about a cloud.

```
sswitch# show cloud discovery stats
Global statistics
  Number of Auto Discovery                = 4
  Number of Manual (demand) Discovery     = 0
  Number of cloud discovery (ping) messages sent = 17
  Number of cloud discovery (ping) success = 1
```

Related Commands	Command	Description
	cloud discover	Initiates manual, on-demand cloud discovery.
	cloud discovery	Configures cloud discovery.
	cloud-discovery	Enables discovery of cloud memberships.
	show cloud membership	Displays information about members of a cloud.

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show cloud membership

To display membership information about the cloud, use the **show cloud membership** command.

```
show cloud membership [all | interface {gigabitethernet slot/port | port-channel number} |
unresolved]
```

Syntax Description		
all		Displays all clouds and cloud members.
interface		Displays all members of a cloud containing a specified interface.
gigabitethernet <i>slot/port</i>		Specifies a Gigabit Ethernet interface by slot and port number. The range is 1 to 6.
port-channel <i>number</i>		Specifies a PortChannel interface. The range is 1 to 128.
unresolved		Displays unresolved members of the cloud.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the members of clouds.

```
switch# show cloud membershp
Undiscovered Cloud
  port-channel 1[20:00:00:05:30:00:a7:9e] IP Addr fe80::205:30ff:fe00:a412
  port-channel 1.250[20:00:00:05:30:00:a7:9e] IP Addr 3000:2::1
  port-channel 1.250[20:00:00:05:30:00:a7:9e] IP Addr fe80::205:30ff:fe00:a412
  #members=3
Cloud 2
  port-channel 1[20:00:00:05:30:00:a7:9e] IP Addr 3000:1::1
  #members=1
Cloud 3
  GigabitEthernet1/1[20:00:00:05:30:00:a7:9e] IP Addr 10.10.10.1
  #members=1
Cloud 4
  GigabitEthernet1/2[20:00:00:05:30:00:a7:9e] IP Addr 10.10.60.1
  #members=1
```

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Related Commands	Command	Description
	cloud discover	Initiates manual, on-demand cloud discovery.
	cloud discovery	Configures cloud discovery.
	cloud-discovery enable	Enables discovery of cloud memberships.
	show cloud discovery	Displays discovery information about a cloud.

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show copyright

To display the SAN-OS software copyright statement, use the **show copyright** command in EXEC mode.

show copyright

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(2)	This command was introduced.

Usage Guidelines Use the **show copyright** command to verify the copyright statement of the current SAN-OS image.

Examples The following example displays copyright information for SAN-OS software.

```
switch# show copyright
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2006, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
Some parts of this software may be covered under the GNU Public
License or the GNU Lesser General Public License. A copy of
each such license is available at
http://www.gnu.org/licenses/gpl.html and
http://www.gnu.org/licenses/lgpl.html
```

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show cores

To display all the cores presently available for upload from active sup, use the **show cores** command.

show cores

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples In the following example, an FSPF core was generated on the active supervisor (slot 5), an FCC core on the standby supervisor (slot 6) and acltcam and fib on module (slot 8).

```
switch# show cores
```

Module-num	Process-name	PID	Core-create-time
-----	-----	---	-----
5	fspf	1524	Jan 9 03:11
6	fcc	919	Jan 9 03:09
8	acltcam	285	Jan 9 03:09
8	fib	283	Jan 9 03:08

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show crypto ca certificates

To display configured trust point certificates, use the **show crypto ca certificates** command.

```
show crypto ca certificates trustpoint-label
```

Syntax Description	<i>trustpoint-label</i>	Specifies the name of the trust point. The maximum size is 64 characters.
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines This command displays the important fields in the identity certificate, if present, followed by those in the CA certificate (or each CA certificate if it is a chain, starting from the lowest to the self-signed root certificate), or the trust point. If the trust point name is not specified, all trust point certificate details are displayed.

Examples The following example displays configured trust point certificates.

```
switch# show crypto ca certificates
Trustpoint: admin-ca
certificate:
subject= /CN=switch160
issuer= /C=US/O=cisco/CN=Aparna CA2
serial=6CDB2D9E000100000006
notBefore=Jun  9 10:51:45 2005 GMT
notAfter=May  3 23:10:36 2006 GMT
MD5 Fingerprint=0A:22:DC:A3:07:2A:9F:9A:C2:2C:BA:96:EC:D8:0A:95
purposes: sslserver sslclient ike

CA certificate 0:
subject= /C=US/O=cisco/CN=Aparna CA2
issuer= /emailAddress=amandke@cisco.com/C=IN/ST=Maharashtra/L=Pune/O=cisco/OU=netstorage/CN=Aparna CA1
serial=14A3A877000000000005
notBefore=May  5 18:43:36 2005 GMT
notAfter=May  3 23:10:36 2006 GMT
MD5 Fingerprint=32:50:26:9B:16:B1:40:A5:D0:09:53:0A:98:6C:14:CC
purposes: sslserver sslclient ike

CA certificate 1:
subject= /emailAddress=amandke@cisco.com/C=IN/ST=Maharashtra/L=Pune/O=cisco/OU=netstorage/CN=Aparna CA1
issuer= /emailAddress=amandke@cisco.com/C=IN/ST=Karnataka/L=Bangalore/O=Cisco/OU=netstorage/CN=Aparna CA
```

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```

serial=611B09A1000000000002
notBefore=May  3 23:00:36 2005 GMT
notAfter=May  3 23:10:36 2006 GMT
MD5 Fingerprint=65:CE:DA:75:0A:AD:B2:ED:69:93:EF:5B:58:D4:E7:AD
purposes: sslserver sslclient ike

CA certificate 2:
subject= /emailAddress=amandke@cisco.com/C=IN/ST=Karnataka/L=Bangalore/O=Cisco/O
U=netstorage/CN=Aparna CA
issuer= /emailAddress=amandke@cisco.com/C=IN/ST=Karnataka/L=Bangalore/O=Cisco/OU
=netstorage/CN=Aparna CA
serial=0560D289ACB419944F4912258CAD197A
notBefore=May  3 22:46:37 2005 GMT
notAfter=May  3 22:55:17 2007 GMT
MD5 Fingerprint=65:84:9A:27:D5:71:03:33:9C:12:23:92:38:6F:78:12
purposes: sslserver sslclient ike

```

Related Commands

Command	Description
crypto ca authenticate	Authenticates the certificate of the CA.
show ca trustpoints	Displays trust point configurations.

[Send documentation comments to mdsfeedback-doc@cisco.com](mailto:mdsfeedback-doc@cisco.com)

show crypto ca crl

To display configured certificate revocation lists (CRLs), use the **show crypto ca crl** command.

```
show crypto ca crl trustpoint-label
```

Syntax Description	<i>trustpoint-label</i>	Specifies the name of the trust point. The maximum size is 64 characters.
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines This command lists serial numbers of revoked certificates in the CRL of the specified trust point.

Examples The following example displays a configured CRL.

```
switch# show crypto ca crl admin-ca
Trustpoint: admin-ca
CRL:
Certificate Revocation List (CRL):
  Version 2 (0x1)
  Signature Algorithm: sha1WithRSAEncryption
  Issuer: /emailAddress=rviyyoka@cisco.com/C=IN/ST=Kar/L=Bangalore/O=Cisco
Systems/OU=1/CN=cisco-blr
  Last Update: Sep 22 07:05:23 2005 GMT
  Next Update: Sep 29 19:25:23 2005 GMT
  CRL extensions:
    X509v3 Authority Key Identifier:
      keyid:CF:72:E1:FE:14:60:14:6E:B0:FA:8D:87:18:6B:E8:5F:70:69:05:3F

    1.3.6.1.4.1.311.21.1:
      ...
  Revoked Certificates:
    Serial Number: 1E0AE838000000000002
      Revocation Date: Mar 15 09:12:36 2005 GMT
    Serial Number: 1E0AE9AB000000000003
      Revocation Date: Mar 15 09:12:45 2005 GMT
    Serial Number: 1E721E50000000000004
      Revocation Date: Apr 5 11:04:20 2005 GMT
    Serial Number: 3D26E445000000000005
      Revocation Date: Apr 5 11:04:16 2005 GMT
    Serial Number: 3D28F8DF000000000006
      Revocation Date: Apr 5 11:04:12 2005 GMT
    Serial Number: 3D2C6EF3000000000007
      Revocation Date: Apr 5 11:04:09 2005 GMT
```

```
show crypto ca crl
```

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```

Serial Number: 3D4D7DDC000000000008
  Revocation Date: Apr  5 11:04:05 2005 GMT
Serial Number: 5BF1FE87000000000009
  Revocation Date: Apr  5 11:04:01 2005 GMT
Serial Number: 5BF22FB300000000000A
  Revocation Date: Apr  5 11:03:45 2005 GMT
Serial Number: 5BFA4A4900000000000B
  Revocation Date: Apr  5 11:03:42 2005 GMT
Serial Number: 5C0BC22500000000000C
  Revocation Date: Apr  5 11:03:39 2005 GMT
Serial Number: 5C0DA95E00000000000D
  Revocation Date: Apr  5 11:03:35 2005 GMT
Serial Number: 5C13776900000000000E
  Revocation Date: Apr  5 11:03:31 2005 GMT
Serial Number: 4864FD5A00000000000F
  Revocation Date: Apr  5 11:03:28 2005 GMT
Serial Number: 48642E2E000000000010
  Revocation Date: Apr  5 11:03:24 2005 GMT
Serial Number: 486D4230000000000011
  Revocation Date: Apr  5 11:03:20 2005 GMT
Serial Number: 7FCB75B9000000000012
  Revocation Date: Apr  5 10:39:12 2005 GMT
Serial Number: 1A7519000000000013
  Revocation Date: Apr  5 10:38:52 2005 GMT
Serial Number: 20F1B0000000000014
  Revocation Date: Apr  5 10:38:38 2005 GMT
Serial Number: 436E43A9000000000023
  Revocation Date: Sep  9 09:01:23 2005 GMT
  CRL entry extensions:
    X509v3 CRL Reason Code:
      Cessation Of Operation
Serial Number: 152D3C5E000000000047
  Revocation Date: Sep 22 07:12:41 2005 GMT
Serial Number: 1533AD7F000000000048
  Revocation Date: Sep 22 07:13:11 2005 GMT
Serial Number: 1F9EB8EA00000000006D
  Revocation Date: Jul 19 09:58:45 2005 GMT
  CRL entry extensions:
    X509v3 CRL Reason Code:
      Cessation Of Operation
Serial Number: 1FCA9DC600000000006E
  Revocation Date: Jul 19 10:17:34 2005 GMT
  CRL entry extensions:
    X509v3 CRL Reason Code:
      Cessation Of Operation
Serial Number: 2F1B5E2E000000000072
  Revocation Date: Jul 22 09:41:21 2005 GMT
  CRL entry extensions:
    X509v3 CRL Reason Code:
      Cessation Of Operation
Signature Algorithm: sha1WithRSAEncryption
4e:3b:4e:7a:55:6b:f2:ec:72:29:70:16:2a:fd:d9:9a:9b:12:
f9:cd:dd:20:cc:e0:89:30:3b:4f:00:4b:88:03:2d:80:4e:22:
9f:46:a5:41:25:f4:a5:26:b7:b6:db:27:a9:64:67:b9:c0:88:
30:37:cf:74:57:7a:45:5f:5e:d0

```

Related Commands

Command	Description
<code>crypto ca crl request</code>	Configures a CRL or overwrites the existing one for the trust point CA.

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show crypto ca trustpoints

To display trust point configurations, use the **show crypto ca trustpoints** command.

show crypto ca trustpoints

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays configured trust points.

```
switch# show crypto ca trustpoints
trustpoint: CAname; key:
revokation methods: crl
```

Related Commands	Command	Description
	crypto ca authenticate	Authenticates the certificate of the CA.
	crypto ca trustpoint	Declares the trust point certificate authority that the switch should trust.
	show crypto ca certificates	Displays configured trust point certificates.

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show crypto global domain ipsec

To display global IPsec crypto map set information, use the **show crypto global domain ipsec** command.

```
show crypto global domain ipsec [interface gigabitethernet slot/port | security-association
lifetime]
```

Syntax Description		
	<code>interface gigabitethernet <i>slot/port</i></code>	Displays crypto IPsec domain information for the specified Gigabit Ethernet interface slot and port.
	<code>security-association lifetime</code>	Displays crypto IPsec domain security association lifetime parameters.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines To use this command, IPsec must be enabled using the **crypto ipsec enable** command.

Examples The following example shows how to display crypto global domain IPsec statistics.

```
switch# show crypto global domain ipsec
IPSec global statistics:
  Number of crypto map sets: 2
```

The following example shows how to display crypto global domain IPsec statistics for an interface.

```
switch# show crypto global domain ipsec interface gigabitethernet 1/2
IPSec interface statistics:
  IKE transaction stats: 0 num
  Inbound SA stats: 0 num, 512 max
  Outbound SA stats: 0 num, 512 max
```

The following example shows how to display crypto global domain IPsec security association lifetime parameters.

```
switch# show crypto global domain ipsec security-association lifetime
Security Association Lifetime: 4500 megabytes/3600 seconds
```

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Related Commands	Command	Description
	crypto global domain ipsec security-association lifetime	Configures global attributes for IPsec.
	crypto ipsec enable	Enables IPsec.

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show crypto ike domain ipsec

To display IKE protocol information, use the **show crypto ike domain ipsec** command.

```
show crypto ike domain ipsec [initiator [address ip-address] | keepalive |
key [address ip-address] | policy [policy-number] | sa]
```

Syntax Description

initiator	Displays initiator configuration information.
address <i>ip-address</i>	Specifies the initiator peer IP address.
keepalive	Displays keepalive for the IKE protocol in seconds
key	Displays pre-shared authentication keys.
policy [<i>policy-number</i>]	Displays IKE configuration policies for IPsec. The range is 1 to 255.
sa	Displays IKE Security Associations for IPsec.

Defaults

To use this command, the IKE protocol must be enabled using the **crypto ike enable** command.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

To use this command, the IKE protocol must be enabled using the **crypto ike enable** command.

Examples

The following example shows how to display IKE keepalive value configuration information.

```
switch# show crypto ike domain ipsec keepalive
keepalive 3600
```

Related Commands

Command	Description
crypto ike domain ipsec	Enters IKE configuration mode.
crypto ike enable	Enables the IKE protocol.

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show crypto key mypubkey rsa

To display any RSA public key configurations, use the **show crypto key mypubkey rsa** command.

show crypto key mypubkey rsa

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays RSA public key configurations.

```
switch# show crypto key mypubkey rsa
key label: myrsa
key size: 512
exportable: yes
```

Related Commands	Command	Description
	crypto ca enroll	Requests certificates for the switch's RSA key pair.
	crypto key generate rsa	Generate an RSA key pair.
	rsa keypair	Configure trust point RSA key pair details

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show crypto map domain ipsec

To map configuration information for IPsec, use the **show crypto map domain ipsec** command.

```
show crypto map domain ipsec [interface gigabitethernet slot/port | tag tag-name]
```

Syntax Description	interface gigabitethernet <i>slot/port</i>	Displays IPsec map information for a specific Gigabit Ethernet interface.
	tag <i>tag-name</i>	Displays IPsec map information for a specific tag name. The maximum length is 63 characters.

Defaults Displays all IPsec map information.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines To use this command, IPsec must be enabled using the **crypto ipsec enable** command.

Examples The following example shows how to display IPsec crypto map information.

```
switch# show crypto map domain ipsec
Crypto Map "cm10" 1 ipsec
  Peer = 10.10.10.4
  IP ACL = aclm10
    permit ip 10.10.10.1 255.255.255.255 10.10.10.4 255.255.255.255
  Transform-sets: 3des-md5, 3des-sha, des-md5, des-sha,
  Security Association Lifetime: 450 gigabytes/3600 seconds
  PFS (Y/N): N
Crypto Map "cm10" 2 ipsec
  Peer = Auto Peer
  IP ACL = acl10
    permit ip 10.10.10.0 255.255.255.0 10.10.10.0 255.255.255.0
  Transform-sets: 3des-md5, 3des-sha, des-md5, des-sha,
  Security Association Lifetime: 450 gigabytes/3600 seconds
  PFS (Y/N): N
Crypto Map "cm11" 1 ipsec
  Peer = 10.10.11.2
  IP ACL = aclany
    permit ip any any
  Transform-sets: 3des-md5, 3des-sha, des-md5, des-sha,
  Security Association Lifetime: 450 gigabytes/3600 seconds
  PFS (Y/N): N
Crypto Map "cm50" 1 ipsec
  Peer = 10.10.50.2
  IP ACL = aclany
```

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```

    permit ip any any
    Transform-sets: 3des-md5,
    Security Association Lifetime: 450 gigabytes/3600 seconds
    PFS (Y/N): N
Interface using crypto map set cm50:
    GigabitEthernet1/2.1

Crypto Map "cm51" 1 ipsec
    Peer = 10.10.51.2
    IP ACL = aclany
        permit ip any any
    Transform-sets: 3des-md5,
    Security Association Lifetime: 450 gigabytes/3600 seconds
    PFS (Y/N): N
Interface using crypto map set cm51:
    GigabitEthernet1/2.2

Crypto Map "cm60" 1 ipsec
    Peer = 10.10.60.2
    IP ACL = acl60
        permit ip 10.10.60.0 255.255.255.0 10.10.60.0 255.255.255.0
    Transform-sets: 3des-md5,
    Security Association Lifetime: 450 gigabytes/3600 seconds
    PFS (Y/N): N
Interface using crypto map set cm60:
    GigabitEthernet1/2

Crypto Map "cm100" 1 ipsec
    Peer = 10.10.100.221
    IP ACL = aclmds100
        permit ip 10.10.100.231 255.255.255.255 10.10.100.221 255.255.255.255
    Transform-sets: 3des-md5, 3des-sha, des-md5, des-sha,
    Security Association Lifetime: 450 gigabytes/3600 seconds
    PFS (Y/N): N
Crypto Map "cm100" 2 ipsec
    Peer = Auto Peer
    IP ACL = acl100
        permit ip 10.10.100.0 255.255.255.0 10.10.100.0 255.255.255.0
    Transform-sets: 3des-md5, 3des-sha, des-md5, des-sha,
    Security Association Lifetime: 450 gigabytes/3600 seconds
    PFS (Y/N): N

```

Related Commands

Command	Description
crypto ipsec enable	Enables IPsec.
crypto map domain ipsec	Enters IPsec map configuration mode.

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show crypto sad domain ipsec

To display IPsec security association database information, use the **show crypto sad domain ipsec** command.

```
show crypto sad domain ipsec [interface gigabitethernet slot/port [{inbound | outbound}
sa-index index]]
```

Syntax Description		
interface gigabitethernet <i>slot/port</i>		Displays IPsec security association information for a specific Gigabit Ethernet interface.
inbound		Specifies the inbound association.
outbound		Specifies the outbound association.
sa-index <i>index</i>		Specifies the security association index. The range is 0 to 2147483647.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines To use this command, IPsec must be enabled using the **crypto ipsec enable** command.

Examples The following example shows how to display IPsec security association information.

```
switch# show crypto sad domain ipsec
interface: GigabitEthernet4/1
  Crypto map tag: cm10, local addr. 10.10.10.1
  protected network:
  local ident (addr/mask): (10.10.10.0/255.255.255.0)
  remote ident (addr/mask): (10.10.10.4/255.255.255.255)
  current_peer: 10.10.10.4
    local crypto endpt.: 10.10.10.1, remote crypto endpt.: 10.10.10.4
    mode: tunnel, crypto algo: esp-3des, auth algo: esp-md5-hmac
  current outbound spi: 0x30e000f (51249167), index: 0
    lifetimes in seconds:: 120
    lifetimes in bytes:: 423624704
  current inbound spi: 0x30e0000 (51249152), index: 0
    lifetimes in seconds:: 120
    lifetimes in bytes:: 423624704
```

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Related Commands

Command	Description
crypto ipsec enable	Enables IPsec.

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show crypto spd domain ipsec

To display the security policy database (SPD), use the **show crypto spd domain ipsec** command.

```
show crypto spd domain ipsec [interface gigabitethernet slot/port [policy number]]
```

Syntax Description	interface gigabitethernet slot/port	Displays SPD information for a specific Gigabit Ethernet interface.
	policy number	Specifies a SPD policy number.

Defaults Displays all SPD information.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines To use this command, IPsec must be enabled using the **crypto ipsec enable** command.

Examples The following example shows how to display the SPD.

```
switch# show crypto spd domain ipsec
Policy Database for interface: GigabitEthernet1/1, direction: Both
# 0:      deny  udp any port eq 500 any
# 1:      deny  udp any any port eq 500
# 2:      permit ip any any
# 63:     deny  ip any any
Policy Database for interface: GigabitEthernet1/2, direction: Both
# 0:      deny  udp any port eq 500 any
# 1:      deny  udp any any port eq 500
# 3:      permit ip 10.10.50.1 255.255.255.255 10.10.50.2 255.255.255.255
# 4:      permit ip 10.10.51.1 255.255.255.255 10.10.51.2 255.255.255.255
# 63:     deny  ip any any
```

Related Commands	Command	Description
	crypto ipsec enable	Enables IPsec.

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show crypto transform-set domain ipsec

To display transform set information for IPsec, use the **show crypto transform-set domain ipsec** command.

```
show crypto transform-set domain ipsec [set-name]
```

Syntax Description	<i>set-name</i>	Specifies the transform set name. Maximum length is 63 characters.
---------------------------	-----------------	--

Defaults	Displays information for all transform sets.
-----------------	--

Command Modes	EXEC mode.
----------------------	------------

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines	To use this command, IPsec must be enabled using the crypto ipsec enable command.
-------------------------	--

Examples	<p>The following example shows how to display information for all IPsec transform sets.</p> <pre>switch# show crypto transform-set domain ipsec Transform set: ipsec_default_transform_set {esp-aes-256-ctr esp-aes-xcbc-mac} will negotiate {tunnel}</pre>
-----------------	---

Related Commands	Command	Description
	crypto ipsec enable	Enables IPsec.
	crypto transform-set domain ipsec	Configures IPsec transform set information.

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show debug

To display the **debug** commands configured on the switch, use the **show debug** command in EXEC mode.

```
show debug all /aaa | acl | arbiter | ascii-cfg | bootvar | callhome | capability | cdp | v | cimserver
| cloud | confcheck | core | device-alias | dstats | epp | ethport | exceptionlog |
fabric_start_cfg_mgr | fc-tunnel | fc2 | fc2d | fcc | fcdomain | fcfwd | fcns | fcs | fdmi | flogi
| fs-daemon | fspf | fvp | idehsd | ilc_helper | ipacl | ipconf | ipfc | kadb | kipfc |
klm-scsi-target | license | logfile | mcast | mip | module | ntp | platform | port | port-channel
| qos | radius | rdl | redundancy | rib | rlir | rscn | scsi-flow | scsi-target | security | sensor
| snmp | span | system | SystemHealth | tcap | tlport | ttyd | vni | vp | vrrp | vsan | vshd |
wnn | xbar | xbc | zone/
```

Syntax Description

aaa	Displays the debugging flags for 301.
acl	Displays the debugging flags for the ACL manager.
arbiter	Displays the debugging flags for arbiter.
ascii-cfg	Displays the debugging flags for ascii-cfg.
bootvar	Displays the debugging flags for bootvar.
callhome	Displays the debugging flags for Call Home.
capability	Displays the debugging flags for capability.
cdp	Displays the debugging flags for the Cisco Discovery Protocol (CDP).
cfs	Displays the debugging flags for Cisco Fabric Services (CFS).
cimserver	Displays the debugging flags for the CIM server.
cloud	Displays the debugging flags for cloud.
confcheck	Displays the debugging flags for confcheck.
core	Displays the debugging flags for the feature manager.
device-alias	Displays the debugging flags for Distributed Device Alias Services.
dstats	Displays the debugging flags for delta statistics.
epp	Displays the debugging flags for EPP.
ethport	Displays the debugging flags for Ethernet port.
exceptionlog	Displays the debugging flags for the exception logger.
fabric_start_cfg_mgr	Displays the debugging flags for the fabric startup configuration manager.
fc-tunnel	Displays the debugging flags for MPLS tunnel.
fc2	Displays the debugging flags for FC2.
fc2d	Displays the debugging flags for FC2D.
fcc	Displays the debugging flags for FCC.
fcdomain	Displays the internal debugging flags for FC domain.
fcfwd	Displays the debugging flags for FCFWD.
fcns	Displays the debugging flage for the name server.
fcs	Displays the debugging flags for the Fabric Config server.
fdmi	Displays the debugging flags for FDMI.
flogi	Displays the debugging flags for the F port server.

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fs-daemon	Displays debugging flags for the file server daemon.
fspf	Displays the debugging flags for FSPF.
fvp	Displays the debugging flags for FVP manager.
idehsd	Displays the debugging flags for IDEHSD.
ilc_helper	Displays the debugging flags for ilc_helper.
ipacl	Displays the debugging flags for IP-ACL.
ipconf	Displays the debugging flags for IP configuration.
ipfc	Displays the debugging flags for IPFC.
kadb	Displays the debugging flags for Kernel ADB.
kipfc	Displays the debugging flags for IPFC kernel.
klm-scsi-target	Displays the debugging flags for the SCSI-target driver.
license	Displays the debugging flags for licensing.
logfile	Displays the contents of the logfile.
mcast	Displays the debugging flags for mcast.
mip	Displays debugging flags for mip kernel.
module	Displays the debugging flags for module.
ntp	Displays the debugging flags for NTP.
platform	Displays the debugging flags for the platform manager.
port	Displays the debugging flags for port.
port-channel	Displays the debugging flags for port-channel.
qos	Displays the debugging flags for QoS
radius	Displays the debugging flags for RADIUS.
rdl	Displays the debugging flags for RDL.
redundancy	Displays the debugging flags for the Redundancy drivers.
rib	Displays the debugging flags for rib.
rlir	Displays the debugging flags for RLIR.
rscn	Displays the debugging flags for RSCN.
scsi-flow	Displays the debugging flags for SCSI flow.
scsi-target	Displays the debugging flags for the SCSI target daemon.
security	Displays the debugging flags for security and accounting
sensor	Displays the debugging flags for the sensor manager.
snmp	Displays the debugging flags for the SNMP server.
span	Displays the debugging flags for SPAN.
system	Displays the debugging flags for system.
SystemHealth	Displays the debugging flags for system health.
tcap	Displays the debugging flags for the exception logger.
tlport	Displays debugging flags for TL Port.
ttyd	Displays the debugging flags for TTYD.
vni	Displays debugging flags for the virtual network interface.
vp	Displays the debugging flags for the VP manager.
vrrp	Displays the debugging flags for VRRP.

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vsan	Displays debugging flags for the VSAN manager.
vshd	Displays the debugging flags for VSHD.
wwn	Displays the debugging flags for the WWN manager.
xbar	Displays the debugging flags for XBAR.
xbc	Displays the debugging flags for XBC.
zone	Displays the debugging flage for the zone server.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
3.0(1)	Added the cloud option.

Usage Guidelines

None.

Examples

The following example shows all debug commands configured on the switch.

```
switch# show debug
Show Debug all

ILC helper:
  ILC_HELPER errors debugging is on

SCSI Flow Manager:
  Error debugging is on
switch#
```

The following example displays the debug messages in the specified debug log file.

```
switch# show debug logfile SampleFile
2004 Jun 28 00:14:17 snmpd[2463]: header_fspfLinkEntry : Sending GETNEXT request
  for fspfLsrTable for vsanIndex =0, fspfLsrDomainId = 0, fspfLsrType = 0
2004 Jun 28 00:14:17 snmpd[2463]: header_fspfLinkEntry : Sending GETNEXT request
  for fspfLsrTable for vsanIndex =0, fspfLsrDomainId = 0, fspfLsrType = 0
2004 Jun 28 00:14:17 snmpd[2463]: header_fspfLinkEntry : Recd rsp for GETNEXT fo
r entry (vsanIndex=1, fspfLsrDomainId = 10, fspfLsrType=0, fspfLinkIndex = 1, fspf
LinkNbrDomainId = 84, fspfLinkPortIndex = 67331, fspfLinkNbrPortIndex = 66064, fs
pfLinkType = 1, fspfLinkCost = 500
2004 Jun 28 00:14:17 snmpd[2463]: header_fspfLinkEntry : Sending GETNEXT request
  for fspfLsrTable for vsanIndex =1, fspfLsrDomainId = 209, fspfLsrType = 0
2004 Jun 28 00:14:17 snmpd[2463]: header_fspfLinkEntry : Sending GETNEXT request
  for fspfLsrTable for vsanIndex =16777216, fspfLsrDomainId = 3506438144, fspfLsr
Type = 0
2004 Jun 28 00:14:17 snmpd[2463]: header_fspfLinkEntry : Sending GETNEXT request
  for fspfLsrTable for vsanIndex =33554432, fspfLsrDomainId = 4009754624, fspfLsr
Type = 16777216
```

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show debug npv

To display the N Port Virtualization (NPV) debug commands configured on the switch, use the **show debug npv** command.

show debug npv

Syntax Description	This command has no other arguments or keywords.	
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	3.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows all npv debug commands configured on the switch.

```
switch# show debug npv
N_port Virtualizer:
  FC Receive Packets debugging is on
  FC Transmit Packets debugging is on
  FC Receive Packet header debugging is on
  FC Transmit Packet header debugging is on
  MTS Receive Packets debugging is on
  MTS Transmit Packets debugging is on
  MTS Receive Packet header/payload debugging is on
  MTS Transmit Packet header/payload debugging is on
  High Availability debugging is on
  FSM Transitions debugging is on
  Error debugging is on
  Warning debugging is on
  Trace debugging is on
  Trace Detail debugging is on
  Demux debugging is on
  Dequeue debugging is on
  Packets debugging is on
  Database debugging is on
  Timers debugging is on
  External Interface FSM Events debugging is on
  External Interface FSM Errors debugging is on
  External Interface FSM Trace debugging is on
  FLOGI FSM Events debugging is on
  FLOGI FSM Errors debugging is on
  FLOGI FSM Trace debugging is on
  Server Interface FSM Events debugging is on
```

show debug npv***Send documentation comments to mdsfeedback-doc@cisco.com***

```
Server Interface FSM Errors debugging is on
Server Interface FSM Trace debugging is on
Events debugging is on
```

Related Commands

Command	Description
debug npv	Enables debugging NPV configurations.

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show debug sme

To display all Cisco SME related debug commands configured on the switch, use the **show debug** command.

```
show debug {cluster { bypass | sap sap } | sme bypass }
```

Syntax Description	Parameter	Description
	cluster	Displays all the debugging flags .
	bypass	Displays the bypass flags.
	sap sap	Displays all debugging flags of SAP. Specifies the SAP in the range from 1-65535
	sme	Displays all the debugging flags of Cisco SME.
	bypass	Displays all the bypass flags of Cisco SME.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.2(2)	This command was introduced.

Usage Guidelines None.

Examples The following example shows all debug commands configured on the switch.

```
switch# show debug
ILC helper:
  ILC_HELPER errors debugging is on
  ILC_HELPER info debugging is on
```

Related Commands	Commands	Description
	debug sme	Debugs Cisco SME features.

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show device-alias

To display the device name information, use the **show device-alias** command.

```
show device-alias {database [pending | pending-diff] | name device-name [pending] | pwwn
  pwwn-id [pending] | statistics | status}
```

Syntax Description

database	Displays the entire device name database.
pending	Displays the pending device name database information.
pending-diff	Displays pending differences in the device name database information.
name <i>device-name</i>	Displays device name database information for a specific device name.
pwwn <i>pwwn-id</i>	Displays device name database information for a specific pWWN. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number.
statistics	Displays device name database statistics.
status	Displays the device name database status.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

To make use of fcalias as device names instead of using the cryptic device name, add only one member per fcalias.

Examples

The following example shows how to display the contents of the device alias database.

```
switch# show device-alias database
device-alias name efg pwwn 21:00:00:20:37:9c:48:e5
device-alias name fred pwwn 10:00:00:00:c9:2d:5a:de
device-alias name myalias pwwn 21:21:21:21:21:21:21:21
device-alias name test pwwn 21:00:00:20:37:6f:db:bb
device-alias name test2 pwwn 21:00:00:20:37:a6:be:35
```

Total number of entries = 5

The following example shows how to display all global fcalias and all VSAN dependent fcalias.

```
switch# show device-alias name efg
device-alias name efg pwwn 21:00:00:20:37:9c:48:e5
```

The following example shows how to display all global fcalias and all VSAN dependent fcalias.

```
switch# show device-alias statistics
```

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```

Device Alias Statistics
=====
Lock requests sent: 1
Database update requests sent: 1
Unlock requests sent: 1
Lock requests received: 0
Database update requests received: 0
Unlock requests received: 0
Lock rejects sent: 0
Database update rejects sent: 0
Unlock rejects sent: 0
Lock rejects received: 0
Database update rejects received: 0
Unlock rejects received: 0
Merge requests received: 5
Merge request rejects sent: 0
Merge responses received: 0
Merge response rejects sent: 0
Activation requests received: 5
Activation request rejects sent: 0
Activation requests sent: 0
Activation request rejects received: 0
v_226# pwn 21:00:00:20:37:6f:dc:0e

```

Related Commands

Command	Description
device-alias name	Configures device alias names.
device-alias database	Configures device alias information.
device-alias distribute	Enables device alias CFS distribution.

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show dpvm

To display dynamic port VSAN membership (DPVM) information, use the **show dpvm** command.

```
show dpvm {database [active] | pending | pending-diff | ports [vsan vsan-id] | status}
```

Syntax Description

database	Displays both the configured and active DPVM databases.
active	Displays only the active DPVM database.
pending	Displays pending DPVM operations.
pending-diff	Displays differences between the pending DPVM operations and the active DPVM database.
ports	Displays DPVM information for the ports.
vsan vsan-id	Specifies a VSAN ID. The range is from 0 to 4093.
status	Displays DPVM status information.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

To use this command, DPVM must be enabled using the **dpvm enable** command.

Examples

The following example shows how to display DPVM database information.

```
switch# show dpvm database
pwwn 00:00:00:00:00:00:00:01 vsan 1
pwwn 00:00:00:00:00:00:00:02 vsan 1
[Total 2 entries]
```

Related Commands

Command	Description
dpvm database	Configures the DPVM database.

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show environment

To display all environment-related switch information (status of chassis clock, chassis fan modules, power supply modules, power supply redundancy mode and power usage summary, module temperature thresholds and alarm status, use the **show environment** command.

show environment [clock | fan | power | temperature]

Syntax Description		
clock		Displays status of chassis clock modules
fan		Displays status of chassis fan modules
power		Displays status of power supply modules, power supply redundancy mode and power usage summary.
temperature		Displays module temperature thresholds and alarm status of temperature sensors.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the status and alarm states of the clock, fan, power supply and temperature sensors.

```
switch# show environment
switch-180# show env
Clock:
-----
Clock          Model          Hw          Status
-----
A              DS-C9500-CL   0.0        ok/active
B              DS-C9500-CL   0.0        ok/standby

Fan:
-----
Fan           Model          Hw          Status
-----
Chassis      WS-9SLOT-FAN   0.0        ok
PS-1         --             --          ok
PS-2         --             --          ok

Temperature:
```

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```
-----
Module   Sensor   MajorThresh  MinorThres  CurTemp    Status
         (Celsius) (Celsius)    (Celsius)
-----
1        Outlet   75           60          38         ok
1        Intake   65           50          35         ok

5        Outlet   75           60          36         ok
5        Intake   65           50          36         ok

6        Outlet   75           60          40         ok
6        Intake   65           50          33         ok

9        Outlet   75           60          28         ok
9        Intake   65           50          40         ok
```

Power Supply:

```
-----
PS  Model                Power   Power   Status
    (Watts) (Amp @42V)
-----
1   DS-CAC-2500W         1153.32 27.46   ok
2   WS-CAC-2500W         1153.32 27.46   ok
```

```
-----
Mod Model                Power   Power   Power   Power   Status
    Requested Requested Allocated Allocated
    (Watts) (Amp @42V) (Watts) (Amp @42V)
-----
1   DS-X9016             220.08 5.24    220.08 5.24    powered-up
5   DS-X9530-SF1-K9     220.08 5.24    220.08 5.24    powered-up
6   DS-X9530-SF1-K9     220.08 5.24    220.08 5.24    powered-up
9   DS-X9016             220.08 5.24    220.08 5.24    powered-up
```

Power Usage Summary:

```
-----
Power Supply redundancy mode:                non-redundant (combined)

Total Power Capacity                          2306.64 W

Power reserved for Supervisor(s) [-]         440.16 W
Power reserved for Fan Module(s) [-]         210.00 W
Power currently used by Modules [-]          440.16 W

-----
Total Power Available                          1216.32 W
-----
```

Related Commands

Command	Description
show hardware	Displays all hardware components on a system.

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show fabric-binding

To display configured fabric binding information, use the **show fabric-binding** command in EXEC mode.

```
show fabric-binding { database [active] [vsan vsan-id] | efmd statistics [vsan vsan-id] |
statistics [vsan vsan-id] | status [vsan vsan-id] | violations [last number] }
```

Syntax Description

database	Displays configured database information.
active	Displays the active database configuration information.
vsan <i>vsan-id</i>	Specifies the FICON-enabled VSAN ID. The range is 1 to 4093.
efmd statistics	Displays Exchange Fabric Membership Data (EFMD) statistics.
statistics	Displays fabric binding statistics.
status	Displays fabric binding status.
violations	Displays violations in the fabric binding configuration.
<i>last number</i>	Specifies recent violations. The range is 1 to 100.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays configured fabric binding database information.

```
switch# show fabric-binding database
-----
Vsan    Logging-in Switch WWN      Domain-id
-----
1       21:00:05:30:23:11:11:11    0x66 (102)
1       21:00:05:30:23:1a:11:03    0x19 (25)
1       20:00:00:05:30:00:2a:1e    0xea (234)
4       21:00:05:30:23:11:11:11    0x66 (102)
4       21:00:05:30:23:1a:11:03    0x19 (25)
61      21:00:05:30:23:1a:11:03    0x19 (25)
61      21:00:05:30:23:11:11:11    0x66 (102)
[Total 7 entries]
```

The following example displays active fabric binding information.

```
switch# show fabric-binding database active
-----
```

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```
Vsan   Logging-in Switch WWN      Domain-id
-----
1      21:00:05:30:23:11:11:11      0x66(102)
1      21:00:05:30:23:1a:11:03      0x19(25)
1      20:00:00:05:30:00:2a:1e      0xea(234)
61     21:00:05:30:23:1a:11:03      0x19(25)
61     21:00:05:30:23:11:11:11      0x66(102)
61     20:00:00:05:30:00:2a:1e      0xef(239)
```

The following example displays active VSAN-specific fabric binding information.

```
switch# show fabric-binding database active vsan 61
-----
Vsan   Logging-in Switch WWN      Domain-id
-----
61     21:00:05:30:23:1a:11:03      0x19(25)
61     21:00:05:30:23:11:11:11      0x66(102)
61     20:00:00:05:30:00:2a:1e      0xef(239)
[Total 3 entries]
```

The following example displays configured VSAN-specific fabric binding information.

```
switch# show fabric-binding database vsan 4
-----
Vsan   Logging-in Switch WWN      Domain-id
-----
4      21:00:05:30:23:11:11:11      0x66(102)
4      21:00:05:30:23:1a:11:03      0x19(25)
[Total 2 entries]
```

The following example displays fabric binding statistics.

```
switch# show fabric-binding statistics
Statistics For VSAN: 1
-----
Number of sWWN permit: 0
Number of sWWN deny  : 0

Total Logins permitted : 0
Total Logins denied   : 0
Statistics For VSAN: 4
-----
Number of sWWN permit: 0
Number of sWWN deny  : 0

Total Logins permitted : 0
Total Logins denied   : 0
Statistics For VSAN: 61
-----
Number of sWWN permit: 0
Number of sWWN deny  : 0

Total Logins permitted : 0
Total Logins denied   : 0
Statistics For VSAN: 345
-----
Number of sWWN permit: 0
Number of sWWN deny  : 0

Total Logins permitted : 0
Total Logins denied   : 0
Statistics For VSAN: 346
-----
Number of sWWN permit: 0
Number of sWWN deny  : 0
```

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```

Total Logins permitted : 0
Total Logins denied   : 0
Statistics For VSAN: 347
-----
Number of sWWN permit: 0
Number of sWWN deny  : 0

Total Logins permitted : 0
Total Logins denied   : 0
Statistics For VSAN: 348
-----
Number of sWWN permit: 0
Number of sWWN deny  : 0

Total Logins permitted : 0
Total Logins denied   : 0
Statistics For VSAN: 789
-----
Number of sWWN permit: 0
Number of sWWN deny  : 0

Total Logins permitted : 0
Total Logins denied   : 0
Statistics For VSAN: 790
-----
Number of sWWN permit: 0
Number of sWWN deny  : 0

Total Logins permitted : 0
Total Logins denied   : 0

```

The following example displays fabric binding status for each VSAN.

```

switch# show fabric-binding status
VSAN 1 :Activated database
VSAN 4 :No Active database
VSAN 61 :Activated database
VSAN 345 :No Active database
VSAN 346 :No Active database
VSAN 347 :No Active database
VSAN 348 :No Active database
VSAN 789 :No Active database
VSAN 790 :No Active database

```

The following example displays EFMD statistics.

```

switch# show fabric-binding efmd statistics

EFMD Protocol Statistics for VSAN 1
-----
Merge Requests -> Transmitted : 0 , Received : 0
Merge Accepts  -> Transmitted : 0 , Received : 0
Merge Rejects  -> Transmitted : 0 , Received : 0
Merge Busy     -> Transmitted : 0 , Received : 0
Merge Errors   -> Transmitted : 0 , Received : 0

EFMD Protocol Statistics for VSAN 4
-----
Merge Requests -> Transmitted : 0 , Received : 0
Merge Accepts  -> Transmitted : 0 , Received : 0
Merge Rejects  -> Transmitted : 0 , Received : 0
Merge Busy     -> Transmitted : 0 , Received : 0
Merge Errors   -> Transmitted : 0 , Received : 0

```

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```
EFMD Protocol Statistics for VSAN 61
-----
Merge Requests -> Transmitted : 0 , Received : 0
Merge Accepts  -> Transmitted : 0 , Received : 0
Merge Rejects  -> Transmitted : 0 , Received : 0
Merge Busy     -> Transmitted : 0 , Received : 0
Merge Errors   -> Transmitted : 0 , Received : 0
```

The following example displays EFMD statistics for a specified VSAN.

```
switch# show fabric-binding efmd statistics vsan 4
```

```
EFMD Protocol Statistics for VSAN 4
-----
Merge Requests -> Transmitted : 0 , Received : 0
Merge Accepts  -> Transmitted : 0 , Received : 0
Merge Rejects  -> Transmitted : 0 , Received : 0
Merge Busy     -> Transmitted : 0 , Received : 0
Merge Errors   -> Transmitted : 0 , Received : 0
```

The following example displays fabric binding violations.

```
switch# show fabric-binding violations
```

```
-----
VSAN Switch WWN [domain] Last-Time [Repeat count] Reason
-----
3 20:00:00:05:30:00:4a:1e [*] Nov 25 05:44:58 2003 [2] sWWN not found
3 20:00:00:05:30:00:4a:1e [0xeb] Nov 25 05:46:14 2003 [2] Domain mismatch
4 20:00:00:05:30:00:4a:1e [*] Nov 25 05:46:25 2003 [1] Database mismatch
```

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show fc-tunnel

To display configured Fibre Channel tunnel information, use the **show fc-tunnel** command.

```
show fc-tunnel [explicit-path name] | tunnel-id-map]
```

Syntax Description	Parameter	Description
	explicit-path	Displays all configured explicit paths.
	<i>name</i>	Specifies the explicit path name. The maximum length is 16 characters.
	tunnel-id-map	Displays the mapping information for the outgoing interface.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.2(1)	This command was introduced.

Usage Guidelines Multiple tunnel IDs can terminate at the same interface.

Examples The following example displays the FC tunnel status.

```
switch# show fc-tunnel
fc-tunnel is enabled
```

The following example displays the FC tunnel egress mapping information.

```
switch# show fc-tunnel tunnel-id-map
tunnel id egress interface
    150    fc3/1
    100    fc3/1
```

The following example displays explicit mapping information of the FC tunnel.

```
switch# show fc-tunnel explicit-path
Explicit path name: Alternatel
    10.20.1.2 loose
    10.20.1.3 strict
Explicit path name: User2
    10.20.50.1 strict
    10.20.50.4 loose
```

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show fc2

To display FC2 information, use the **show fc2** command.

```
show fc2 { bind | classf | exchange | exchresp | flogi | nport | plogi | plogi_pwwn | port [brief] |
          socket | sockexch | socknotify | socknport | vsan }
```

Syntax Description

bind	Displays FC2 socket bindings.
classf	Displays FC2 classf sessions.
exchange	Displays FC2 active exchanges.
exchresp	Displays FC2 active responder exchanges.
flogi	Displays FC2 FLOGI table.
nport	Displays FC2 local N ports.
plogi	Displays FC2 PLOGI sessions.
plogi_pwwn	Displays FC2 PLOGI pWWN entries.
port [brief]	Displays FC2 physical port table.
socket	Displays FC2 active sockets.
sockexch	Displays FC2 active exchanges for each socket.
socknotify	Displays FC2 local N port PLOGI/LOGO notifications for each socket.
socknport	Displays FC2 local nports per each socket.
vsan	Displays FC2 VSAN table.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays FC2 active socket information.

```
switch# show fc2 socket
SOCKET  REF CNT  PROTOCOL  PID  RCVBUF  RMEM_USED  QLEN  NOTSK
b2a64b20      2      0      1421  65535      0      0      0
b2a647e0      3      0      1418  262142     0      0      0
b2a644a0      3      0      1417  65535      0      0      0
b2a64160      3      0      1417  262142     0      0      0
b294b180      3      0      1411  65535      0      0      0
b294ae40      3      0      1411  65535      0      0      0
```


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```

b294a7c0      3      0      1410    65535      0      0      0
b294a480      2      7      1410    65535      0      0      0
b294a140      3      0      1409    262142     0      0      0
b278bb20      3      0      1409    262142     0      0      0
b278b4a0      3      0      1407    65535      0      0      0
b278b160      3      0      1407    256000     0      0      0
b278ae20      3      0      1407    65535      0      0      0
b1435b00      3      0      1408    65535      0      0      0
b1434e00      3      0      1406    65535      0      0      0
b1434ac0      3      0      1406    131072     0      0      0
b1434780      3      0      1406    65535      0      0      0
b1434440      2      0      1405    131072     0      0      0
b1434100      3      0      1405    262142     0      0  b1434440
b22e2420      2      0      1372    65535      0      0      0
...

```

The following example displays FC2 socket binding information.

```

switch# show fc2 bind
SOCKET RULE   SINDEX   VSAN     D_ID     MASK TYPE  SUBTYPE M_VALUES
b23ba0c0  16  6081000     1         0         0  0  00:00:00 00:00:00:00:00:00:00:00
b2a647e0  7  ffffffff  65535  ffffffff  ffffff  22  03:01:00 14:15:16:00:00:00:00:00
b294b180  7  ffffffff  65535  ffffffff  ffffff  1  02:01:00 61:62:00:00:00:00:00:00
b294ae40  7  ffffffff  65535  fffc00   ffff00  22  01:01:00 1b:00:00:00:00:00:00:00
b294a7c0  7  ffffffff  65535  ffffffff  ffffff  1  01:01:00 10:00:00:00:00:00:00:00
...

```

The following example displays FC2 local N port information.

```

switch# show fc2 nport
REF  VSAN  D_ID  MASK  FL  ST  IFINDEX  CF  TC  2-SO  IC  RC  RS  CS
EE  3-SO  IC  RC  RS  CS  EE
1  65535  fffffd  fffff  3  0  ffffffff  c800  0128  8000  0000  0000  2112  0064  0
008  8000  0000  0000  2112  0064  0000
6  65535  fffc00  ffff00  18b  0  ffffffff  c800  0128  8000  0000  0000  2112  0064  0
008  8000  0000  0000  2112  0064  0000
2  65535  fffffa  fffff  3  0  ffffffff  c800  0128  8000  0000  0000  2112  0064  0
008  8000  0000  0000  2112  0064  0000
1  65535  fffffc  fffff  3  0  ffffffff  c800  0128  8000  0000  0000  2112  0064  0
008  8000  0000  0000  2112  0064  0000
...

```

The following example displays FC2 PLOGI session information.

```

switch# show fc2 plogi
HIX ADDRESS VSAN S_ID D_ID IFINDEX FL STATE CF TC 2-SO IC RC
RS CS EE 3-SO IC RC RS CS EE EECNT TCCNT 2CNT 3CNT REFCNT
2157 af364064 1 fffc6c 123400 ffffffff 0000 0 0000 0001 8000 0000 2000
0256 0001 0001 8000 0000 2000 0256 0001 0000 0 0 0 0 1

```

The following example displays FC2 physical port information.

```

switch# show fc2 port
IX ST MODE EMUL TXPKTS TXDROP TXERR RXPKTS RXDROP R_A_TOV E_D_TOV
F-SO RC RS CS EE 2-SO RS 3-SO RS
0 D 1 0 0 0 0 0 0 0 0 10000 2000
8000 0000 2112 0001 0001 8000 0256 8000 0256
1 D 1 0 0 0 0 0 0 0 0 10000 2000
8000 0000 2112 0001 0001 8000 0256 8000 0256
2 D 1 0 0 0 0 0 0 0 0 10000 2000
8000 0000 2112 0001 0001 8000 0256 8000 0256
3 D 1 0 0 0 0 0 0 0 0 10000 2000
8000 0000 2112 0001 0001 8000 0256 8000 0256
4 D 1 0 0 0 0 0 0 0 0 10000 2000
8000 0000 2112 0001 0001 8000 0256 8000 0256

```

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...

The following example displays FC2 local N port PLOGI notifications for each socket.

```
switch# show fc2 socknotify
SOCKET ADDRESS REF  VSAN  D_ID  MASK  FL  ST  IFINDEX
b2a64160 b27f01e4  6  65535 fffc00 ffff00 18b  0  ffffffff
b294a7c0 b27f01e4  6  65535 fffc00 ffff00 18b  0  ffffffff
af8a3a60 b27f01e4  6  65535 fffc00 ffff00 18b  0  ffffffff
```

The following example displays FC2 local N ports for each socket.

```
switch# show fc2 socknport
SOCKET ADDRESS REF  VSAN  D_ID  MASK  FL  ST  IFINDEX
b2a64160 b27f01e4  6  65535 fffc00 ffff00 18b  0  ffffffff
b294b180 b27f0294  1  65535 fffffd ffffff  3  0  ffffffff
b294a7c0 b27f01e4  6  65535 fffc00 ffff00 18b  0  ffffffff
b278ae20 b27f0134  2  65535 fffffa ffffff  3  0  ffffffff
b1434e00 b27f0134  2  65535 fffffa ffffff  3  0  ffffffff
b1434780 b27f0084  1  65535 fffffc ffffff  3  0  ffffffff
af8a3a60 b27f01e4  6  65535 fffc00 ffff00 18b  0  ffffffff
```

The following example displays FC2 VSAN table.

```
switch# show fc2 vsan
VSAN      X_ID  E_D_TOV  R_A_TOV  WWN
1         4     2000     10000    20:01:00:05:30:00:58:1f
2         1     2000     10000    20:02:00:05:30:00:58:1f
3         1     2000     10000    20:03:00:05:30:00:58:1f
4         1     2000     10000    20:04:00:05:30:00:58:1f
5         1     2000     10000    20:05:00:05:30:00:58:1f
6         1     2000     10000    20:06:00:05:30:00:58:1f
7         1     2000     10000    20:07:00:05:30:00:58:1f
8         1     2000     10000    20:08:00:05:30:00:58:1f
9         1     2000     10000    20:09:00:05:30:00:58:1f
10        1     2000     10000    20:0a:00:05:30:00:58:1f
11        1     2000     10000    20:0b:00:05:30:00:58:1f
12        1     2000     10000    20:0c:00:05:30:00:58:1f
13        1     2000     10000    20:0d:00:05:30:00:58:1f
14        1     2000     10000    20:0e:00:05:30:00:58:1f
15        1     2000     10000    20:0f:00:05:30:00:58:1f
16        1     2000     10000    20:10:00:05:30:00:58:1f
17        1     2000     10000    20:11:00:05:30:00:58:1f
18        1     2000     10000    20:12:00:05:30:00:58:1f
```

....

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show fcalias

To display the member name information in a Fibre Channel alias (fcalias), use the **show fcalias** command.

```
show fcalias [name fcalias-name] [pending] [vsan vsan-id]
```

Syntax Description		
name <i>fcalias-name</i>	Displays fcalias information for a specific name. The maximum length is 64.	
pending	Displays pending fcalias information.	
vsan <i>vsan-id</i>	Displays fcalias information for a VSAN. The range is 1 to 4093.	

Defaults Displays a list of all global fcalias and all VSAN dependent fcalias.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.
	2.0(x)	Added the pending keyword.

Usage Guidelines To make use of fcalias as device names instead of using the cryptic device name, add only one member per fcalias.

Examples The following example displays fcalias configuration information.

```
switch# show fcalias vsan 1
fcalias name Alias2 vsan 1

fcalias name Alias1 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:9c:48:e5
```

Related Commands	Command	Description
	fcalias name	Configures fcalias names.

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show fcanalyzer

To display the list of hosts configured for a remote capture, use the **show fcanalyzer** command.

show fcanalyzer

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines The `default` keyword shown with the `ActiveClient` entry specifies that the default port is used to connect to the client.

Examples The following example displays configured hosts.

```
switch# show fcanalyzer
PassiveClient = 10.21.0.3
PassiveClient = 10.21.0.3
ActiveClient = 10.21.0.3, DEFAULT
```

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show fcc

To view FCC settings, use the **show fcc** commands.

```
show fcc [statistics interface {fc slot/port | fcip fcip-id | iscsi slot/port}]
```

Syntax Description

<code>statistics interface</code>	Displays FCC statistics for a specified interface.
<code>fc slot/port</code>	Specifies a Fibre Channel interface.
<code>fcip fcip-id</code>	Specifies an FCIP interface. The range is 1 to 255.
<code>iscsi slot/port</code>	Specifies an iSCSI interface.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays FCC information.

```
switch# show fcc
fcc is disabled
fcc is applied to frames with priority up to 4
```

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show fcdomain

To display the Fibre Channel domain (fcdomain) information, use the **show fcdomain** command.

```
show fcdomain [address-allocation [cache] |
  allowed |
  domain-list |
  fcid persistent [unused] |
  pending [vsan vsan-id] |
  pending-diff [vsan vsan-id] |
  session-status [vsan vsan-id] |
  statistics [interface {fc slot/port [vsan vsan-id] | fcip fcip-id [vsan vsan-id] | iscsi slot/port} |
  port-channel [vsan vsan-id]] |
  status |
  vsan vsan-id]
```



Note

On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs as follows:

```
interface {bay port | ext port}
```

Syntax Description

address-allocation	Displays statistics for the FC ID allocation.
cache	Reassigns the FC IDs for a device (disk or host) that exited and reentered the fabric for the principal switch. In the cache content, VSAN refers to the VSAN that contains the device, WWN refers to the device that owned the FC IDs, and mask refers to a single or entire area of FC IDs.
allowed	Displays a list of allowed domain IDs.
domain-list	Displays a list of domain IDs granted by the principal switch.
fcid persistent	Displays persistent FC IDs (across reboot)
pending	Displays the pending configuration.
pending-diff	Displays the difference between the running configuration and the pending configuration.
session-status	Displays the last action performed by FC domain.
vsan <i>vsan-id</i>	Specifies a VSAN ID. The range is 1 to 4093.
statistics	Displays the statistics of FC domain
interface	Specifies an interface.
<i>fc slot/port</i>	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay port ext port	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9124 Fabric Switch, a Cisco Fabric Switch for HP c-Class BladeSystem, and a Cisco Fabric Switch for IBM BladeCenter.
<i>fcip fcip-id</i>	Specifies an FCIP interface. The range is 1 to 255.
<i>iscsi slot/port</i>	Specifies an iSCSI interface.
<i>port-channel number</i>	Specifies a PortChannel interface. The range is 1 to 128.
status	Displays all VSAN-independent information in FC domain.

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Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.
	2.1(1a)	The domain-list display was modified to include a virtual IVR description.
	3.0(1)	Added the pending , pending-diff , session-status , and status options.

Usage Guidelines Issuing the **show fcdomain** with no arguments displays all VSANs. The VSANs should be active or you will get an error.

Examples The following example displays the fcdomain information for VSAN 1.

```
switch# show fcdomain vsan 1
The local switch is a Subordinated Switch.

Local switch run time information:
  State: Stable
  Local switch WWN:    20:01:00:05:30:00:51:1f
  Running fabric name: 10:00:00:60:69:22:32:91
  Running priority: 128
  Current domain ID: 0x64(100) β verify domain id

Local switch configuration information:
  State: Enabled
  Auto-reconfiguration: Disabled
  Contiguous-allocation: Disabled
  Configured fabric name: 41:6e:64:69:61:6d:6f:21
  Configured priority: 128
  Configured domain ID: 0x64(100) (preferred)

Principal switch run time information:
  Running priority: 2

Interface          Role          RCF-reject
-----
fc2/1              Downstream   Disabled
fc2/2              Downstream   Disabled
fc2/7              Upstream     Disabled
-----
```

The following example displays the fcdomain domain-list information for VSAN 76.

```
switch# show fcdomain domain-list vsan 76

Number of domains: 3
Domain ID          WWN
-----
0xc8(200)         20:01:00:05:30:00:47:df [Principal]
 0x63(99)         20:01:00:0d:ec:08:60:c1 [Local]
 0x61(97)         50:00:53:0f:ff:f0:10:06 [Virtual (IVR)]
```

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Table 22-1 describes the significant fields shown in the **show fcdomain domain-list** command output.

Table 22-1 *show fcdomain Field Descriptions*

Field	Description
Domain ID	Lists the domain IDs corresponding to the WWN.
WWN	Indicates the WWN of the switch (physical or virtual) that requested the corresponding domain ID.
Principal	Indicates which row of the display lists the WWN and domain ID of the principal switch in the VSAN.
Local	Indicates which row of the display lists the WWN and domain ID of the local switch (the switch where you entered the show fcdomain domain-list command).
Virtual (IVR)	Indicates which row of the display lists the WWN of the virtual switch used by the Inter-VSAN Routing (IVR) manager to obtain the domain ID.

The following example displays the allowed domain ID lists.

```
switch# show fcdomain allowed vsan 1
Assigned or unallowed domain IDs: 1-96,100,111-239.
[Interoperability Mode 1] allowed domain IDs: 97-127.
[User] configured allowed domain IDs: 50-110.
```

The following example shows the status of CFS distribution for allowed domain ID lists.

```
switch# show fcdomain status
CFS distribution is enabled
```

The following example displays pending configuration changes.

```
switch# show fcdomain pending vsan 10

Pending Configured Allowed Domains
-----
VSAN 10
Assigned or unallowed domain IDs: 1-9,24,100,231-239.
[User] configured allowed domain IDs: 10-230.
```

The following example displays the differences between the pending configuration and the current configuration.

```
switch# show fcdomain pending-diff vsan 10

Current Configured Allowed Domains
-----
VSAN 10
Assigned or unallowed domain IDs: 24,100.
[User] configured allowed domain IDs: 1-239.
Pending Configured Allowed Domains
-----
VSAN 10
Assigned or unallowed domain IDs: 1-9,24,100,231-239.
[User] configured allowed domain IDs: 10-230.
```

The following example displays the status of the distribution session.

```
switch# show fcdomain session-status vsan 1
Last Action: Distribution Enable
```


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Result: Success

Related Commands	Command	Description
	fcdomain	Configures the Fibre Channel domain feature.

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show fcdroplateny

To display the configured Fibre Channel latency parameters, use the **show fcdroplateny** command.

```
show fcdroplateny [network | switch]
```

Syntax Description	network	Network latency in milliseconds.
	switch	Switch latency in milliseconds.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the configured Fibre Channel latency parameters.

```
switch# show fcdroplateny
switch latency value:4000 milliseconds
network latency value:5000 milliseconds
```

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show fcflow stats

To display the configured Fibre Channel flow (fcflow) information, use the **show fcflow stats** command.

```
show fcflow stats [aggregated | usage] module slot [index flow-index]
```

Syntax Description		
aggregated		Displays aggregated fcflow statistics.
usage		Displays flow index usage
module <i>slot</i>		Displays fcflow statistics for a module in the specified slot.
index <i>flow-index</i>		Specifies an fcflow index.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays aggregated fcflow details for the specified module.

```
switch# show fcflow stats aggregated module 2
Idx  VSAN # frames # bytes
-----
0000 4    387,653  674,235,875
0001 6     34,402   2,896,628
```

The following example displays fcflow details for the specified module.

```
switch# show fcflow stats module 2
Idx  VSAN D ID          S ID          mask          # frames # bytes
-----
0000 4    032.001.002 007.081.012 ff.ff.ff      387,653  674,235,875
0001 6    004.002.001 019.002.004 ff.00.00      34,402   2,896,628
```

The following example displays fcflow index usage for the specified module.

```
switch# show fcflow stats usage module 2
2 flows configured
configured flow : 3,7
```

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show fcfwd

To display the configured fcfwd tables and statistics, use the **show fcfwd** command.

```
show fcfwd {idxmap [interface-toport | port-to-interface | statistics] | pemap [interface] | sfib
[multicast | statistics | unicast] | spanmap [rx | tx]}
```

Syntax	Description
idxmap	Displays the FC forward index tables.
interface-to-port	Displays the interface index to port index table.
port-to-interface	Displays the port index to interface index table.
statistics	Displays index table statistics.
pemap	Displays the FC forward PortChannel table.
interface	Displays PortChannel tables for an interface.
sfib	Displays software forwarding tables.
multicast	Displays multicast software forwarding tables.
statistics	Displays software forwarding statistics.
unicast	Displays unicast software forwarding tables.
spanmap	Displays SPAN map tables.
rx	Displays SPAN map tables in the ingress -rx direction.
tx	Displays SPAN map tables in the egress -tx direction.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays fcfwd SPAN map receive information.

```
switch# show fcfwd spanmap rx
SPAN source information: size [c8]
dir source                vsan    bit    drop_thresh destination
```

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show fcid-allocation

Use the **show fcid allocation** command to display the Fibre Channel area list of company IDs.

```
show fcid-allocation area company-id [company-id]
```

Syntax Description		
	area	Selects the auto area list of company IDs.
	company-id	Selects company ID list.
	company-id	Selects the individual company ID (also know as Organizational Unit Identifier, or OUI) to display.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0	New command

Examples The following example shows the Fibre Channel area company list of company IDs.

```
switch# show fcid-allocation area company-id

Fcid area allocation company id info:

    00:50:2E
    00:50:8B
    00:60:B0
    00:A0:B8
    00:E0:69
    00:E0:8B
    00:32:23 +

Total company ids: 7
+ - Additional user configured company ids.
* - Explicitly deleted company ids from default list.
switch#
```

Table 22-2 describes the significant fields shown in the display.

Table 22-2 show fcid-allocation area company Field Descriptions

Field	Description
+	Indicates a company ID added to the default list.
-	Indicates a company ID deleted from the default list.

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show fc-redirect configs

To display all the current configuration mode on a switch, use the **show fc-redirect configs** command.

show fc-redirect configs

Syntax Description	This command has no arguments or keywords.	
Defaults	None.	
Command Modes	EXEC mode	
Command History	Release	Modification
	3.2(1)	This command was introduced.
	3.3(1a)	Added the configuration mode information to the command output.
Usage Guidelines	None.	
Examples	<p>The following example displays the current configuration mode on a switch.</p> <pre>switch# show fc-redirect configs Configuration Mode = MODE_V1 Config#1 ===== Appl UUID = 0x00D8 (ISAPI CFGD Service) SSM Slot = 2 SSM Switch WWN = 20:00:00:05:30:00:90:9e (LOCAL) Vt PWWN = 2f:ea:00:05:30:00:71:61 Tgt PWWN = 21:00:00:20:37:38:89:86 Host 1: Host PWWN = 21:00:00:e0:8b:0d:12:c6 VI PWWN = 2f:ec:00:05:30:00:71:61 Config#2 ===== Appl UUID = 0x00D8 (ISAPI CFGD Service) SSM Slot = 2 SSM Switch WWN = 20:00:00:05:30:00:90:9e (LOCAL) Vt PWWN = 2f:ea:00:05:30:00:71:62 Tgt PWWN = 21:00:00:20:37:38:a9:0a Host 1: Host PWWN = 21:00:00:e0:8b:0d:12:c7 VI PWWN = 2f:ec:00:05:30:00:71:62</pre>	
Related Commands=	Command	Description
	show fc-redirect active-configs	Displays all active configurations on a switch.

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show fc-redirect active-configs

To display all active configurations on a switch, use the **show fc-redirect active-configs** command.

show fc-redirect active-configs

Syntax Description	This command has no other arguments or keywords.	
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	3.2(1)	This command was introduced.

Usage Guidelines This command is used to verify that there are no active configurations running on the switch during the following operations:

- Downgrading from 3.2.1 image (supporting FC-Redirect) to an older image where FC-Redirect is not supported.
- Decommissioning a local switch.



Note

Active configuration implies configurations created by applications running on the current switch or applications created on remote switches for hosts or targets connected to the local switch.

Examples

The following example displays the active configurations running on the switch.

```
switch# show fc-redirect active-configs

Config#1
=====
Appl UUID       = 0x00D8 (ISAPI CFGD Service)
SSM Slot        = 2
SSM Switch WWN  = 20:00:00:05:30:00:90:9e (LOCAL)
Vt PWWN         = 2f:ea:00:05:30:00:71:64
Tgt PWWN        = 21:00:00:20:37:38:63:9e (LOCAL)
Local Host PWWN = 21:00:00:e0:8B:0d:12:c6

Config#2
=====
Appl UUID       = 0x00D8 (ISAPI CFGD Service)
SSM Slot        = 2
SSM Switch WWN  = 20:00:00:05:30:00:90:9e (LOCAL)
Vt PWWN         = 2f:ea:00:05:30:00:71:65
Tgt PWWN        = 21:00:00:20:37:18:67:2c
Local Host PWWN = 21:00:00:e0:8B:0d:12:c6
```

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```
Config#3
=====
Appl UUID      = 0x00D8 (ISAPI CFGD Service)
SSM Slot       = 2
SSM Switch WWN = 20:00:00:0d:EC:20:13:00 (REMOTE)
Vt PWWN        = 2f:ea:00:05:30:00:71:66
Tgt PWWN       = 21:00:00:20:37:18:64:92
Local Host PWWN = 21:00:00:e0:8B:0d:12:c6
```

Related Commands

Command	Description
clear fc-redirect config vt	Clears the active configurations on the local switch.

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show fc-redirect peer-switches

To display all the peer switches in the fabric running FC-Redirect, use the **show fc-redirect peer-switches** command.

show fc-redirect peer-switches

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode

Command History

Release	Modification
3.2(1)	This command was introduced.
3.3(1a)	Added the FC-Redirect version of the switch and configuration mode to the command output.

Usage Guidelines

This command is used to verify the fabric state and is used for troubleshooting.



Note

To find the switch IP address for the list of switch WWNs, use the **show cfs peers** command.

Examples

The following example displays the peer switches in the fabric running FC-Redirect

```
switch# show fc-redirect peer-switches
-----
num  Switch WWN                State  FCR-Ver  Cfg-Mode
-----
  1  20:00:00:0d:EC:20:13:00    UP     2         V2
```

Table 22-3 describes the output for the **show fc-redirect peer-switches** states.

Table 22-3 Show FC-Redirect Peer Switch States

State	Description
Up	The peer switch is fully synchronized with the local switch.
Down	The communication with the peer switch is not available.
Syncing	The local switch is synchronizing its configuration with the peer switch.
Error	Connection with peer switch is not available.

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Related Commands=	Command	Description
	show fc-redirect active-configs	Displays all active configurations on a switch.

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show fcip

To display FCIP profile information, use the **show fcip** command.

```
show fcip {host-map fcip-id | profile [profile-id | all] | summary | tape-session {summary | tunnel
tunnel-id {host-end | target-end}} | target-map fcip-id | wa-login-list tunnel-id}
```

Syntax Description

host-map <i>fcip-id</i>	Displays the information for a specified map. The range is 1 to 255.
profile	Displays the information for a profile.
<i>profile-id</i>	Specifies the profile ID. The range is 1 to 255.
all	Specifies all profile IDs.
summary	Displays summary information.
tape-session	Displays tape session information.
tunnel <i>tunnel-id</i>	Displays information for a specified FCIP tunnel ID. The range is 1 to 255.
host-end	Displays information for the host end.
target-end	Displays information for the target end.
target-map <i>fcip-id</i>	Displays information for a specified target map. The range is 1 to 255.
wa-login-list <i>tunnel-id</i>	Displays the write acceleration login list for a specified FCIP tunnel ID. The range is 1 to 255.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.1(1)	This command was introduced.
2.0(x)	Added the host-map , summary , and target-map keywords.
3.0(1)	Added the tape-session , tunnel , host-end , target-end , and wa-login-list keywords.

Usage Guidelines

None.

Examples

The following example displays all FCIP profiles.

```
switch# show fcip profile all
-----
ProfileId      Ipaddr          TcpPort
-----
1              41.1.1.2        3225
2              10.10.100.154   3225
3              43.1.1.2        3225
4              44.1.1.100      3225
```

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```
6          46.1.1.2      3225
7          47.1.1.2      3225
```

The following example displays information for a specified FCIP profile.

```
switch# show fcip profile 7
FCIP Profile 7
  Internet Address is 47.1.1.2 (interface GigabitEthernet4/7)
  Listen Port is 3225
  TCP parameters
    SACK is disabled
    PMTU discovery is enabled, reset timeout is 3600 sec
    Keep alive is 60 sec
    Minimum retransmission timeout is 300 ms
    Maximum number of re-transmissions is 4
    Send buffer size is 0 KB
    Maximum allowed bandwidth is 1000000 kbps
    Minimum available bandwidth is 15000 kbps
    Estimated round trip time is 1000 usec
```

The following example displays FCIP summary information.

```
switch# show fcip summary
sw172-22-46-223# show fcip summary
```

```
-----
Tun prof  Eth-if  peer-ip      Status T W T Enc Comp  Bandwidth  rtt
              max/min  (us)
-----
1   1   GE1/1      10.10.11.2   DOWN  N N N  N   N   1000M/500M  1000
2   2   GE1/2      10.10.60.2   DOWN  N N N  N   N   1000M/500M  1000
-----
```

Table 22-4 describes the significant fields shown in the previous display.

Table 22-4 *show fcip summary* Field Descriptions

Field	Description
Tun	Tunnel number for the row. For example, a number 1 indicates tunnel fcip1 and a number 2 indicates fcip2.
prof	Tunnel profile.
Eth-if	Ethernet interface to which this tunnel is bound.
peer-ip	IP address of the tunnel peer port on the far end of the tunnel.
Status	State of the tunnel (UP or DOWN).
TE	Tunnel operating in TE mode (Yes or No).
WA	Write acceleration enabled (Yes or No).
TA	Tape acceleration enabled (Yes or No).
Enc	Encryption enabled (Yes or No).
Bandwidth max/min	Maximum and minimum bandwidth configured in the profile to which this tunnel is bound.
rtt (us)	Round trip time (RTT) in microseconds.

Related Commands

Command	Description
fcip enable	Configures FCIP parameters.

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show fcns database

To display the results of the discovery, or to display the name server database for a specified VSAN or for all VSANs, use the **show fcns database** command.

```
show fcns database { detail [vsan vsan-id] | domain domain-id [detail] [vsan vsan-range] |
  fcid fcid-id [detail] vsan vsan-range | local [detail] [vsan vsan-range] | npv detail vsan
  vsan-range | node_wwn node_wwn | vsan vsan-id | vsan vsan-id }
```

Syntax Description		
detail		Displays all objects in each entry.
vsan <i>vsan-id</i>		Displays entries for a specified VSAN ID. The range is 1 to 4093.
domain <i>domain-id</i>		Displays entries in a domain.
fcid <i>fcid-id</i>		Displays entry for the given port.
local		Displays local entries.
npv		Displays N Port Virtualization.
node_wwn		Displays end devices logged in via an npv node.
<i>node_wwn</i>		Displays node WWN of NPV.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.2(2)	This command was introduced.

Usage Guidelines The discovery can take several minutes to complete, especially if the fabric is large or if several devices are slow to respond.

Virtual enclosure ports can be viewed using the **show fcns database** command.

Examples The following example displays the contents of the FCNS database:

```
switch# show fcns database
VSAN 1:
-----
FCID          TYPE  PWWN                               (VENDOR)          FC4-TYPE:FEATURE
-----
0x020101      N     22:04:00:05:30:00:35:e1 (Cisco)           scsi-fcp:init isc..w <---iSCSI
0x020102      N     22:02:00:05:30:00:35:e1 (Cisco)           scsi-fcp:init isc..w initiator
0x0205d4      NL    21:00:00:04:cf:da:fe:c6 (Seagate)         scsi-fcp:target
0x0205d5      NL    21:00:00:04:cf:e6:e4:4b (Seagate)         scsi-fcp:target
0x0205d6      NL    21:00:00:04:cf:e6:21:ac (Seagate)         scsi-fcp:target
0x0205d9      NL    21:00:00:04:cf:e6:19:9b (Seagate)         scsi-fcp:target
0x0205da      NL    21:00:00:04:cf:e6:19:62 (Seagate)         scsi-fcp:target
```

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```
0x0205dc NL 21:00:00:04:cf:e6:e9:82 (Seagate) scsi-fcp:target
0x0205e0 NL 21:00:00:04:cf:e6:21:06 (Seagate) scsi-fcp:target
0x0205e1 NL 21:00:00:04:cf:e6:e0:eb (Seagate) scsi-fcp:target
```

Total number of entries = 10

VSAN 2:

```
-----
FCID          TYPE  PWWN                               (VENDOR)      FC4-TYPE:FEATURE
-----
0xef0001      N     22:02:00:05:30:00:35:e1 (Cisco)      scsi-fcp:init isc..w
```

Total number of entries = 1

VSAN 3:

```
-----
FCID          TYPE  PWWN                               (VENDOR)      FC4-TYPE:FEATURE
-----
0xed0001      N     22:02:00:05:30:00:35:e1 (Cisco)      scsi-fcp:init isc..w
```

Total number of entries = 1

The following example displays the detailed contents of the FCNS database.

```
switch# show fcns database detail
```

```
-----
VSAN:1      FCID:0x020101
-----
port-wwn (vendor)      :22:04:00:05:30:00:35:e1 (Cisco)
node-wwn              :22:03:00:05:30:00:35:e1
class                 :2,3
node-ip-addr          :10.2.2.12
ipa                   :ff ff ff ff ff ff ff ff
fc4-types:fc4_features:scsi-fcp:init iscsi-gw
symbolic-port-name    :
symbolic-node-name    :iqn.1991-05.com.microsoft:oasis2-dell
port-type             :N
port-ip-addr          :0.0.0.0
fabric-port-wwn      :22:01:00:05:30:00:35:de
hard-addr             :0x000000
-----
VSAN:1      FCID:0x020102
-----
port-wwn (vendor)      :22:02:00:05:30:00:35:e1 (Cisco)
node-wwn              :22:01:00:05:30:00:35:e1
class                 :2,3
node-ip-addr          :10.2.2.11
ipa                   :ff ff ff ff ff ff ff ff
fc4-types:fc4_features:scsi-fcp:init iscsi-gw
symbolic-port-name    :
symbolic-node-name    :iqn.1987-05.com.cisco.01.14ac33ba567f986f174723b5f9f2377
port-type             :N
port-ip-addr          :0.0.0.0
fabric-port-wwn      :22:01:00:05:30:00:35:de
hard-addr             :0x000000
...
Total number of entries = 10
=====
-----
VSAN:2      FCID:0xef0001
-----
port-wwn (vendor)      :22:02:00:05:30:00:35:e1 (Cisco)
node-wwn              :22:01:00:05:30:00:35:e1
```

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```

class                :2,3
node-ip-addr         :10.2.2.11
ipa                  :ff ff ff ff ff ff ff ff
fc4-types:fc4_features:scsi-fcp:init iscsi-gw
symbolic-port-name   :
symbolic-node-name   :iqn.1987-05.com.cisco.01.14ac33ba567f986f174723b5f9f2377
port-type            :N
port-ip-addr         :0.0.0.0
fabric-port-wwn      :22:01:00:05:30:00:35:de
hard-addr            :0x000000

Total number of entries = 1

```

...

The following example displays the management VSAN (VSAN 2).

```

switch# show fcns database vsan 2
VSAN 2:
-----
FCID          TYPE  PWWN                               (VENDOR)      FC4-TYPE:FEATURE
-----
0x6d0001      N     10:00:00:05:30:00:94:9f (Cisco)       ipfc
0x6d0002      N     10:00:00:05:30:00:94:a0 (Cisco)       ipfc virtual:...c_port
0x6d0003      N     24:15:00:05:30:00:94:a0 (Cisco)       virtual:volume_owner
...
Total number of entries = 24

```

The following example displays the database for all configured VSANs.

```

switch# show fcns database
VSAN 2:
-----
FCID          TYPE  PWWN                               (VENDOR)      FC4-TYPE:FEATURE
-----
0x6d0001      N     10:00:00:05:30:00:94:9f (Cisco)       ipfc
0x6d0002      N     10:00:00:05:30:00:94:a0 (Cisco)       ipfc virtual:...c_port
0x6d0003      N     24:15:00:05:30:00:94:a0 (Cisco)       virtual:volume_owner
...
Total number of entries = 24
VSAN 3:
-----
FCID          TYPE  PWWN                               (VENDOR)      FC4-TYPE:FEATURE
-----
0x650001      N     24:0c:00:05:30:00:94:a0 (Cisco)       scsi-fcp:init vir..t
...
0x720101      NL    21:00:00:20:37:65:1c:cb (Company)     scsi-fcp
...
Total number of entries = 30
VSAN 4:
-----
FCID          TYPE  PWWN                               (VENDOR)      FC4-TYPE:FEATURE
-----
0x6b0001      N     23:26:00:05:30:00:59:20 (Cisco)       scsi-fcp:init vir..t
...
0x7800b5      NL    22:00:00:20:37:46:78:97 (Company)     scsi-fcp
...
0x780100      N     50:06:04:82:bf:d0:cf:4b (Company)           scsi-fcp 250
...
Total number of entries = 27
VSAN 5:
-----
FCID          TYPE  PWWN                               (VENDOR)      FC4-TYPE:FEATURE
-----

```

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```
0x6f0001   N       23:43:00:05:30:00:59:20 (Cisco)      scsi-fcp:target vi..
...
```

The following example shows how to display the N Port Virtualization entries:

```
switch# show fcns database npv
switch#
```

Related Commands

Command	Description
asm mgmt-vsan	Displays the CPP interface configuration for a specified interface.

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show fcns statistics

To display the statistical information for a specified VSAN or for all VSANs, use the **show fcns statistics** command.

```
show fcns statistics [detail] [vsan vsan-id]
```

Syntax Description		
	detail	Displays detailed statistics.
	vsan <i>vsan-id</i>	Displays statistics for the specified VSAN ID. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays statistical information for a specified VSAN.

```
switch# show fcns statistics
registration requests received = 27
deregistration requests received = 0
queries received = 57
queries sent = 10
reject responses sent = 14
RSCNs received = 0
RSCNs sent = 0
switch#
```

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show fcroute

Use the **show fcroute** command to view specific information about existing Fibre Channel and FSPF configurations.

```
show fcroute {distance | label [label] vsan vsan-id | multicast [fc-id vsan vsan-id | vsan vsan-id]
| summary [vsan vsan-id] | unicast [[host] fc-id fc-mask vsan vsan-id | vsan vsan-id] }
```

Syntax Description

distance	Displays FC route preference.
label	Displays label routes.
multicast	Displays FC multicast routes.
summary	Displays the FC routes summary.
unicast	Displays FC unicast routes.
vsan <i>vsan-id</i>	Specifies the ID of the VSAN (from 1 to 4093).
fcid-id	Specifies the Fibre Channel ID.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

When the number of routes are displayed in the command output, both visible and hidden routes are included in the total number of routes.

Examples

The following example displays administrative distance.

```
switch# show fcroute distance

      Route
UUID  Distance      Name
----  -
10    20                RIB
22    40                FCDOMAIN
39    80                RIB-CONFIG
12    100               FSPF
17    120               FLOGI
21    140               TLPM
14    180               MCAST
64    200               RIB-TEST
```

The following example displays multicast routing information.

```
switch# show fcroute multicast
VSAN FC ID      # Interfaces
```

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```
-----
1    0xffffffff 0
2    0xffffffff 1
3    0xffffffff 1
4    0xffffffff 0
5    0xffffffff 0
6    0xffffffff 0
7    0xffffffff 0
8    0xffffffff 0
9    0xffffffff 0
10   0xffffffff 0
```

The following example displays FCID information for a specified VSAN.

```
switch# show fcroute multicast vsan 3
```

```
VSAN FC ID    # Interfaces
-----
3    0xffffffff 1
```

The following example displays FCID and interface information for a specified VSAN.

```
switch# show fcroute multicast 0xffffffff vsan 2
```

```
VSAN FC ID    # Interfaces
-----
2    0xffffffff 1
      fc1/1
```

The following example displays unicast routing information.

```
switch# show fcroute unicast
```

```
D:direct R:remote P:permanent V:volatile A:active N:non-active
# Next
Protocol VSAN    FC ID/Mask      Rctl/Mask  Flags  Hops  Cost
-----
static   1    0x010101 0xffffffff 0x00 0x00 D P A 1    10
static   2    0x111211 0xffffffff 0x00 0x00 R P A 1    10
fspf     2    0x730000 0xff0000 0x00 0x00 D P A 4    500
fspf     3    0x610000 0xff0000 0x00 0x00 D P A 4    500
static   4    0x040101 0xffffffff 0x00 0x00 R P A 1    103
static   4    0x040102 0xffffffff 0x00 0x00 R P A 1    103
static   4    0x040103 0xffffffff 0x00 0x00 R P A 1    103
static   4    0x040104 0xffffffff 0x00 0x00 R P A 1    103
static   4    0x111211 0xffffffff 0x00 0x00 D P A 1    10
```

The following example displays unicast routing information for a specified VSAN.

```
switch# show fcroute unicast vsan 4
```

```
D:direct R:remote P:permanent V:volatile A:active N:non-active
# Next
Protocol VSAN    FC ID/Mask      Rctl/Mask  Flags  Hops  Cost
-----
static   4    0x040101 0xffffffff 0x00 0x00 R P A 1    103
static   4    0x040102 0xffffffff 0x00 0x00 R P A 1    103
static   4    0x040103 0xffffffff 0x00 0x00 R P A 1    103
static   4    0x040104 0xffffffff 0x00 0x00 R P A 1    103
static   4    0x111211 0xffffffff 0x00 0x00 D P A 1    10
```

The following example displays unicast routing information for a specified FCID.

```
switch# show fcroute unicast 0x040101 0xffffffff vsan 4
```

```
D:direct R:remote P:permanent V:volatile A:active N:non-active
```

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```

# Next
Protocol VSAN    FC ID/Mask      RCtrl/Mask  Flags Hops  Cost
-----
static   4      0x040101 0xffffffff 0x00 0x00 R P A 1    103
      fc1/2 Domain 0xa6(166)

```

The following example displays route database information.

```
switch# show fcroute summary
```

```

FC route database created Tue Oct 29 01:24:23 2002
VSAN    Ucast    Mcast    Label    Last Modified Time
-----
1       2        1        0        Tue Oct 29 18:07:02 2002
2       3        1        0        Tue Oct 29 18:33:24 2002
3       2        1        0        Tue Oct 29 18:10:07 2002
4       6        1        0        Tue Oct 29 18:31:16 2002
5       1        1        0        Tue Oct 29 01:34:39 2002
6       1        1        0        Tue Oct 29 01:34:39 2002
7       1        1        0        Tue Oct 29 01:34:39 2002
8       1        1        0        Tue Oct 29 01:34:39 2002
9       1        1        0        Tue Oct 29 01:34:39 2002
10      1        1        0        Tue Oct 29 01:34:39 2002
Total   19       10       0

```

The following example displays route database information for a specified VSAN.

```
switch# show fcroute summary vsan 4
```

```

FC route database created Tue Oct 29 01:24:23 2002
VSAN    Ucast    Mcast    Label    Last Modified Time
-----
4       6        1        0        Tue Oct 29 18:31:16 2002
Total   6        1        0

```

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show fcs

Use the **show fcs** commands to display the status of the fabric configuration.

```
show fcs { database [vsan vsan-id] | ie [nwwn wwn] vsan vsan-id | platform [name string] vsan
vsan-id | port [pwwn wwn] vsan vsan-id | statistics vsan vsan-id | vsan }
```

Syntax Description		
database		Displays local database of FCS.
ie		Displays Interconnect Element Objects Information.
nwwn wwn		Specifies a node WWN id. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> .
vsan vsan-id		Specifies a VSAN ID. The range is 1 to 4093.
platform		Displays Platform Objects Information.
name string		Specifies a platform name. Maximum length is 255 characters.
port		Displays Port Objects Information.
pwwn wwn		Specifies a port WWN id. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> .
statistics		Displays statistics for FCS packets.
vsan		Displays list of all the VSANs and plat-check-mode for each.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays FCS database information.

```
switch# show fcs database

FCS Local Database in VSAN: 1
-----
Switch WWN                : 20:01:00:05:30:00:16:df
Switch Domain Id          : 0x7f(127)
Switch Mgmt-Addresses     : snmp://172.22.92.58/eth-ip
                          : http://172.22.92.58/eth-ip
Fabric-Name                : 20:01:00:05:30:00:16:df
Switch Logical-Name       : 172.22.92.58
Switch Information List   : [Cisco Systems*DS-C9509*0*20:00:00:05:30:00
Switch Ports:
-----
Interface pWWN            Type      Attached-pWWNs
```

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```

-----
fc2/1      20:41:00:05:30:00:16:de  TE      20:01:00:05:30:00:20:de
fc2/2      20:42:00:05:30:00:16:de  Unknown None
fc2/17     20:51:00:05:30:00:16:de  TE      20:0a:00:05:30:00:20:de

FCS Local Database in VSAN: 5
-----
Switch WWN           : 20:05:00:05:30:00:12:5f
Switch Domain Id     : 0xef(239)
Switch Mgmt-Addresses : http://172.22.90.171/eth-ip
                    : snmp://172.22.90.171/eth-ip
                    : http://10.10.15.10/vsan-ip
                    : snmp://10.10.15.10/vsan-ip
Fabric-Name          : 20:05:00:05:30:00:12:5f
Switch Logical-Name   : 172.22.90.171
Switch Information List : [Cisco Systems*DS-C9509**20:00:00:05:30:00:12:5e]
Switch Ports:
-----
Interface  pWWN                Type      Attached-pWWNs
-----
fc3/1      20:81:00:05:30:00:12:5e  TE        22:01:00:05:30:00:12:9e
fc3/2      20:82:00:05:30:00:12:5e  TE        22:02:00:05:30:00:12:9e
fc3/3      20:83:00:05:30:00:12:5e  TE        22:03:00:05:30:00:12:9e

```

The following example displays Interconnect Element object information for a specific VSAN.

```

switch# show fcs ie vsan 1

IE List for VSAN: 1
-----
IE-WWN                IE-Type                Mgmt-Id
-----
20:01:00:05:30:00:16:df  Switch (Local)         0xffffc7f
20:01:00:05:30:00:20:df  Switch (Adjacent)     0xffffc64
[Total 2 IEs in Fabric]

```

This command displays Interconnect Element object information for a specific WWN.

```

switch# show fcs ie nwwn 20:01:00:05:30:00:16:df vsan 1
IE Attributes
-----
Domain-Id = 0x7f(127)
Management-Id = 0xffffc7f
Fabric-Name = 20:01:00:05:30:00:16:df
Logical-Name = 172.22.92.58
Management Address List =
    snmp://172.22.92.58/eth-ip
    http://172.22.92.58/eth-ip
Information List:
    Vendor-Name = Cisco Systems
    Model Name/Number = DS-C9509
    Release-Code = 0

```

This command displays platform information.

```

switch# show fcs platform name SamplePlatform vsan 1
Platform Attributes
-----
Platform Node Names:
    11:22:33:44:55:66:77:88
Platform Type = Gateway
Platform Management Addresses:
    1.1.1.1

```

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This command displays platform information within a specified VSAN.

```
switch# show fcs platform vsan 1
Platform List for VSAN: 1
Platform-Names
-----
SamplePlatform
[Total 1 Platforms in Fabric]
```

This command displays FCS port information within a specified VSAN.

```
switch# show fcs port vsan 24
Port List in VSAN: 24
-- IE WWN: 20:18:00:05:30:00:16:df --
-----
Port-WWN                Type      Module-Type      Tx-Type
-----
20:41:00:05:30:00:16:de  TE_Port   SFP with Serial Id  Shortwave Laser
20:51:00:05:30:00:16:de  TE_Port   SFP with Serial Id  Shortwave Laser

[Total 2 switch-ports in IE]
-- IE WWN: 20:18:00:05:30:00:20:df --
-----
Port-WWN                Type      Module-Type      Tx-Type
-----
20:01:00:05:30:00:20:de  TE_Port   SFP with Serial Id  Shortwave Laser
20:0a:00:05:30:00:20:de  TE_Port   SFP with Serial Id  Shortwave Laser

[Total 2 switch-ports in IE]
```

This command displays ports within a specified WWN.

```
switch# show fcs port pwwn 20:51:00:05:30:00:16:de vsan 24
Port Attributes
-----
Port Type = TE_Port
Port Number = 0x1090000
Attached-Port-WWNs:
    20:0a:00:05:30:00:20:de
Port State = Online
```

This command displays FCS statistics.

```
switch# show fcs statistics

FCS Statistics for VSAN: 1
-----
FCS Rx Get Reqs      :2
FCS Tx Get Reqs      :7
FCS Rx Reg Reqs      :0
FCS Tx Reg Reqs      :0
FCS Rx Dereg Reqs    :0
FCS Tx Dereg Reqs    :0
FCS Rx RSCNs         :0
FCS Tx RSCNs         :3
FCS Rx RJTs          :3
FCS Tx RJTs          :0
FCS Rx ACCs          :4
FCS Tx ACCs          :2
FCS No Response      :0
FCS Retransmit       :0

FCS Statistics for VSAN: 30
```

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```
-----  
FCS Rx Get Reqs      :2  
FCS Tx Get Reqs      :2  
FCS Rx Reg Reqs      :0  
FCS Tx Reg Reqs      :0  
FCS Rx Dereg Reqs    :0  
FCS Tx Dereg Reqs    :0  
FCS Rx RSCNs         :0  
FCS Tx RSCNs         :0  
FCS Rx RJTs          :0  
FCS Tx RJTs          :0  
FCS Rx ACCs          :2  
FCS Tx ACCs          :2  
FCS No Response      :0  
FCS Retransmit       :0
```


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show fcsp

To display the status of the Fibre Channel Security Protocol (FC-SP) configuration, use the **show fcsp** commands.

```
show fcsp [asciiwwn ascii-wwn | dhchap [database] | interface fc slot/port [statistics | wwn] | fcip
interface-number [statistics | wwn]]
```

Syntax Description		
asciiwwn <i>ascii-wwn</i>	Displays the ASCII representation of the WWN used with AAA server.	
dhchap	Displays the DHCHAP hash algorithm status.	
database	Displays the contents of the local DHCHAP database.	
interface	Displays the FC-SP settings for a FC or FCIP interface.	
fc <i>slot/port</i>	Displays the Fibre Channel interface in the specified slot and port.	
fcip <i>interface-number</i>	Displays the description of the specified FCIP interface. The range is 1 to 255.	
statistics	Displays the statistics for the specified interface.	
wwn	Displays the FC-SP identity of the other device.	

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays DHCHAP configurations in FC interfaces.

```
switch# show fcsp interface fc1/9

fc1/9:
  fcsp authentication mode:SEC_MODE_ON
  Status: Successfully authenticated
```

The following example displays DHCHAP statistics for a FC interfaces.

```
switch# show fcsp interface fc1/9 statistics

fc1/9:
  fcsp authentication mode:SEC_MODE_ON
  Status: Successfully authenticated
  Statistics:
  FC-SP Authentication Succeeded:5
```

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```
FC-SP Authentication Failed:0
FC-SP Authentication Bypassed:0
```

The following example displays the FC-SP WWN of the device connected through a specified interface.

```
switch# show fcsp interface fc 2/1 wwn

fc2/1:
  fcsp authentication mode:SEC_MODE_ON
  Status: Successfully authenticated
  Other device's WWN:20:00:00:e0:8b:0a:5d:e7
```

The following example displays hash algorithm and DHCHAP groups configured for the local switch.

```
switch# show fcsp dhchap
Supported Hash algorithms (in order of preference):
DHCHAP_HASH_MD5
DHCHAP_HASH_SHA_1

Supported Diffie Hellman group ids (in order of preference):
DHCHAP_GROUP_NULL
DHCHAP_GROUP_1536
DHCHAP_GROUP_1024
DHCHAP_GROUP_1280
DHCHAP_GROUP_2048
```

The following example displays the DHCHAP local password database.

```
switch# show fcsp dhchap database
DHCHAP Local Password:
  Non-device specific password:*****
  Password for device with WWN:29:11:bb:cc:dd:33:11:22 is *****
  Password for device with WWN:30:11:bb:cc:dd:33:11:22 is *****

Other Devices' Passwords:
  Password for device with WWN:00:11:22:33:44:aa:bb:cc is *****
```

The following example displays the ASCII representation of the device WWN.

```
switch# show fcsp asciiwwn 30:11:bb:cc:dd:33:11:22
Ascii representation of WWN to be used with AAA servers:0x_3011bbccdd331122
```

Related Commands

Command	Description
fcsp enable	Enables the FC-SP feature for this switch.

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show fctimer

To view the Fibre Channel timers (fctimer), use the **show fctimer** command.

```
show fctimer [d_s_tov [vsan vsan-id] | distribution status | e_d_tov [vsan vsan-id] |
f_s_tov [vsan vsan-id] | last action status | pending | pending-diff | r_a_tov [vsan vsan-id] |
session-status | vsan vsan-id]
```

Syntax Description		
d_s_tov		Displays the distributed services time out value (D_S_TOV) in milliseconds.
distribution status		Displays Cisco Fabric Services (CFS) distribution status information.
e_d_tov		Displays the error detection time out value (E_D_TOV) in milliseconds.
f_s_tov		Displays the fabric stability time out value (F_S_TOV) in milliseconds.
last action status		Displays the status of the last CFS commit or discard operation.
pending		Displays the status of pending fctimer commands.
pending-diff		Displays the difference between pending database and running config.
r_a_tov		Displays the resource allocation time out value (R_A_TOV) in milliseconds.
session-status		Displays the state of fctimer CFS session.
vsan vsan-id		Displays information for a VSAN. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.
	2.0(x)	Added the distribution status , last action status , pending , pending-diff , and session-status keywords.

Usage Guidelines None.

Examples The following example displays configured global TOVs.

```
switch# show fctimer
F_S_TOV   D_S_TOV   E_D_TOV   R_A_TOV
-----
5000 ms   5000 ms   2000 ms   10000 ms
```

The following example displays configured TOVs for a specified VSAN.

```
switch# show fctimer vsan 10
```

■ show fctimer

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```

vsan no.  F_S_TOV  D_S_TOV  E_D_TOV  R_A_TOV
-----
10        5000 ms   5000 ms   3000 ms   10000 ms

```

Related Commands

Command	Description
fctimer	Configures fctimer parameters.

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show fdmi

To display the Fabric-Device Management Interface (FDMI) database information, use the **show fdmi** command.

show fdmi database [**detail** [**hba-id** [*hba-id* **vsan** *vsan-id* | **vsan** *vsan-id*] | **vsan** *vsan-id*]

Syntax	Description
fdmi	Accesses the FDMI commands.
database	Displays the FDMI database contents.
detail	Specifies detailed FDMI information.
hba-id	Displays detailed information for the specified HBA entry.
<i>hba-id</i>	Displays detailed information for the specified HBA entry.
vsan <i>vsan-id</i>	Specifies FDMI information for the specified VSAN. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays all HBA management servers.

```
switch# show fdmi database
Registered HBA List for VSAN 1
  10:00:00:00:c9:32:8d:77
  21:01:00:e0:8b:2a:f6:54
switch# show fdmi database detail
Registered HBA List for VSAN 1
-----
HBA-ID: 10:00:00:00:c9:32:8d:77
-----
Node Name           :20:00:00:00:c9:32:8d:77
Manufacturer        :Emulex Corporation
Serial Num          :0000c9328d77
Model               :LP9002
Model Description   :Emulex LightPulse LP9002 2 Gigabit PCI Fibre Channel Adapter
Hardware Ver        :2002606D
Driver Ver          :SLI-2 SW_DATE:Feb 27 2003, v5-2.20a12
ROM Ver             :3.11A0
Firmware Ver        :3.90A7
OS Name/Ver         :Window 2000
CT Payload Len      :1300000
Port-id: 10:00:00:00:c9:32:8d:77
```

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```

-----
HBA-ID: 21:01:00:e0:8b:2a:f6:54
-----
Node Name           :20:01:00:e0:8b:2a:f6:54
Manufacturer        :QLogic Corporation
Serial Num          :\74262
Model               :QLA2342
Model Description   :QLogic QLA2342 PCI Fibre Channel Adapter
Hardware Ver        :FC5010409-10
Driver Ver          :8.2.3.10 Beta 2 Test 1 DBG (W2K VI)
ROM Ver             :1.24
Firmware Ver        :03.02.13.
OS Name/Ver         :500
CT Payload Len      :2040
    Port-id: 21:01:00:e0:8b:2a:f6:54

```

The following example displays VSAN1-specific FDMI information.

```

switch# show fDMI database detail vsan 1
Registered HBA List for VSAN 1
-----
HBA-ID: 10:00:00:00:c9:32:8d:77
-----
Node Name           :20:00:00:00:c9:32:8d:77
Manufacturer        :Emulex Corporation
Serial Num          :0000c9328d77
Model               :LP9002
Model Description   :Emulex LightPulse LP9002 2 Gigabit PCI Fibre Channel Adapter
Hardware Ver        :2002606D
Driver Ver          :SLI-2 SW_DATE:Feb 27 2003, v5-2.20a12
ROM Ver             :3.11A0
Firmware Ver        :3.90A7
OS Name/Ver         :Window 2000
CT Payload Len      :1300000
    Port-id: 10:00:00:00:c9:32:8d:77
-----
HBA-ID: 21:01:00:e0:8b:2a:f6:54
-----
Node Name           :20:01:00:e0:8b:2a:f6:54
Manufacturer        :QLogic Corporation
Serial Num          :\74262
Model               :QLA2342
Model Description   :QLogic QLA2342 PCI Fibre Channel Adapter
Hardware Ver        :FC5010409-10
Driver Ver          :8.2.3.10 Beta 2 Test 1 DBG (W2K VI)
ROM Ver             :1.24
Firmware Ver        :03.02.13.
OS Name/Ver         :500
CT Payload Len      :2040
    Port-id: 21:01:00:e0:8b:2a:f6:54

```

The following example displays details for the specified HBA entry.

```

switch# show fDMI database detail Hba-id 21:01:00:e0:8b:2a:f6:54 vsan 1

Node Name           :20:01:00:e0:8b:2a:f6:54
Manufacturer        :QLogic Corporation
Serial Num          :\74262
Model               :QLA2342
Model Description   :QLogic QLA2342 PCI Fibre Channel Adapter
Hardware Ver        :FC5010409-10
Driver Ver          :8.2.3.10 Beta 2 Test 1 DBG (W2K VI)
ROM Ver             :1.24
Firmware Ver        :03.02.13.

```

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```
OS Name/Ver      :500
CT Payload Len   :2040
Port-id: 21:01:00:e0:8b:2a:f6:54
```

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show ficon

To display configured FICON information, use the **show ficon** command.

```
show ficon [control-device sb3 [vsan vsan-id] |
  first-available port-number |
  port default-state |
  port-numbers {assign [slot | logical-port | slot slot] | interface} |
  stat |
  vsan vsan-id [allegiance | directory-history [key-counter value] | file {all | name filename
[portaddress port]} | interface {fc slot/port | fcip fcip-id | port-channel port} | portaddress
[port [counters] | portnumber [port-numbers | duplicate | undefined] [brief] [installed]]
```

Syntax Description

control-device sb3	Displays FICON control device information.
vsan <i>vsan-id</i>	Specifies FICON information for the specified VSAN ranging from 1 to 4093.
first-available port-number	Displays the available port numbers.
port default-state	Displays the default FICON port prohibit state.
port-numbers	Displays FICON port numbers.
assign <i>slot</i>	Displays the FICON port numbers assigned to the specified slot, 1 through 6.
logical port	Displays FICON port numbers assigned to logical interfaces.
slot <i>slot</i>	Displays the FICON port numbers assigned to the specified slot, 1 through 6.
stat	Displays information about FICONSTAT.
allegiance	Displays FICON device allegiance information.
directory-history	Displays FICON directory history.
key-counter <i>value</i>	Specifies a key counter.
file	Displays FICON information for a file.
all	Specifies all files.
name <i>filename</i>	Specifies the name for a file.
portaddress <i>port</i>	Specifies a port address for a file.
interface	Displays FICON information for an interface.
fc <i>slot/port</i>	Specifies a Fibre Channel interface.
fcip <i>fcip-id</i>	Specifies an FC IP interface.
port-channel <i>port</i>	Specifies a PortChannel interface.
counters	Displays counter information for the port address.
portnumber <i>port-numbers</i>	Displays FICON information for a port number in the specified range, 0 through 153 or 0x0 through 0x99.
duplicate	Displays FICON interfaces with duplicate port numbers and port addresses.
undefined	Displays FICON interfaces without port numbers and port addresses.
brief	Displays brief FICON information for the port address.
installed	Displays FICON information for the installed port address.

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Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.
	3.0(1)	<ul style="list-style-type: none"> • Added the port-numbers and stat options. • Added the portnumber keyword.
	3.0(2)	Added the port default-state option.

Usage Guidelines If FICON is not enabled on a VSAN, you will not be able to view FICON configuration information for that VSAN.

Examples The following example displays configured FICON information.

```
switch# show ficon
Ficon information for VSAN 20
  Ficon is online
  VSAN is active
  Host port control is Enabled
  Host offline control is Enabled
  User alert mode is Enabled
  SNMP port control is Enabled
  Host set director timestamp is Enabled
  Active-Saved is Disabled
  Number of implemented ports are 240
  Key Counter is 73723
  FCID last byte is 0
  Date/Time is set by host to Sun Jun 26 00:04:06.991999 1904
  Device allegiance is locked by Host
  Codepage is us-canada
  Saved configuration files
    IPL
    _TSIRN00
```

The following example displays the default prohibit state.

```
switch# show ficon port default-state
Port default state is allow-all
```

The following example displays assigned FICON port numbers.

```
switch# show ficon port-numbers assign
ficon slot 1 assign port-numbers 0-31
ficon slot 2 assign port-numbers 32-63
ficon slot 3 assign port-numbers 64-95
ficon slot 4 assign port-numbers 96-127
ficon logical-port assign port-numbers 128-153
```

The following example displays port address information.

```
switch# show ficon vsan 2 portaddress
Port Address 1 is not installed in vsan 2
```

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```

Port number is 1, Interface is fc1/1
Port name is
Port is not admin blocked
Prohibited port addresses are 0,241-253,255

Port Address 2 is not installed in vsan 2
Port number is 2, Interface is fc1/2
Port name is
Port is not admin blocked
Prohibited port addresses are 0,241-253,255

...
Port Address 239 is not installed in vsan 2
Port name is
Port is not admin blocked
Prohibited port addresses are 0,241-253,255

Port Address 240 is not installed in vsan 2
Port name is
Port is not admin blocked
Prohibited port addresses are 0,241-253,255

```

The following example displays port address information in a brief format.

```

switch# show ficon vsan 2 portaddress 50-55 brief
-----
Port   Port   Interface      Admin   Status      Oper   FCID
Address Number                               Blocked                               Mode
-----
50     50     fc2/18         on      fcotAbsent  --    --
51     51     fc2/19         off     fcotAbsent  --    --
52     52     fc2/20         off     fcotAbsent  --    --
53     53     fc2/21         off     fcotAbsent  --    --
54     54     fc2/22         off     notConnected --    --
55     55     fc2/23         off     up          FL    0xea0000
56     56     fc2/23         off     up          FL    0xea0000

```

The following example displays port address counter information.

```

switch# show ficon vsan 20 portaddress 8 counters
Port Address 8(0x8) is up in vsan 20
  Port number is 8(0x8), Interface is fc1/8
  Version presented 1, Counter size 32b
  242811 frames input, 9912794 words
    484 class-2 frames, 242302 class-3 frames
    0 link control frames, 0 multicast frames
    0 disparity errors inside frames
    0 disparity errors outside frames
    0 frames too big, 0 frames too small
    0 crc errors, 0 eof errors
    0 invalid ordered sets
    0 frames discarded c3
    0 address id errors
  116620 frames output, 10609188 words
    0 frame pacing time
  0 link failures
  0 loss of sync
  0 loss of signal
  0 primitive seq prot errors
  0 invalid transmission words
  1 lrr input, 0 ols input, 5 ols output
  0 error summary

```

The following example displays the contents of the specified FICON configuration file.

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```

switch# show ficon vsan 3 file IPL
FICON configuration file IPL      in vsan 3
  Port address 1
    Port name is
    Port is not blocked
    Prohibited port addresses are 0,81-253,255

  Port address 2
    Port name is
    Port is not blocked
    Prohibited port addresses are 0,81-253,255

  Port address 3
    Port name is
    Port is not blocked
    Prohibited port addresses are 0,81-253,255

  Port address 4
    Port name is
    Port is not blocked
    Prohibited port addresses are 0,81-253,255

  ...
  Port address 80
    Port name is
    Port is not blocked
    Prohibited port addresses are 0,81-253,255

  Port address 254
    Port name is
    Port is not blocked
    Prohibited port addresses are 0,81-253,255

```

The following example displays all FICON configuration files.

```

switch# show ficon vsan 2
Ficon information for VSAN 2
  Ficon is enabled
  VSAN is active
  Host control is Enabled
  Host offline control is Enabled
  Clock alert mode is Disabled
  User alert mode is Disabled
  SNMP control is Disabled
  Active-Saved is Disabled
  Number of implemented ports are 240
  Key Counter is 9
  FCID last byte is 0
  Date/Time is same as system time (Sun Dec 14 01:26:30.273402 1980)
  Device Allegiance not locked
  Codepage is us-canada
Saved configuration files
  IPL
  IPLFILE1

```

The following example displays the specified port addresses for a FICON configuration file.

```

switch# show ficon vsan 2 file iplfile1 portaddress 1-7
FICON configuration file IPLFILE1 in vsan 2
  Port address 1
    Port name is
    Port is not blocked
    Prohibited port addresses are 0,241-253,255

```

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```

Port address 2
  Port name is
  Port is not blocked
  Prohibited port addresses are 0,241-253,255

Port address 3
  Port name is P3
  Port is not blocked
  Prohibited port addresses are 0,241-253,255
...
Port address 7
  Port name is
  Port is not blocked
  Prohibited port addresses are 0,241-253,255

```

The following example displays the specified port address when FICON is enabled.

```

switch# show ficon vsan 2 portaddress 55
Port Address 55 is not installed in vsan 2
  Port number is 55, Interface is fc2/23
  Port name is
  Port is not admin blocked
  Prohibited port addresses are 0,241-253,255
  Admin port mode is FL
  Port mode is FL, FCID is 0xea0000

```

The following example displays two port addresses configured with different states.

```

switch# show ficon vsan 2 portaddress 2
Port Address 2(0x2) is not installed in vsan 2
  Port number is 2(0x2), Interface is fc1/2
  Port name is
  Port is not admin blocked
  Prohibited port addresses are 0,241-253,255(0,0xf1-0xfd,0xff)
  Admin port mode is auto
  Peer was type model manufactured by

switch# show ficon vsan 2 portaddress 1
Port Address 2(0x2) is not installed in vsan 2
  Port number is 2(0x2), Interface is fc1/2
  Port name is
  Port name is SampleName
  Port is admin blocked
  Prohibited port addresses are 0,241-253,255(0,0xf1-0xfd,0xff)
  Admin port mode is auto
  Peer was type model manufactured by

```

The following example displays control unit information.

```

switch# show ficon control-device sb3
Control Unit Image:0x80b9c2c
VSAN:20 CU:0x20fe00 CUI:0 CUD:0 CURLP:(nil)
ASYNC LP:(nil) MODE:1 STATE:1 CQ LEN:0 MAX:0
PRIMARY LP: VSAN:0 CH:0x0 CHI:0 CU:0x0 CUI:0
ALTERNATE LP: VSAN:0 CH:0x0 CHI:0 CU:0x0 CUI:0

Logical Path:0x80b9fb4
VSAN:20 CH:0x200600 CHI:15 CU:0x20fe00 CUI:0 STATE:1 FLAGS:0x1
LINK: OH:0x0 OC:0x0 IH:0x0 IC:0x0
DEV: OH:0x0 OC:0x0 IH:0x0 IC:0x0
SENSE: 00 00 00 00 00 00 00 00 46
        30 20 00 00 00 00 00 00
        00 00 00 00 00 00 00 00
        00 00 00 00 00 00 00 00
IUI:0x0 DHF:0x0 CCW:0x0 TOKEN:0x0 PCCW:0x0 FCCW:0x0 PTOKEN:0x0 FTOKEN:0x0

```

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```
CMD:0x0 CCW_FLAGS:0x0 CCW_COUNT:0 CMD_FLAGS:0x0 PRIO:0x0 DATA_COUNT:0
STATUS:0x0 FLAGS:0x0 PARAM:0x0 QTP:0x0 DTP:0x0
CQ LEN:0 MAX:0 DESTATUS:0x0
```

The following example displays the history buffer for the specified VSAN.

```
switch# show ficon vsan 20 director-history
Director History Buffer for vsan 20
-----
Key Counter          Ports Address
                    Changed
-----
74556                43
74557                44
74558                45
74559                46
74560                47
74561                48
74562                49
74563                50
74564                51
74565                52
74566                53
74567                54
74568                55
74569                56
74570                57
74571                58
74572                59
74573                60
74574                61
74575                62
74576                63
74577                64
74578
74579
74580                1-3,5,10,12,14-16,34-40,43-45,47-54,56-57,59-64
74581                3,5
74582                64
74583
74584                1-3,10,12,14-16,34-40,43-45,47-54,56-57,59-64
74585                1
74586                2
74587                3
```

The following example displays the running configuration information.

```
switch# show running-config
...
ficon vsan 2
portaddress 1
block
name SampleName
prohibit portaddress 3
portaddress 3
prohibit portaddress 1
file IPL
```

The following example displays the available port numbers.

```
switch# show ficon first-available port-number
Port number 129(0x81) is available
```

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show file

To display the contents of a specified file in the file system, use the **show file** command.

```
show file filename [cksum | md5sum]
```

Syntax Description	filename	Specifies a filename.
	cksum	Displays CRC checksum for a file.
	md5sum	Displays MD5 checksum for a file.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the contents of the test file that resides in the slot0 directory.

```
switch# show file slot0:test
config t
Int fc1/1
no shut
end
show int
```

The following example displays the contents of a file residing in the current directory.

```
switch# show file myfile
```

The following example displays the CRC checksum for a file.

```
switch# show file bootflash:vboot-1 cksum
838096258
```

The following example displays the MD5 checksum for a file.

```
switch# show file bootflash:vboot-1 md5sum
3d8e05790155150734eb8639ce98a331
```

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show flex-attach

To display the FlexAttach distribution status, use the **show flex-attach** command.

show flex-attach

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the FlexAttach distribution status.

```
switch# show flex-attach
Fabric distribution status
-----
fabric distribution enabled
Last Action Time Stamp      : Sun Mar  2 02:32:04 2008
Last Action                  : Commit
Last Action Result          : Success
Last Action Failure Reason  : none
```

Related Commands	Command	Description
	show flex-attach virtual-pwwn	Displays the current list of virtual pWWNs on a specified interface.

[Send documentation comments to mdsfeedback-doc@cisco.com](mailto:mdsfeedback-doc@cisco.com)

show flex-attach info

To display the FlexAttach information, use the **show flex-attach info** command.

show flex-attach info

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes Exec mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the FlexAttach information.

```
switch# show flex-attach info
Global Auto Flag : TRUE
-----
                Local Interface->vpwwn
-----
vsan      intf      vpwwn                auto      intf-state
-----
all       fc1/1      20:00:00:05:30:01:71:ba  auto      DOWN
all       fc1/2      20:01:00:05:30:01:71:ba  auto      DOWN
all       fc1/3      20:02:00:05:30:01:71:ba  auto      DOWN
all       fc1/4      20:03:00:05:30:01:71:ba  auto      DOWN
all       fc1/20     20:13:00:05:30:01:71:ba  auto      DOWN
all       fc1/21     20:14:00:05:30:01:71:ba  auto      DOWN
all       fc1/22     20:15:00:05:30:01:71:ba  auto      DOWN
all       fc1/23     20:16:00:05:30:01:71:ba  auto      DOWN
all       fc1/24     20:17:00:05:30:01:71:ba  auto      DOWN
Number of local virtual pwwn entries = 24
-----
                Remote Interface->vpwwn
-----
swwn                vsan      intf      vpwwn                auto
-----
20:00:00:05:30:01:6e:1c  all       fc1/1      23:46:00:05:30:01:6e:1e  auto
20:00:00:05:30:01:6e:1c  all       fc1/2      23:47:00:05:30:01:6e:1e  auto
20:00:00:05:30:01:6e:1c  all       fc1/3      23:48:00:05:30:01:6e:1e  auto
20:00:00:05:30:01:6e:1c  all       fc1/4      23:49:00:05:30:01:6e:1e  auto
20:00:00:05:30:01:6e:1c  all       fc1/5      23:4a:00:05:30:01:6e:1e  auto
20:00:00:05:30:01:6e:1c  all       fc1/6      23:4b:00:05:30:01:6e:1e  auto
20:00:00:05:30:01:6e:1c  all       fc1/7      23:4c:00:05:30:01:6e:1e  auto
```


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```

20:00:00:05:30:01:6e:1c all fc1/8 23:4d:00:05:30:01:6e:1e auto
20:00:00:05:30:01:6e:1c all fc1/9 23:4e:00:05:30:01:6e:1e auto
20:00:00:05:30:01:6e:1c all fc1/10 23:4f:00:05:30:01:6e:1e auto
20:00:00:05:30:01:6e:1c all fc1/11 23:50:00:05:30:01:6e:1e auto
20:00:00:05:30:01:6e:1c all fc1/12 23:51:00:05:30:01:6e:1e auto
20:00:00:05:30:01:6e:1c all fc1/13 23:52:00:05:30:01:6e:1e auto
20:00:00:05:30:01:6e:1c all fc1/14 23:53:00:05:30:01:6e:1e auto
20:00:00:05:30:01:6e:1c all fc1/15 23:54:00:05:30:01:6e:1e auto
20:00:00:05:30:01:6e:1c all fc1/23 23:5c:00:05:30:01:6e:1e auto
20:00:00:05:30:01:6e:1c all fc1/24 23:5d:00:05:30:01:6e:1e auto
Number of remote virtual pwwn entries = 24

```

PWWN -> VPWWN Mappings

```

-----
pwwn                vpwwn
-----
20:14:00:05:30:01:71:11 20:14:00:05:30:01:71:99
20:14:00:05:30:01:71:44 20:14:00:05:30:01:71:88
Number of real pwwn to virtual pwwn entries = 2

```

OXID INFO

```

-----
vsan      sid      did      oxid      els-cmd      phy-pwwn
      vpwwn
-----

```

```

Number of outstanding ELS frames = 0

```

srv fcid to srv ifindex map

```

-----
--
vsan      srvfcid  srvif  pwwn                vpwwn                flogi?
-----
--

```

```

Number of logged-in devices = 0

```

Related Commands

Command	Description
show flex-attach	Displays the FlexAttach distribution status.
show flex-attach virtual-pwwn	Displays the current list of virtual pWWN on a specified interface.
show flex-attach merger status	Displays the FlexAttach merger status.

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show flex-attach merge status

To display the FlexAttach merger status, use the **show flex-attach merge status** command.

show flex-attach merger status

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes Exec mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the FlexAttach merge status.

```
switch# show flex-attach merge status
Flex-Attach merge status
-----
Status           : Success
Failure reason :
```

Related Commands	Command	Description
	show flex-attach	Displays the FlexAttach distribution status.
	show flex-attach virtual-pwwn	Displays the current list of virtual pWWN on a specified interface.

Send documentation comments to mdsfeedback-doc@cisco.com

show flex-attach virtual-pwwn

To display the current list of virtual pWWN on a specified interface, use the **show flex-attach virtual-pwwn** command.

show flex-attach virtual-pwwn

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes Exec mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the current list of virtual pWWN on an interface.

```
switch# show flex-attach virtual-pwwn
Global auto virtual port WWN generation enabled

                VIRTUAL PORT WWNS ASSIGNED TO INTERFACES
-----
VSAN      INTERFACE  VIRTUAL-PWWN                AUTO    LAST-CHANGE
-----
all       fc1/1       20:00:00:05:30:01:71:ba     TRUE    Sat Mar  1 14:10:07 2008
all       fc1/2       20:01:00:05:30:01:71:ba     TRUE    Sat Mar  1 14:10:07 2008
all       fc1/19      20:12:00:05:30:01:71:ba     TRUE    Sat Mar  1 14:10:07 2008
all       fc1/20      20:13:00:05:30:01:71:ba     TRUE    Sat Mar  1 14:10:07 2008
all       fc1/21      20:14:00:05:30:01:71:ba     TRUE    Sat Mar  1 14:10:07 2008
all       fc1/22      20:15:00:05:30:01:71:ba     TRUE    Sat Mar  1 14:10:07 2008
all       fc1/23      20:16:00:05:30:01:71:ba     TRUE    Sat Mar  1 14:10:07 2008
all       fc1/24      20:17:00:05:30:01:71:ba     TRUE    Sat Mar  1 14:10:07 2008

Number of virtual pwwn assigned to local interfaces = 24

                VIRTUAL PORT WWNS ASSIGNED TO PHYSICAL PORT WWNS
```

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```

-----
-----
PWWN                VIRTUAL-PWWN                LAST-CHANGE
-----
-----
20:14:00:05:30:01:71:11  20:14:00:05:30:01:71:99  Sat Mar  1 14:56:07 2008
20:14:00:05:30:01:71:44  20:14:00:05:30:01:71:88  Sat Mar  1 14:56:07 2008
Number of virtual pwwn assigned to real pwwns = 2

```

Related Commands

Command	Description
flex-attach virtual-pwwn auto	Enables the FlexAttach virtual pWWN on a specific interface.
flex-attach virtual-pwwn interface	Sets the user-specified FlexAttach virtual pWWN.

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show flogi

To list all the FLOGI sessions through all interfaces across all VSANs, use the **show flogi** command.

```
show flogi {auto-area-list} | database {fcid fcid-id | interface {fa slot/port | fc slot/port | fv
module-number} | vsan vsan-id}
```



Note

On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs as follows:

```
interface {bay port | ext port}
```

Syntax Description

auto-area-list	Displays the list of OUIs that are allocated areas.
database	Displays information about FLOGI sessions.
fcid <i>fcid-id</i>	Displays FLOGI database entries based on the FCID allocated. The format is 0xhhhhhh.
interface	Displays FLOGI database entries based on the logged in interface.
fa <i>slot/port</i>	Specifies the FA port interface to configure by slot and port number on all switches.
fc <i>slot/port</i>	(Optional) Specifies the Fibre Channel interface to configure by slot and port number on an MDS 9000 Family switch.
bay <i>port</i> ext <i>port</i>	(Optional) Specifies the Fibre Channel interface by bay or by external port on a Cisco Fabric Switch for HP c-Class BladeSystem or on a Cisco Fabric Switch for IBM BladeCenter. The range is 0 to 48.
fv <i>module-number</i>	Specifies the Fibre Channel Virtualization interface by module on all switches.
vsan <i>vsan-id</i>	Displays FLOGI database entries based on the VSAN ID. The range is 1 to 4093.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
3.1(2)	Added the interface bay ext option.

Usage Guidelines

Output of this command is first sorted by interface and then by VSANs.

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In a Fibre Channel fabric, each host or disk requires an FCID. Use the **show flogi database** command to verify if a storage device is displayed in the Fabric login (FLOGI) table as in the examples below. If the required device is displayed in the FLOGI table, the fabric login is successful. Examine the FLOGI database on a switch that is directly connected to the host HBA and connected ports.

Examples

The following example displays details on the FLOGI database.

```
switch# show flogi database
-----
INTERFACE  VSAN    FCID                PORT NAME                NODE NAME
-----
sup-fc0    2       0xb30100           10:00:00:05:30:00:49:63  20:00:00:05:30:00:49:5e
fc9/13     1       0xb200e2           21:00:00:04:cf:27:25:2c  20:00:00:04:cf:27:25:2c
fc9/13     1       0xb200e1           21:00:00:04:cf:4c:18:61  20:00:00:04:cf:4c:18:61
fc9/13     1       0xb200d1           21:00:00:04:cf:4c:18:64  20:00:00:04:cf:4c:18:64
fc9/13     1       0xb200ce           21:00:00:04:cf:4c:16:fb  20:00:00:04:cf:4c:16:fb
fc9/13     1       0xb200cd           21:00:00:04:cf:4c:18:f7  20:00:00:04:cf:4c:18:f7
```

Total number of flogi = 6.

The following example displays the FLOGI interface.

```
switch# show flogi database interface fc 1/11
-----
INTERFACE  VSAN    FCID                PORT NAME                NODE NAME
-----
fc9/13     1       0xa002ef           21:00:00:20:37:18:17:d2  20:00:00:20:37:18:17:d2
fc9/13     1       0xa002e8           21:00:00:20:37:38:a7:c1  20:00:00:20:37:38:a7:c1
fc9/13     1       0xa002e4           21:00:00:20:37:6b:d7:18  20:00:00:20:37:6b:d7:18
fc9/13     1       0xa002e2           21:00:00:20:37:18:d2:45  20:00:00:20:37:18:d2:45
fc9/13     1       0xa002e1           21:00:00:20:37:39:90:6a  20:00:00:20:37:39:90:6a
fc9/13     1       0xa002e0           21:00:00:20:37:36:0b:4d  20:00:00:20:37:36:0b:4d
fc9/13     1       0xa002dc           21:00:00:20:37:5a:5b:27  20:00:00:20:37:5a:5b:27
fc9/13     1       0xa002da           21:00:00:20:37:18:6f:90  20:00:00:20:37:18:6f:90
fc9/13     1       0xa002d9           21:00:00:20:37:5b:cf:b9  20:00:00:20:37:5b:cf:b9
fc9/13     1       0xa002d6           21:00:00:20:37:46:78:97  20:00:00:20:37:46:78:97
```

Total number of flogi = 10.

The following example displays the FLOGI VSAN.

```
switch# show flogi database vsan 1
-----
INTERFACE  VSAN    FCID                PORT NAME                NODE NAME
-----
fc9/13     1       0xef02ef           22:00:00:20:37:18:17:d2  20:00:00:20:37:18:17:d2
fc9/13     1       0xef02e8           22:00:00:20:37:38:a7:c1  20:00:00:20:37:38:a7:c1
fc9/13     1       0xef02e4           22:00:00:20:37:6b:d7:18  20:00:00:20:37:6b:d7:18
fc9/13     1       0xef02e2           22:00:00:20:37:18:d2:45  20:00:00:20:37:18:d2:45
fc9/13     1       0xef02e1           22:00:00:20:37:39:90:6a  20:00:00:20:37:39:90:6a
fc9/13     1       0xef02e0           22:00:00:20:37:36:0b:4d  20:00:00:20:37:36:0b:4d
fc9/13     1       0xef02dc           22:00:00:20:37:5a:5b:27  20:00:00:20:37:5a:5b:27
fc9/13     1       0xef02da           22:00:00:20:37:18:6f:90  20:00:00:20:37:18:6f:90
fc9/13     1       0xef02d9           22:00:00:20:37:5b:cf:b9  20:00:00:20:37:5b:cf:b9
fc9/13     1       0xef02d6           22:00:00:20:37:46:78:97  20:00:00:20:37:46:78:97
```

Total number of flogi = 10.

The following example displays the FLOGI FCID.

```
switch# show flogi database fcid 0xef02e2
-----
INTERFACE  VSAN    FCID                PORT NAME                NODE NAME
-----
```

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```
-----  
fc9/13      1      0xef02e2  22:00:00:20:37:18:d2:45  20:00:00:20:37:18:d2:45  
  
Total number of flogi = 1.
```

Related Commands

Command	Description
show fcns database	Displays all the local and remote name server entries

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show fspf

To display global FSPF information, use the **show fspf** command.

```
show fspf [database vsan vsan-id [detail | domain domain-id detail] | interface | vsan vsan-id
interface [fc slot/port | port-channel port-channel]]
```



Note

On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs as follows:

```
interface {bay port | ext port}
```

Syntax Description

database	Displays the FSPF link state database.
vsan <i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.
detail	Displays detailed FSPF information.
domain <i>domain-id</i>	Specifies the domain of the database. The range is 0 to 255.
interface	Specifies the FSPF interface.
fc <i>slot/port</i>	(Optional) Specifies the Fibre Channel interface to configure by slot and port number on an MDS 9000 Family switch.
bay port ext port	(Optional) Specifies the Fibre Channel interface by bay or by external port on a Cisco Fabric Switch for HP c-Class BladeSystem or on a Cisco Fabric Switch for IBM BladeCenter. The range is 0 to 48.
port-channel <i>port-channel</i>	Specifies the port channel interface. The range is 1 to 256.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

If no other parameters are given, all the LSRs in the database are displayed. If more specific information is required, then the domain number of the owner of the LSR may be given. **Detail** gives more detailed information on each LSR.

Examples

The following example displays FSPF interface information.

```
switch# show fspf interface vsan 1 fc1/1
FSPF interface fc1/1 in VSAN 1
FSPF routing administrative state is active
Interface cost is 500
```


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```
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is FULL
Neighbor Domain Id is 0x0c(12), Neighbor Interface index is 0x0f100000
```

```
Statistics counters :
  Number of packets received : LSU 8 LSA 8 Hello 118 Error packets 0
  Number of packets transmitted : LSU 8 LSA 8 Hello 119 Retransmitted LSU
  0
  Number of times inactivity timer expired for the interface = 0
```

The following example displays FSPF database information.

```
switch# show fspf database vsan 1

FSPF Link State Database for VSAN 1 Domain 0x0c(12)
LSR Type = 1
Advertising domain ID = 0x0c(12)
LSR Age = 1686
LSR Incarnation number = 0x80000024
LSR Checksum = 0x3caf
Number of links = 2
  NbrDomainId      IfIndex  NbrIfIndex  Link Type      Cost
-----
  0x65(101) 0x0000100e  0x00001081      1             500
  0x65(101) 0x0000100f  0x00001080      1             500

FSPF Link State Database for VSAN 1 Domain 0x65(101)
LSR Type = 1
Advertising domain ID = 0x65(101)
LSR Age = 1685
LSR Incarnation number = 0x80000028
LSR Checksum = 0x8443
Number of links = 6
  NbrDomainId      IfIndex  NbrIfIndex  Link Type      Cost
-----
  0xc3(195) 0x00001085  0x00001095      1             500
  0xc3(195) 0x00001086  0x00001096      1             500
  0xc3(195) 0x00001087  0x00001097      1             500
  0xc3(195) 0x00001084  0x00001094      1             500
  0x0c(12) 0x00001081  0x0000100e      1             500
  0x0c(12) 0x00001080  0x0000100f      1             500

FSPF Link State Database for VSAN 1 Domain 0xc3(195)
LSR Type = 1
Advertising domain ID = 0xc3(195)
LSR Age = 1686
LSR Incarnation number = 0x80000033
LSR Checksum = 0x6799
Number of links = 4
  NbrDomainId      IfIndex  NbrIfIndex  Link Type      Cost
-----
  0x65(101) 0x00001095  0x00001085      1             500
  0x65(101) 0x00001096  0x00001086      1             500
  0x65(101) 0x00001097  0x00001087      1             500
  0x65(101) 0x00001094  0x00001084      1             500
```

This command displays FSPF information for a specified VSAN.

```
switch# show fspf vsan 1
FSPF routing for VSAN 1
FSPF routing administration status is enabled
FSPF routing operational status is UP
It is an intra-domain router
Autonomous region is 0
```

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```
SPF hold time is 0 msec
MinLsArrival = 1000 msec , MinLsInterval = 5000 msec
Local Domain is 0x65(101)
Number of LSRs = 3, Total Checksum = 0x0001288b

Protocol constants :
  LS_REFRESH_TIME = 1800 sec
  MAX_AGE          = 3600 sec

Statistics counters :
  Number of LSR that reached MaxAge = 0
  Number of SPF computations         = 7
  Number of Checksum Errors          = 0
  Number of Transmitted packets :   LSU 65 LSA 55 Hello 474 Retranmsitted LSU 0
  Number of received packets :     LSU 55 LSA 60 Hello 464 Error packets 10
```

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show hardware

To display switch hardware inventory details, use the **show hardware** command.

show hardware [ipc-channel status]

Syntax Description	ipc-channel status	Displays the status of the interprocess communication (IPC) channels.
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	1.2(1)	This command was introduced.
Usage Guidelines	None.	

Examples

The following example displays the switch hardware inventory details.

```
switch# show hardware
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2006, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
Some parts of this software may be covered under the GNU Public
License or the GNU Lesser General Public License. A copy of
each such license is available at
http://www.gnu.org/licenses/gpl.html and
http://www.gnu.org/licenses/lgpl.html

Software
  BIOS:      version 1.1.0
  loader:    version 1.2(2)
  kickstart: version 3.0(3) [gdb]
  system:    version 3.0(3) [gdb]

  BIOS compile time:      10/24/03
  kickstart image file is: bootflash:///boot-3.0.3
  kickstart compile time: 9/15/2006 10:00:00 [10/02/2006 06:26:25]
  system image file is:   bootflash:///isan-3.0.3
  system compile time:    9/15/2006 10:00:00 [10/02/2006 06:45:25]

Hardware
  cisco MDS 9509 ("Supervisor/Fabric-1")
  Intel(R) Pentium(R) III CPU with 1028604 kB of memory.
```

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```

bootflash: 251904 kB
slot0:      251904 kB

172.22.31.238 kernel uptime is 0 days 0 hour 2 minute(s) 25 second(s)

Last reset at 744021 usecs after Tue Oct 21 14:55:11 1980
Reason: Reset Requested by CLI command reload
System version: 4.0(0.432)
Service:

-----
Switch hardware ID information
-----

MDS Switch is booted up
Switch type is "MDS 9 Slot Chassis"
Model number is DS-C9509
H/W version is 256.0
Part Number is 73-8014-02
Part Revision is 328
Manufacture Date is Year 6 Week 35
Serial number is FOX06350KW1
CLEI code is

-----
Chassis has 9 slots for Modules
-----

Module in slot 1 is other
Module type is "2x1GE IPS, 14x1/2Gbps FC Module"
2 submodules are present
RAM size is 0 (kb)
Model number is DS-X9216-K9-SUP
H/W version is 0.201
Part Number is 73-9633-02
Part Revision is 02
Manufacture Date is Year 8 Week 16
Serial number is JAB081605A7
CLEI code is 0000000000

Module in slot 2 is other
Module type is "2x1GE IPS, 14x1/2Gbps FC Module"
2 submodules are present
RAM size is 0 (kb)
Model number is DS-X9302-14K9
H/W version is 0.202
Part Number is 73-9275-02
Part Revision is 02
Manufacture Date is Year 8 Week 16
Serial number is JAB081605A4
CLEI code is 0000000000

Module in slot 3 is empty

Module in slot 4 is empty

Module in slot 5 is other
Module type is "Supervisor/Fabric-1"
No submodules are present
Skipping image download due to linecard parameter.
Model number is
H/W version is 0.0
Part Number is
Part Revision is

```

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```

Manufacture Date is Year 0 Week 0
Serial number is
CLEI code is

```

```

Module in slot 6 is ok
Module type is "Supervisor/Fabric-1"
No submodules are present
Model number is DS-X9530-SF1-K9
H/W version is 0.0
Part Number is 73-7523-06
Part Revision is
Manufacture Date is Year 0 Week 0
Serial number is
CLEI code is

```

```

Module in slot 7 is empty

```

```

Module in slot 8 is empty

```

```

Module in slot 9 is empty

```

```

-----
Chassis has 2 Slots for Power Supplies
-----

```

```

PS in slot A is ok
Power supply type is "2331.00W 220v AC"
Model number is DS-CAC-2500W
H/W version is 1.0
Part Number is 341-0061-01
Part Revision is A0
Manufacture Date is Year 5 Week 51
Serial number is ART055100K2
CLEI code is

```

```

PS in slot B is empty

```

```

-----
Chassis has 1 slot for Fan Module
-----

```

```

Fan module is ok
Model number is DS-
H/W version is 0.0
Part Number is 00 (000$0
Part Revision is
Manufacture Date is Year 0 Week 0
Serial number is
CLEI code is

```

Displays the status of the IPC channel.

```

switch# show hardware ipc-channel status
Active IPC-Channel:          A

```

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show hosts

To display DNS host configuration details, use the **show hosts** command.

show hosts

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the configured hosts including the default domain, domain list, and name servers.

```
switch# show hosts
Default domain is cisco.com
Domain list: ucsc.edu harvard.edu yale.edu stanford.edu
Name/address lookup uses domain service
Name servers are 15.1.0.1 15.2.0.0
```

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show incompatibility system

To display the High Availability compatibility status between the current system image on both supervisors and the new system image to be installed on both supervisors, use the **show incompatibility system** command.

show incompatibility system [**bootflash:** | **slot0:** | **volatile:**] *image-filename*

Syntax Description	
<i>bootflash:</i>	Source or destination location for internal bootflash memory
<i>slot0:</i>	Source or destination location for the CompactFlash memory or PCMCIA card.
<i>volatile:</i>	Source or destination location for the volatile directory.
<i>image-filename</i>	Specifies the name of the system image.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.2(1)	This command was introduced.
	3.0(1)	Provided an example to show that the command output provides the commands needed to disable incompatible features.

Usage Guidelines If the High Availability compatibility is `strict` then the upgrade to that image will be disruptive for both supervisors.

If the High Availability compatibility is `loose`, the synchronization may happen without errors, but some resources may become unusable when a switchover happens.

Examples The following examples display kernel core settings.

```
switch# show incompatibility system bootflash:old-image-y
The following configurations on active are incompatible with the system image
1) Feature Index : 67 , Capability : CAP_FEATURE_SPAN_FC_TUNNEL_CFG
Description : SPAN - Remote SPAN feature using fc-tunnels
Capability requirement : STRICT
2) Feature Index : 119 , Capability : CAP_FEATURE_FC_TUNNEL_CFG
Description : fc-tunnel is enabled
Capability requirement : STRICT
```

The following example shows commands needed to disable incompatible features.

```
switch# show incompatibility system bootflash:m9200-ek9-mz.1.3.4b.bin
The following configurations on active are incompatible with the system image
1) Service : cfs , Capability : CAP_FEATURE_CFS_ENABLED_DEVICE_ALIAS
Description : CFS - Distribution is enabled for DEVICE-ALIAS
Capability requirement : STRICT
```

■ show incompatibility system

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Disable command : no device-alias distribute

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show install all failure-reason

To identify the cause of a nondisruptive software upgrade failure, use the **show install all failure-reason** command when prompted by the system.

show install all failure-reason

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.1(1)	This command was introduced.

Usage Guidelines If an upgrade failure is due to some other cause, nothing is displayed when you enter the command. This command displays a valid output only if a service aborts an upgrade and a message instructing you to issue this command is returned to the CLI.

Examples The following example displays the output during an unsuccessful nondisruptive software upgrade, and it shows the reason for the failure.

```
Do you want to continue with the installation (y/n)? [n] y

Install is in progress, please wait.

Notifying services about the upgrade.
[#           ] 0% -- FAIL. Return code 0x401E0066 (request timed out).

Please issue "show install all failure-reason" to find the cause of the failure.

Install has failed. Return code 0x401E0066 (request timed out).
Please identify the cause of the failure, and try 'install all' again.

switch# show install all failure-reason
Service: "cfs" failed to respond within the given time period.
switch#
```

Related Commands	Command	Description
	show install all status	Displays the status of an installation or ISSU.

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show install all impact

To display the software compatibility matrix of a specific image, use the **show install all impact** command.

```
show install all impact [asm-sfn image-filename] [kickstart image-filename] [ssi image-filename]
[system image-filename]
```

Syntax Description		
asm-sfn		Specifies the ASM SFN boot variable.
<i>image-filename</i>		Specifies the name of an image.
kickstart		Specifies the kickstart boot variable.
ssi		Specifies the SSI boot variable.
system		Specifies the system boot variable.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.2(1)	This command was introduced.

Usage Guidelines None.

Examples Use the **show install all impact** command to view the effect of updating the system from the running image to another specified image.

```
switch# show install all impact

Verifying image bootflash:/ilc1.bin
[#####] 100% -- SUCCESS

Verifying image bootflash:/vk73a
[#####] 100% -- SUCCESS

Verifying image bootflash:/vs73a
[#####] 100% -- SUCCESS

Extracting "slc" version from image bootflash:/vs73a.
[#####] 100% -- SUCCESS

Extracting "slc" version from image bootflash:/vs73a.
[#####] 100% -- SUCCESS

Extracting "system" version from image bootflash:/vs73a.
[#####] 100% -- SUCCESS
```

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```
Extracting "kickstart" version from image bootflash:/vk73a.
[#####] 100% -- SUCCESS
```

```
Extracting "loader" version from image bootflash:/vk73a.
[#####] 100% -- SUCCESS
```

```
Extracting "slc" version from image bootflash:/vs73a.
[#####] 100% -- SUCCESS
```

Compatibility check is done:

Module	bootable	Impact	Install-type	Reason
2	yes	non-disruptive	none	
4	yes	non-disruptive	none	
6	yes	non-disruptive	none	
9	yes	non-disruptive	none	

Images will be upgraded according to following table:

Module	Image	Running-Version	New-Version	Upg-Required
2	slc	1.2(1)	1.2(1)	no
2	bios	v1.0.7(03/20/03)	v1.0.7(03/20/03)	no
4	slc	1.2(1)	1.2(1)	no
4	ilce	1.2(1)	1.2(1)	no
4	bios	v1.0.7(03/20/03)	v1.0.7(03/20/03)	no
6	system	1.2(1)	1.2(1)	no
6	kickstart	1.2(1)	1.2(1)	no
6	bios	v1.0.7(03/20/03)	v1.0.7(03/20/03)	no
6	loader	1.0(3a)	1.0(3a)	no
9	slc	1.2(1)	1.2(1)	no
9	bios	v1.0.7(03/20/03)	v1.0.7(03/20/03)	no

The following command displays the error message that is displayed if a wrong image is provided.

```
switch# show install all impact system bootflash:
```

```
Compatibility check failed. Return code 0x40930003 (Invalid bootvar specified in the input).
```

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show install all status

To display the on-going **install all** command status or the log of the last installed **install all** command from a Console, SSH, or Telnet session, use the **show install all status** command.

show install all status

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.

Usage Guidelines This command only displays the status of an **install all** command that is issued from the CLI, not the Fabric Manager.

The **show install all status** command also displays the status of nondisruptive software upgrades on the Cisco MDS 9124 Fabric Switch (after the switch has rebooted and comes up with the new image). Actions that occurred before the reboot are not displayed in the output. So, if you issue the **install all** command via a telnet session, the telnet session will be disconnected when the switch reboots. After you reconnect to the switch using telnet, the upgrade may already be complete; in this case, the **show install all status** command will display the status of the upgrade.

Examples Use the **show install all status** command to view the output of a **install all** command process.

```
switch# show install all status
There is an on-going installation... <----- in progress installation
Enter Ctrl-C to go back to the prompt.

Verifying image bootflash:/b-1.3.0.104
-- SUCCESS

Verifying image bootflash:/i-1.3.0.104
-- SUCCESS

Extracting "system" version from image bootflash:/i-1.3.0.104.
-- SUCCESS

Extracting "kickstart" version from image bootflash:/b-1.3.0.104.
-- SUCCESS
```

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```
Extracting "loader" version from image bootflash:/b-1.3.0.104.  
-- SUCCESS
```

```
switch# show install all status  
This is the log of last installation.          <<<<<< log of last install
```

```
Verifying image bootflash:/b-1.3.0.104  
-- SUCCESS
```

```
Verifying image bootflash:/i-1.3.0.104  
-- SUCCESS
```

```
Extracting "system" version from image bootflash:/i-1.3.0.104.  
-- SUCCESS
```

```
Extracting "kickstart" version from image bootflash:/b-1.3.0.104.  
-- SUCCESS
```

```
Extracting "loader" version from image bootflash:/b-1.3.0.104.  
-- SUCCESS
```

Use the **show install all status** command to view the output of a nondisruptive software upgrade process on the Cisco MDS 9124 Fabric Switch.

```
switch# show install all status  
This is the log of last installation.
```

```
Continuing with installation process, please wait.  
The login will be disabled until the installation is completed.
```

```
Status for linecard upgrade.  
-- SUCCESS
```

```
Performing supervisor state verification.  
-- SUCCESS
```

```
Install has been successful.
```

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show in-order-guarantee

To display the present configured state of the in-order delivery feature, use the **show in-order-guarantee** command.

show in-order-guarantee

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(4)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the present configuration status of the in-order delivery feature.

```
switch# show in-order-guarantee
global inorder delivery configuration:guaranteed

VSAN specific settings
vsan 1 inorder delivery:guaranteed
vsan 101 inorder delivery:not guaranteed
vsan 1000 inorder delivery:guaranteed
vsan 1001 inorder delivery:guaranteed
vsan 1682 inorder delivery:guaranteed
vsan 2001 inorder delivery:guaranteed
vsan 2009 inorder delivery:guaranteed
vsan 2456 inorder delivery:guaranteed
vsan 3277 inorder delivery:guaranteed
vsan 3451 inorder delivery:guaranteed
vsan 3452 inorder delivery:guaranteed
vsan 3453 inorder delivery:guaranteed
```

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show interface

You can check the status of an interface at any time by using the **show interface** command.

```
show interface [interface-range] [bbcredit | brief | capabilities | counters [brief] | description |
transceiver [calibrations | details] | trunk vsan [vsan-id]]
```

Syntax Description

<i>interface-range</i>	Displays the type of interface.
bbcredit	Displays buffer-to-buffer credit information.
brief	Displays brief information.
capabilities	Displays hardware port capabilities for a specified interface.
counters	Displays the interface counter information.
description	Displays the interface description.
transceiver	Displays the transceiver information for a specified interface.
calibrations	Displays transceiver calibration information for the specified interface.
details	Displays detailed transceiver diagnostics information for the specified interface.
trunk vsan	Displays the trunking status of all VSANs.
<i>vsan-id</i>	Displays the trunking status of the specified VSANs. The range is 1 to 4093.

Defaults

Displays information for all interfaces on the switch.

Command Modes

EXEC

Command History

Release	Modification
1.0(2)	This command was introduced.
1.3(1)	Added the bbcredit keyword and support for cpp and fv interfaces.
3.0(1)	Added the capabilities option for Fibre Channel interfaces.
3.1(2)	Added the bay ext interface.

Usage Guidelines

You can specify a range of interfaces by issuing a command with the following example format:

```
interface fc1/1 - 5 , fc2/5 - 7
```

The spaces are required before and after the dash (-) and before and after the comma (,).

The **show interface** *interface-type slot/port transceiver* command can only be issued on a switch in the Cisco MDS 9100 Series if the SFP is present.

Table 22-5 lists the interface types supported by the **show interface** command.

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Table 22-5 Interface Types for the show interface Command

Interface Type	Description
<i>bay port ext port</i>	Displays information for a Fibre Channel interface on a Cisco Fabric Switch for HP c-Class BladeSystem or a Cisco Fabric Switch for IBM BladeCenter.
<i>cpp slot/port</i>	Displays information for a virtualization interface.
<i>fc slot/port</i>	Displays the Fibre Channel interface in the specified slot/port.
<i>fc-tunnel tunnel-id</i>	Displays description of the specified FC tunnel from 1 to 4095.
fcip <i>interface-number</i>	Specifies a FCIP interface. The range is 1 to 255.
fv <i>slot/dpp-number/fv-port</i>	Displays information for the virtual F port (FV port) interface in the specified slot along with the data path processor (DPP) number and the FV port number.
<i>gigabitethernet slot/port</i>	Displays information for a Gigabit Ethernet interface at the specified slot and port.
<i>gigabitethernet slot/port. subinterface-number</i>	Displays information for a Gigabit Ethernet subinterface at the specified slot and port followed by a dot (.) indicator and the subinterface number. The subinterface range is 1 to 4093.
<i>iscsi slot/port</i>	Displays the description of the iSCSI interface in the specified slot and port.
<i>mgmt 0</i>	Displays the description of the management interface.
<i>port-channel port-channel-number</i>	Displays the PortChannel interface specified by the PortChannel number. The range is 1 to 128.
<i>port-channel port-channel-number .subinterface-number</i>	Displays the PortChannel subinterface specified by the PortChannel number followed by a dot (.) indicator and the subinterface number. The port channel number range is 1 to 128. The subinterface range is 1 to 4093.
<i>sup-fc 0</i>	Displays the in-band interface details.
<i>vsan vsan-id</i>	Displays information for a VSAN. The range is 1 to 4093.

Examples

The following example shows how to display information about a Fibre Channel interface.

```
switch# show interface fc1/11
fc1/11 is up
  Hardware is Fibre Channel
  Port WWN is 20:0b:00:05:30:00:59:de
  Admin port mode is ST
  Port mode is ST
  Port vsan is 1
  Speed is 1 Gbps
  Rspan tunnel is fc-tunnel 100
  Beacon is turned off
  5 minutes input rate 248 bits/sec, 31 bytes/sec, 0 frames/sec
  5 minutes output rate 176 bits/sec, 22 bytes/sec, 0 frames/sec
    6862 frames input, 444232 bytes
      0 discards, 0 errors
      0 CRC, 0 unknown class
      0 too long, 0 too short
    6862 frames output, 307072 bytes
```


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```

    0 discards, 0 errors
    0 input OLS, 0 LRR, 0 NOS, 0 loop inits
    0 output OLS, 0 LRR, 0 NOS, 0 loop inits
16 receive B2B credit remaining
    3 transmit B2B credit remaining.

```

The following example shows how to display information about the in-band interface.

```

switch# show interface sup-fc0
sup-fc0 is up
  Hardware is FastEthernet, address is 0000.0000.0000
  MTU 2596 bytes, BW 1000000 Kbit
  66 packets input, 7316 bytes
  Received 0 multicast frames, 0 compressed
  0 input errors, 0 frame, 0 overrun 0 fifo
  64 packets output, 28068 bytes, 0 underruns
  0 output errors, 0 collisions, 0 fifo
  0 carrier errors

```

The following example shows how to display information about a VSAN interface.

```

switch# show interface vsan 2
vsan2 is up, line protocol is up
  WWPN is 10:00:00:05:30:00:59:1f, FCID is 0xb90100
  Internet address is 10.1.1.1/24
  MTU 1500 bytes, BW 1000000 Kbit
  0 packets input, 0 bytes, 0 errors, 0 multicast
  0 packets output, 0 bytes, 0 errors, 0 dropped

```

The following example shows how to display description information for all interfaces.

```

switch# show interface description
fc1/1
  no description
fc1/2
  no description
fc1/15
fcAn1

sup-fc0 is up

mgmt0 is up

vsan1 - IPFC interface

port-channel 15
no description

port-channel 98
no description

```

The following example shows how to display brief information for a range of interfaces.

```

switch# show interface fc2/1 - 5 brief
-----
Interface Vsan    Admin  Admin  Status           Oper  Oper  Port-channel
          Mode   Trunk  Mode                    Mode Speed  (Gbps)
-----
fc1/1     1      auto  on    down             --   --   --
fc1/2     1      auto  on    fcotAbsent      --   --   --
fc1/3     1      F     --    notConnected    --   --   --
fc1/4     1      auto  on    fcotAbsent      --   --   --
fc1/5     1      F     --    up               F    2    --
fc1/6     1      auto  on    fcotAbsent      --   --   --

```

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```

fc1/7      1      auto  on    down      --  --  --
fc1/8      1      auto  on    fcotAbsent --  --  --
fc1/9      1      auto  on    fcotAbsent --  --  --
fc1/10     1      auto  on    fcotAbsent --  --  --
fc1/11     1      auto  on    down      --  --  --
fc1/12     1      auto  on    fcotAbsent --  --  --
fc1/13     1      auto  on    down      --  --  --
fc1/14     1      auto  on    fcotAbsent --  --  --
fc1/15     1      auto  on    down      --  --  --
fc1/16     1      auto  on    fcotAbsent --  --  --
-----
Interface          Status  IP Address          Speed      MTU
-----
sup-fc0            up      --                  1 Gbps    2596
-----
Interface          Status  IP Address          Speed      MTU
-----
mgmt0              up      173.95.112/24      100 Mbps  1500
-----
Interface          Status  IP Address          Speed      MTU
-----
vsan1              up      10.1.1.1/24        1 Gbps    1500

```

The following example shows how to display counter information for a FCIP interface.

```

switch# show interface fcip 3 counters
fcip3
  TCP Connection Information
    2 Active TCP connections
      Control connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65532
      Data connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65534
    30 Attempts for active connections, 0 close of connections
  TCP Parameters
    Path MTU 1500 bytes
    Current retransmission timeout is 300 ms
    Round trip time: Smoothed 10 ms, Variance: 5
    Advertised window: Current: 122 KB, Maximum: 122 KB, Scale: 1
    Peer receive window: Current: 114 KB, Maximum: 114 KB, Scale: 1
    Congestion window: Current: 2 KB, Slow start threshold: 1048560 KB
    5 minutes input rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
    5 minutes output rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
    910 frames input, 84652 bytes
      910 Class F frames input, 84652 bytes
      0 Class 2/3 frames input, 0 bytes
      0 Error frames timestamp error 0
    908 frames output, 84096 bytes
      908 Class F frames output, 84096 bytes
      0 Class 2/3 frames output, 0 bytes
      0 Error frames 0 reass frames

```

The following example shows how to display counter information for all interfaces.

```

switch# show interface counters brief
-----
Interface          Input (rate is 5 min avg)      Output (rate is 5 min avg)
-----
Rate              Total                          Rate              Total
MB/s              Frames                          MB/s              Frames
-----
fc9/1              0          0          0          0
fc9/2              0          0          0          0
fc9/3              0          0          0          0
fc9/4              0          0          0          0

```

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```

...
-----
Interface                Input (rate is 5 min avg)      Output (rate is 5 min avg)
-----
                        Rate      Total                Rate      Total
                        MB/s     Frames              MB/s     Frames
-----
iscsi4/1                 0         0                    0         0
iscsi4/2                 0         0                    0         0
iscsi4/3                 0         0                    0         0
iscsi4/4                 0         0                    0         0
...
vsan10 is up, line protocol is up
  WWPN is 10:00:00:05:30:00:07:23, FCID is 0xee0001
  Internet address is 10.1.1.5/24
  MTU 1500 bytes, BW 1000000 Kbit
  0 packets input, 0 bytes, 0 errors, 0 multicast
  0 packets output, 0 bytes, 0 errors, 0 dropped
-----
Interface                Input (rate is 5 min avg)      Output (rate is 5 min avg)
-----
                        Rate      Total                Rate      Total
                        MB/s     Frames              MB/s     Frames
-----
port-channel 100        0         0                    0         0
-----
Interface                Input (rate is 5 min avg)      Output (rate is 5 min avg)
-----
                        Rate      Total                Rate      Total
                        Mbits/s  Frames             Mbits/s  Frames
-----
fcip2                   0         0                    0         0
fcip3                   9         0                    9         0

fcip6                   8         0                    8         0
fcip7                   8         0                    8         0

```

The following example shows how to display information about a FCIP interface.

```

switch# show interface fcip 3
fcip3 is trunking
  Hardware is GigabitEthernet
  Port WWN is 20:ca:00:05:30:00:07:1e
  Peer port WWN is 20:ca:00:00:53:00:18:1e
  Admin port mode is auto, trunk mode is on
  Port mode is TE
  vsan is 1
  Trunk vsans (allowed active) (1,10)
  Trunk vsans (operational) (1)
  Trunk vsans (up) (1)
  Trunk vsans (isolated) (10)
  Trunk vsans (initializing) ()
  Using Profile id 3 (interface GigabitEthernet4/3)
  Peer Information
    Peer Internet address is 43.1.1.1 and port is 3225
    Special Frame is disabled
  Maximum number of TCP connections is 2
  Time Stamp is disabled
  B-port mode disabled
  TCP Connection Information

```

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```

2 Active TCP connections
  Control connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65532
  Data connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65534
30 Attempts for active connections, 0 close of connections
TCP Parameters
  Path MTU 1500 bytes
  Current retransmission timeout is 300 ms
  Round trip time: Smoothed 10 ms, Variance: 5
  Advertised window: Current: 122 KB, Maximum: 122 KB, Scale: 1
  Peer receive window: Current: 114 KB, Maximum: 114 KB, Scale: 1
  Congestion window: Current: 2 KB, Slow start threshold: 1048560 KB
5 minutes input rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
5 minutes output rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
866 frames input, 80604 bytes
  866 Class F frames input, 80604 bytes
  0 Class 2/3 frames input, 0 bytes
  0 Error frames timestamp error 0
864 frames output, 80048 bytes
  864 Class F frames output, 80048 bytes
  0 Class 2/3 frames output, 0 bytes
  0 Error frames 0 reass frames
16 receive B2B credit remaining
3 transmit B2B credit remaining.

```

The following example shows how to display information about a Gigabit Ethernet interface.

```

switch# show interface gigabitethernet 4/1
GigabitEthernet4/1 is up
  Hardware is GigabitEthernet, address is 0005.3000.2e12
  Internet address is 100.1.1.2/24
  MTU 1500 bytes, BW 1000000 Kbit
  Port mode is IPS
  Speed is 1 Gbps
  Beacon is turned off
  5 minutes input rate 32 bits/sec, 4 bytes/sec, 0 frames/sec
  5 minutes output rate 88 bits/sec, 11 bytes/sec, 0 frames/sec
  637 packets input, 49950 bytes
    0 multicast frames, 0 compressed
    0 input errors, 0 frame, 0 overrun 0 fifo
  659 packets output, 101474 bytes, 0 underruns
    0 output errors, 0 collisions, 0 fifo
    0 carrier errors

```

The following example shows how to display information about an iSCSI interface.

```

switch# show interface iscsi 2/1
iscsi2/1 is up
  Hardware is GigabitEthernet
  Port WWN is 20:41:00:05:30:00:50:de
  Admin port mode is ISCSI
  Port mode is ISCSI
  Speed is 1 Gbps
  iSCSI initiator is identified by name
  Number of iSCSI session: 7, Number of TCP connection: 7
  Configured TCP parameters
    Local Port is 3260
    PMTU discover is disabled
    Keepalive-timeout is 1 sec
    Minimum-retransmit-time is 300 ms
    Max-retransmissions 8
    Sack is disabled
    Minimum available bandwidth is 0 kbps
    Estimated round trip time is 0 usec
  5 minutes input rate 265184 bits/sec, 33148 bytes/sec, 690 frames/sec

```

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```

5 minutes output rate 375002168 bits/sec, 46875271 bytes/sec, 33833 frames/sec
iSCSI statistics
  6202235 packets input, 299732864 bytes
    Command 6189718 pdus, Data-out 1937 pdus, 1983488 bytes, 0 fragments
  146738794 packets output, 196613551108 bytes
    Response 6184282 pdus (with sense 4), R2T 547 pdus
    Data-in 140543388 pdus, 189570075420 bytes

```

The following example shows how to display transceiver information for a Fibre Channel interface.

```

switch# show interface fc2/5 transceiver
fc2/5 fcot is present
  name is CISCO-INFINEON
  part number is V23848-M305-C56C
  revision is A3
  serial number is 30000474
  fc-transmitter type is short wave laser
  cisco extended id is unknown (0x0)

```

The following example shows how to display information about a Fibre Channel tunnel interface.

```

switch# show interface fc-tunnel 200
fc-tunnel 200 is up
Dest   IP Addr: 200.200.200.7   Tunnel ID: 200
Source IP Addr: 200.200.200.4   LSP ID: 1
Explicit Path Name:

```

The following example shows how to display hardware port information for a Fibre Channel interface.

```

switch# show interface fc1/24 capabilities
Min Speed is 1 Gbps
Max Speed is 4 Gbps
FC-PH Version (high, low)                (0,6)
Receive data field size (max/min)         (2112/256) bytes
Transmit data field size (max/min)        (2112/128) bytes
Classes of Service supported are          Class 2, Class 3, Class F
Class 2 sequential delivery               supported
Class 3 sequential delivery               supported
Hold time (max/min)                       (100/1) micro sec
BB state change notification              supported
Maximum BB state change notifications     14
Rate Mode change                          supported

Rate Mode Capabilities                    Shared      Dedicated
Receive BB Credit modification supported  yes         yes
FX mode Receive BB Credit (min/max/default) (0/0/0)    (1/60/16)
ISL mode Receive BB Credit (min/max/default) --      (2/60/16)
Performace buffer modification supported  no          no

Out of Service capable                     yes
Beacon mode configurable                   yes

```

The following example shows how to display information about a Fibre Channel interface on a Cisco Fabric Switch for HP c-Class BladeSystem.

```

switch# show interface bay 11
bay11 is down (Externally Disabled)

  Hardware is Fibre Channel

  Port WWN is 20:0c:00:05:30:01:f9:f2

  Admin port mode is auto, trunk mode is on

  snmp link state traps are enabled

```

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```
Port vsan is 1
Receive data field Size is 2112
Beacon is turned off
5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
 0 frames input, 0 bytes
  0 discards, 0 errors
  0 CRC,  0 unknown class
  0 too long, 0 too short
0 frames output, 0 bytes
  0 discards, 0 errors
0 input OLS, 0 LRR, 0 NOS, 0 loop inits
0 output OLS, 0 LRR, 0 NOS, 0 loop inits
```

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show interface sme

To display the information about Cisco SME interface, use the **show interface sme** command.

```
show interface sme slot/port {brief | counters | description}
```

Syntax Description	slot	Identifies the number of the MPS-18/4 module slot.
	port	Identifies the number of the Cisco SME port.
	brief	Displays the brief information about Cisco SME interface.
	counters	Displays the interface counters.
	description	Displays the description of the interface.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.2(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the brief description of the Cisco SME interface:

```
switch# show interface sme 3/1 brief
```

```
-----
Interface      Status      Cluster
-----
sme3/1         up          c2
```

The following example displays the counters of the interface:

```
switch# show interface sme 3/1 description
sme3/1
 5 minutes input rate 0 bits/sec, 0 bytes/sec, 0.00 KB/sec
 5 minutes output rate 0 bits/sec, 0 bytes/sec, 0.00 KB/sec
SME statistics
  input 0 bytes, 5 second rate 0 bytes/sec, 0.00 KB/sec
  clear 0 bytes, encrypt 0 bytes, decrypt 0
  compress 0 bytes, decompress 0 bytes
  output 0 bytes, 5 second rate 0 bytes/sec, 0.00 KB/sec
  clear 0 bytes, encrypt 0 bytes, decrypt 0
  compress 0 bytes, decompress 0 bytes
  compression ratio 0:0
  flows 0 encrypt, 0 clear
```

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```
clear luns 0, encrypted luns 0
errors
  0 CTH, 0 authentication
  0 key generation, 0 incorrect read
  0 incompressible, 0 bad target responses
```

Related Commands	Command	Description
	interface sme	Configures Cisco SME interface on the switch.

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show interface transceiver

To display the SFP and X2 digital monitoring information for a transceiver, use the **show interface transceiver details** command.

show interface *fc-id* transceiver details

Syntax Description	Interface <i>fc-id</i> Specifies the fiber channel interface ID.				
Defaults	None.				
Command Modes	Exec mode				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>3.0</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	3.0	This command was introduced.
Release	Modification				
3.0	This command was introduced.				

Usage Guidelines This command displays the attributes of a transceiver such as, the vendor, the kind of laser it emits and receives, compatible fiber optic cable, distances supported, vendor's firmware revision, faults the unit experienced since the last insertion or since the last linecard boot (whichever is the latest) and, the diagnostics information (if supported by the unit)

Examples The following example displays the SFP digital monitoring information for a transceiver (DOM unsupported SFP).

```
switch#show interface fc4/1 transceiver details
fc4/1 sfp is present
  name is CISCO-FINISAR
  part number is FTRJ8519P1BNL-C1
  revision is A
  serial number is FNS0838B0CX
  fc-transmitter type is short wave laser w/o OFC (SN)
  fc-transmitter supports intermediate distance link length
  media type is multi-mode, 62.5m (M6)
  Supported speed is 200 MBytes/sec
  Nominal bit rate is 2100 Mbits/sec
  Link length supported for 50/125mm fiber is 500 m(s)
  Link length supported for 62.5/125mm fiber is 300 m(s)
  cisco extended id is unknown (0x0)

no tx fault, rx loss, no sync exists, Diag mon type 136
Digital diagnostics feature not supported in SFP
```

The following example displays the X2 digital monitoring information for a transceiver.

```
switch# show interface fc1/1 transceiver details
fc1/1 sfp is present
  name is CISCO
  part number is FTLX8541E2-C1
```

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```

revision is C
serial number is FNS11151B0V
FC Transceiver Type is X2 Medium
FC Connector Type is SC
Bit Encoding is NRZ
Protocol Type is 10GbE
Standards Compliance Codes :
10GbE Code Byte 0 : 10GBASE-SR
Fiber type Byte 0 : MM-Generic
Fiber type Byte 1 : Unspecified
Transmission Range is 30 (in 10m increments)
cisco extended id is Unknown (0x0)

no tx fault, rx loss, no sync exists, Diag mon type 193
SFP Detail Diagnostics Information

```

```

-----
                Alarms                Warnings
                High                   Low                   High                   Low
-----
Temperature  41.35 C                74.00 C                -4.00 C                70.00 C                0.00 C
Voltage      0.00 V                  0.00 V                  0.00 V                  0.00 V                  0.00 V
Current      8.10 mA                  12.00 mA                 4.00 mA                 11.00 mA                 5.00 mA
Tx Power     -2.58 dBm                       3.00 dBm                -11.30 dBm              -1.00 dBm              -7.30 dBm
Rx Power     -28.54 dBm --                   3.00 dBm                -13.90 dBm              -1.00 dBm              -9.90 dBm
Transmit Fault Count = 7
-----

```

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

Related Commands

Command	Description
show interface	Displays the status of an interface.

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show inventory

To display the system hardware inventory, use the **show inventory** command.

show inventory

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines This command displays information about the field replaceable units (FRUs) in the switch, including product IDs, serial numbers, and version IDs.

Examples The following example displays the system inventory information.

```
switch# show inventory
NAME: "Chassis", DESCR: "MDS 9506 chassis"
PID: DS-C9506 , VID: 0.1, SN: FOX0712S007

NAME: "Slot 1", DESCR: "2x1GE IPS, 14x1/2Gbps FC Module"
PID: DS-X9302-14K9 , VID: 0.301, SN: JAB083100JY

NAME: "Slot 5", DESCR: "Supervisor/Fabric-1"
PID: DS-X9530-SF1-K9 , VID: 0.0, SN: JAB0747080H

NAME: "Slot 6", DESCR: "Supervisor/Fabric-1"
PID: DS-X9530-SF1-K9 , VID: 4.0, SN: JAB074004VE

NAME: "Slot 17", DESCR: "MDS 9506 Power Supply"
PID: DS-CAC-1900W , VID: 1.0, SN: DCA0702601V

NAME: "Slot 18", DESCR: "MDS 9506 Power Supply"
PID: DS-CAC-1900W , VID: 1.0, SN: DCA0702601U

NAME: "Slot 19", DESCR: "MDS 9506 Fan Module"
PID: DS-6SLOT-FAN , VID: 0.1, SN: FOX0638S150
```

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show ip access-list

To display the IP access control lists (IP-ACLs) currently active, use the **show ip access-list** command.

```
show ip access-list [list-number | usage]
```

Syntax Description		
	ip access-list	Displays the information for all IP-ACLs.
	list-number	Specifies the IP-ACL. The range is 1 to 256.
	usage	Specifies the interface type.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays configured IP-ACLs.

```
switch# show ip access-list usage
Access List Name/Number      Filters IF   Status      Creation Time
-----
abc                          3          7    active     Tue Jun 24 17:51:40 2003
x1                            3          1    active     Tue Jun 24 18:32:25 2003
x3                            0          1    not-ready  Tue Jun 24 18:32:28 2003
```

The following example displays a summary of the specified IP-ACL

```
switch# show ip access-list abc
ip access-list abc permit tcp any any (0 matches)
ip access-list abc permit udp any any (0 matches)
ip access-list abc permit icmp any any (0 matches)
ip access-list abc permit ip 10.1.1.0 0.0.0.255 (2 matches)
ip access-list abc permit ip 10.3.70.0 0.0.0.255 (7 matches)
```

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show ip arp

To display IP neighbors for the system, use the **show ip arp** command.

```
show ip arp [interface {cpp module-number | gigabitethernet slot/port | mgmt | vsan vsan-id}]
```

Syntax Description		
interface		Displays the IP neighbors for a specified interface.
cpp <i>module-number</i>		Specifies the virtualization IP over Fibre Channel (IPFC) interface by control plane processor (CPP) module number. The range is 1 to 6.
gigabitethernet <i>slot/port</i>		Specifies the Gigabit Ethernet interface by slot and port number. The range is 1 to 6.
mgmt		Specifies the management interface.
vsan <i>vsan-id</i>		Specifies the IPFC VSAN interface by VSAN ID. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays IP neighbor information.

```
switch# show ip arp
IP Address      Age(min)  Link-layer Addr      Type  Interface
10.10.10.100    0         0006.d623.4008       ARPA  GigabitEthernet1/1
10.10.10.9      5         0002.b3d9.ba6f       ARPA  GigabitEthernet1/1
10.10.10.16     11        0004.23bd.677b       ARPA  GigabitEthernet1/1
172.22.31.1     67        0000.0c07.ac01       ARPA  mgmt0
172.22.31.2     0         000e.d68f.c3fc       ARPA  mgmt0
172.22.31.3     0         000e.d68f.43fc       ARPA  mgmt0
172.22.31.250  1067     00e0.8152.7f8d       ARPA  mgmt0
```

Related Commands	Command	Description
	show ip interface	Displays IP interface status and configuration information.
	show ip traffic	Displays IP protocol statistics for the system.

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show ip interface

To display IP interface status and configuration information, use the **show ip interface** command.

```
show ip interface [cpp module-number | gigabitethernet slot/port | mgmt | port-channel number
                  | vsan vsan-id]
```

Syntax Description		
<i>cpp module-number</i>		Specifies the virtualization IP over Fibre Channel (IPFC) interface by CPP module number. The range is 1 to 6.
gigabitethernet <i>slot/port</i>		Specifies the Gigabit Ethernet interface by slot and port number. The range is 1 to 6.
mgmt		Specifies the management interface.
port-channel <i>number</i>		Specifies the PortChannel interface. The range is 1 to 256.
vsan <i>vsan-id</i>		Specifies the IPFC VSAN interface by VSAN ID. The range is 1 to 4093.

Defaults	
	None.

Command Modes	
	EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines	
	None.

Examples	
	The following example displays IP interface status and configuration information.

```
switch# show ip interface
GigabitEthernet1/1 is up
  Internet address is 10.10.10.1/24
  Broadcast address is 255.255.255.255

GigabitEthernet1/2 is up
  Internet address is 10.10.60.1/24
  Broadcast address is 255.255.255.255

GigabitEthernet2/2 is up
  Internet address is 10.10.20.1/24
  Broadcast address is 255.255.255.255

mgmt0 is up
  Internet address is 172.22.31.110/24
  Broadcast address is 255.255.255.255
```

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Related Commands	Command	Description
	show ip arp	Displays IP neighbors for the system.
	show ip traffic	Displays IP protocol statistics for the system.

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show ip route

To display the ip routes currently active, use the **show ip route** command.

show ip route [configured]

Syntax Description	configured	Displays configured IP routes.
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	1.0(2)	This command was introduced.
Usage Guidelines	None.	

Examples

The following example displays active IP routes.

```
switch# show ip route
```

```
Codes: C - connected, S - static
```

```
Default gateway is 172.22.95.1
```

```
C 10.0.0.0/24 is directly connected, vsan1
```

```
C 172.22.95.0/24 is directly connected, mgmt0
```

The following example displays configured IP routes.

```
switch# show ip route configured
```

```

      default      172.22.31.1      0.0.0.0      0      mgmt0
10.10.11.0      10.10.11.1      255.255.255.0      0      GigabitEthernet1/1
10.10.50.0      10.10.50.1      255.255.255.0      0      GigabitEthernet1/2.1
10.10.51.0      10.10.51.1      255.255.255.0      0      GigabitEthernet1/2.2
10.10.60.0      10.10.60.1      255.255.255.0      0      GigabitEthernet1/2
172.22.31.0      172.22.31.110      255.255.255.0      0      mgmt0
```


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show ip routing

To display the IP routing state, use the **show ip routing** command.

show ip routing

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example shows the IP routing state.

```
switch# show ip routing
ip routing is disabled
```

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show ip traffic

To display IP protocol statistics for the system, use the **show ip traffic** command.

show ip traffic [interface *gigabitethernet slot/port*]

Syntax Description		
interface		Displays the IP neighbors for a specified interface.
gigabitethernet <i>slot/port</i>		Specifies the Gigabit Ethernet interface by slot and port number. The range is 1 to 6.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays IP protocol statistics for the Gigabit Ethernet interface.

```
switch# show ip traffic interface gigabitethernet 2/2
IP Statistics for GigabitEthernet2/2
  Rcvd:  0 total, 0 local destination
         0 errors, 0 unknown protocol, 0 dropped
  Sent:  30 total, 0 forwarded 0 dropped
  Frags: 0 reassembled, 0 timeouts, 0 couldn't reassemble
         0 fragmented, 0 fragments created, 0 couldn't fragment

ICMP Statistics:
  Rcvd:  0 total, 0 errors, 0 unreachable, 0 time exceeded
         0 echo, 0 echo reply, 0 mask requests, 0 mask replies
         0 redirects, 0 timestamp requests, 0 timestamp replies
  Sent:  0 total, 0 errors, 0 unreachable, 0 time exceeded
         0 echo, 0 echo reply, 0 mask requests, 0 mask replies
         0 redirects, 0 timestamp requests, 0 timestamp replies
```

Related Commands	Command	Description
	show ip arp	Displays IP neighbors for the system.
	show ip interface	Displays IP interface status and configuration information.

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show ips arp

To display the IP storage ARP cache information, use the **show ips arp** command.

```
show ips arp interface gigabitethernet slot/port
```

Syntax Description	interface gigabitethernet <i>slot/port</i> Specifies a Gigabit Ethernet interface by the slot and port.
---------------------------	--

Defaults	None.
-----------------	-------

Command Modes	EXEC mode.
----------------------	------------

Command History	Release	Modification
	1.1(1)	This command was introduced.

Usage Guidelines	Use the show ips arp interface gigabitethernet command to display the ARP cache on the Gigabit Ethernet interfaces. This command takes the main Ethernet interface and as a parameter and returns the ARP cache for that interface.
-------------------------	--

Examples	The following example displays ARP caches in the specified interface.
-----------------	---

```
switch# show ips arp interface gigabitethernet 4/1
Protocol      Address      Age (min)   Hardware Addr  Type   Interface
Protocol      Address      Age (min)   Hardware Addr  Type   Interface
Internet      172.22.91.1  2          - 00:00:0c:07:ac:01  ARPA   GigabitEthernet4/4
Internet      172.22.91.2  0          - 00:02:7e:6b:a8:08  ARPA   GigabitEthernet4/4
Internet      172.22.91.17 0          - 00:e0:81:20:45:f5  ARPA   GigabitEthernet4/4
Internet      172.22.91.18 0          - 00:e0:81:05:f7:64  ARPA   GigabitEthernet4/4
Internet      172.22.91.30 0          - 00:e0:18:2e:9d:19  ARPA   GigabitEthernet4/4
...
```

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show ips ip route

To show the IP storage route table information, use the **show ips ip route** command.

```
show ips ip route interface gigabitethernet slot/port
```

Syntax Description	interface gigabitethernet <i>slot/port</i> Specifies a Gigabit Ethernet interface by the slot and port.
---------------------------	--

Defaults	None.
-----------------	-------

Command Modes	EXEC mode.
----------------------	------------

Command History	Release	Modification
	1.1(1)	This command was introduced.

Usage Guidelines	None.
-------------------------	-------

Examples	The following example displays the IP route table information for a Gigabit Ethernet interface.
-----------------	---

```
switch# show ips ip route interface gigabitethernet 8/1
Codes: C - connected, S - static

No default gateway

C 10.1.3.0/24 is directly connected, GigabitEthernet8/1
```

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show ips ipv6

To display an IPv6 storage routing table, use the **show ips ipv6** command.

```
show ips ipv6 {neighbors interface gigabitethernet slot/port |
prefix-list interface gigabitethernet slot/port |
route interface gigabitethernet slot/port |
routers interface gigabitethernet slot/port |
traffic interface gigabitethernet slot/port}
```

Syntax Description		
<i>neighbors</i>		Displays the IPv6 neighbors table.
<i>interface</i>		Displays the interface status and configuration.
<i>gigabitethernet</i>		Displays a Gigabit Ethernet interface.
<i>slot/port</i>		Specifies the slot and port number.
<i>prefix-list</i>		Displays the IPv6 prefix-list table.
<i>route</i>		Displays the IPv6 route table.
<i>routers</i>		Displays the IPv6 routers table.
<i>traffic</i>		Displays the IPv6 traffic table.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.1(0)	This command was introduced.

Usage Guidelines You can use the **show ips ipv6** command to display information about IPv6 routing.

Examples The following example displays IPv6 neighbors information.

```
switch# show ips ipv6 neighbours interface gigabitethernet 1/1
IPv6 Address                               Age (min)  Link-layer Addr  State  Inter
face
fe80::206:d6ff:fe23:4008                   0          0006.d623.4008   S
GigabitEthernet1/1
```

The following example displays the IPv6 prefix-list information.

```
switch# show ips ipv6 prefix-list interface gigabitethernet 1/1
Prefix                               Prefix-len  Addr
Valid Preferred
2000::                               64         2000::205:30ff:fe01:a6be
      1000      1000
```

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The following example displays the IPv6 routing table.

```
switch# show ips ipv6 route interface gigabitethernet 4/2

IPv6 Routing Table - 4 entries
Codes: C - Connected, L - Local, S - Static, G - Gateway, M - Multicast
C 3000:8::/64 is directly connected, GigabitEthernet4/2.250
C 3000:7::/64 is directly connected, GigabitEthernet4/2
C fe80::/64 is directly connected, GigabitEthernet4/2
C fe80::/64 is directly connected, GigabitEthernet4/2.250
M ff02::/32 is multicast, GigabitEthernet4/2
M ff02::/32 is multicast, GigabitEthernet4/2.250
```

The following example displays IPv6 routers information.

```
switch# show ips ipv6 routers interface gigabitethernet 1/1
Addr                               Lifetime  Expire
fe80::206:d6ff:fe23:4008           3600     3600
```

The following example displays IPv6 traffic statistics.

```
switch# show ips ipv6 traffic interface gigabitethernet 4/2
IPv6 statistics:
  Rcvd: 0 total
        0 bad header, 0 unknown option, 0 unknown protocol
        0 fragments, 0 total reassembled
        0 reassembly timeouts, 0 reassembly failures
  Sent: 20 generated
        0 fragmented into 0 fragments, 0 failed
        2 no route
ICMP statistics:
  Rcvd: 0 input, 0 checksum errors, 0 too short
        0 unknown info type, 0 unknown error type
  unreachable: 0 routing, 0 admin, 0 neighbor, 0 address, 0 port
  parameter: 0 error, 0 header, 0 option
        0 hopcount expired, 0 reassembly timeout, 0 too big
        0 echo request, 0 echo reply
        0 group query, 0 group report, 0 group reduce
        0 router solicit, 0 router advert, 0 redirects
        0 neighbor solicit, 0 neighbor advert
  Sent: 20 output, 0 rate-limited
  unreachable: 0 routing, 0 admin, 0 neighbor, 0 address, 0 port
  parameter: 0 error, 0 header, 0 option
        0 hopcount expired, 0 reassembly timeout, 0 too big
        0 echo request, 0 echo reply
        0 group query, 6 group report, 0 group reduce
        2 router solicit, 0 router advert, 0 redirects
        0 neighbor solicit, 12 neighbor advert
```

Related Commands

Command	Description
ipv6 enable	Enables IPv6 processing.
show ipv6 route	Displays IPv6 routes configured on the system.

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show ips netsim

To display a summary of the IP Network Simulator interface status currently operating, use the **show ips netsim** command.

show ips netsim

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC.

Command History	Release	Modification
	3.1(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows the IP Network Simulator interfaces operating in network simulation mode.

```
switch# show ips netsim
Following ports operate in network simulator mode
GigabitEthernet2/3 and GigabitEthernet2/4
```

Related Commands	Command	Description
	ips netsim enable	Enables two Gigabit Ethernet interfaces to operate in network simulation mode.

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show ips stats

To display IP storage statistics, use the **show ips stats** command.

```
show ips stats {buffer | dma-bridge | icmp | ip | mac} interface gigabitethernet slot/port
```

```
show ips stats {hw-comp | tcp} {all | interface gigabitethernet slot/port}
```

Syntax Description

buffer	Displays IP storage buffer information.
dma-bridge	Displays the direct memory access (DMA) statistics.
icmp	Displays ICMP statistics.
ip	Displays IP statistics.
mac	Displays MAC statistics.
hw-comp	Displays hardware compression statistics.
tcp	Displays TCP statistics
all	Displays statistical information for all interfaces.
interface gigabitethernet slot/port	Specifies a Gigabit Ethernet interface by the slot and port.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

Use the **show ips stats icmp interface gigabitethernet** command to obtain ICMP statistics for the selected interface.

Use the **show ips stats ip interface gigabitethernet 2/1** command to obtain IP statistics for the selected interface.

Use the **show ips stats mac interface gigabitethernet** command to obtain Ethernet statistics for the selected interface.

Use the **show ips stats tcp interface gigabitethernet** command to obtain TCP stats along with the connection list and TCP state or the selected interface.

Examples

The following example displays iSCSI buffer statistics.

```
switch# show ips stats buffer interface gigabitethernet 1/2
Buffer Statistics for port GigabitEthernet1/2
  Mbuf stats
    164248 total mbufs, 82119 free mbufs, 0 mbuf alloc failures
    123186 mbuf high watermark, 20531 mbuf low watermark
```


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```

0 free shared mbufs, 0 shared mbuf alloc failures
82124 total clusters, 77005 free clusters, 0 cluster alloc failures
86230 mbuf high watermark, 78017 mbuf low watermark
0 free shared clusters, 0 shared cluster alloc failures
Ether channel stats
0 tcp segments sent, 0 tcp segments received
0 xmit packets sent, 0 xmit packets received
0 config packets sent, 0 config packets received
0 MPQ packet send errors

```

The following example displays ICMP statistics.

```

switch# show ips stats icmp interface gigabitethernet 8/1
ICMP Statistics for port GigabitEthernet8/1
  2 ICMP messages received
  0 ICMP messages dropped due to errors
ICMP input histogram
  2 echo request
ICMP output histogram
  2 echo reply

```

The following example displays IP statistics.

```

switch# show ips stats ip interface gigabitethernet 8/1
Internet Protocol Statistics for port GigabitEthernet8/1
  22511807 total received, 22509468 good, 2459 error
  0 reassembly required, 0 reassembled ok, 0 dropped after timeout
  27935633 packets sent, 0 outgoing dropped, 0 dropped no route
  0 fragments created, 0 cannot fragment

```

The following example displays MAC statistics.

```

switch# show ips stats mac interface gigabitethernet 8/1
Ethernet MAC statistics for port GigabitEthernet8/1
Hardware Transmit Counters
  28335543 frame 37251751286 bytes
  0 collisions, 0 late collisions, 0 excess collisions
  0 bad frames, 0 FCS error, 0 abort, 0 runt, 0 oversize
Hardware Receive Counters
  18992406778 bytes, 22835370 frames, 0 multicasts, 2584 broadcasts
  0 bad, 0 runt, 0 CRC error, 0 length error
  0 code error, 0 align error, 0 oversize error
Software Counters
  22835370 received frames, 28335543 transmit frames
  0 frames soft queued, 0 current queue, 0 max queue
  0 dropped, 0 low memory

```

The following example displays TCP statistics.

```

switch# show ips stats tcp interface gigabitethernet 8/1
TCP Statistics for port GigabitEthernet8/1
Connection Stats
  0 active openings, 0 accepts
  0 failed attempts, 0 reset received, 0 established
Segment stats
  23657893 received, 29361174 sent, 0 retransmitted
  0 bad segments received, 0 reset sent

TCP Active Connections

```

Local Address	Remote Address	State	Send-Q	Recv-Q
10.1.3.3:3260	10.1.3.106:51935	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.106:51936	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.106:51937	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.106:51938	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.106:51939	ESTABLISH	0	0

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10.1.3.3:3260	10.1.3.106:51940	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.106:51941	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.106:51942	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.106:51943	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.106:51944	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.115:1026	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.115:1027	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.115:1028	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.115:1029	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.115:1030	ESTABLISH	48	0
10.1.3.3:3260	10.1.3.115:1031	ESTABLISH	48	0
10.1.3.3:3260	10.1.3.115:1032	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.115:1033	ESTABLISH	0	0
10.1.3.3:3260	10.1.3.115:1034	ESTABLISH	0	0
0.0.0.0:3260	0.0.0.0:0	LISTEN	0	0

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show ips stats fabric interface

To display the fabric-related statistics for the given iSCSI or FCIP interface on a Cisco MDS 9000 18/4-Port Multi Service Module IPS linecard, use the **show ips stats fabric interface** command.

show ips stats fabric interface [*iscsi slot/port* | *fcip N*]

Syntax Description		
iscsi <i>slot/port</i>	(Optional)	Displays Data Path Processor (DPP) fabric statistics for the iSCSI interface.
fcip <i>N</i>	(Optional)	Displays DPP fabric statistics for the fcip interface.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.2(1)	This command was introduced.

Usage Guidelines This command also displays information on flow control specific to DPP.

Examples The following example shows the statistics for iSCSI on the specified interface.

```
switch# show ips stats fabric interface iscsi1/1
DPP Fabric Statistics for iscsi1/1
  Hardware Egress Counters
    0 Good, 0 bad protocol, 0 bad header cksum, 0 bad FC CRC
  Hardware Ingress Counters
    0 Good, 0 protocol error, 0 header checksum error
    0 FC CRC error, 0 iSCSI CRC error, 0 parity error
  Software Egress Counters
    0 good frames, 0 bad header cksum, 0 bad FIFO SOP
    0 parity error, 0 FC CRC error, 0 timestamp expired error
    0 unregistered port index, 0 unknown internal type
    0 RDL ok, 0 RDL drop (too big), 0 RDL ttl_1
    0 idle poll count, 146 loopback
    0 FCC PQ, 0 FCC EQ, 0 FCC generated
  Flow Control: 0 [0], 0 [1], 0 [2], 0 [3]
  Software Ingress Counters
    0 Good frames, 0 header cksum error, 0 FC CRC error
    0 iSCSI CRC error, 0 descriptor SOP error, 0 parity error
    0 frames soft queued, 0 current Q, 0 max Q, 0 low memory
    0 out of memory drop, 0 queue full drop
    0 RDL ok, 0 RDL drop (too big)
```

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The following example shows the statistics for FCIP on the specified interface.

```
switch# show ips stats fabric fcip iscsi 1
DPP Fabric Statistics for fcip1
  Hardware Egress Counters
    0 Good, 0 bad protocol, 0 bad header cksum, 0 bad FC CRC
  Hardware Ingress Counters
    0 Good, 0 protocol error, 0 header checksum error
    0 FC CRC error, 0 iSCSI CRC error, 0 parity error
  Software Egress Counters
    0 good frames, 0 bad header cksum, 0 bad FIFO SOP
    0 parity error, 0 FC CRC error, 0 timestamp expired error
    0 unregistered port index, 0 unknown internal type
    0 RDL ok, 0 RDL drop (too big), 0 RDL ttl_1
    0 idle poll count, 0 loopback
    0 FCC PQ, 0 FCC EQ, 0 FCC generated
    Flow Control: 0 [0], 0 [1], 0 [2], 0 [3]
  Software Ingress Counters
    0 Good frames, 0 header cksum error, 0 FC CRC error
    0 iSCSI CRC error, 0 descriptor SOP error, 0 parity error
    0 frames soft queued, 0 current Q, 0 max Q, 0 low memory
    0 out of memory drop, 0 queue full drop
    0 RDL ok, 0 RDL drop (too big)
    Flow Control: 0 [0], 0 [1], 0 [2], 0 [3]
    Flow Control: 0 [0], 0 [1], 0 [2], 0 [3]
```

Related Commands

Command	Description
clear ips stats fabric interface	Clears the statistics for the given iSCSI or FCIP interface on a Cisco MDS 9000 18/4-Port Multi Service Module IPS linecard.

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show ips stats netsim

To display IP Network Simulator interface statistics, use the **show ips stats netsim** command.

```
show ips stats netsim ingress gigabitethernet slot/port
```

Syntax Description		
	ingress	Specifies the ingress direction.
	gigabitethernet slot/port	Specifies the the slot and port number of the Gigabit Ethernet interface.

Defaults	
	None.

Command Modes	
	EXEC.

Command History	Release	Modification
	3.1(1)	This command was introduced.

Usage Guidelines	
	The parameters displayed by default are delay, bandwidth, queue size, and queue delay. The network statistics displayed are number of packets dropped, queue size, number of packets reordered, and average speed.

Examples	
	The following example shows the IP Network Simulator statistics for interface 2/3.

```
switch# show ips stats netsim ingress gigabitethernet 2/3
Network Simulator Configuration for Ingress on GigabitEthernet2/3
Delay : 50000 microseconds
Rate : 1000000 kbps
Max_q : 100000 bytes
Max_qdelay : 600000 clocks
Random Drop % : 1.00%
Network Simulator Statistics for Ingress on GigabitEthernet2/3
Dropped (tot) = 28
Dropped (netsim) = 14
Reordered (netsim) = 0
Max Qlen(pkt) = 7
Qlen (pkt) = 0
Max Qlen (byte) = 326
Qlen (byte) = 0
Mintxdel(poll) = 852
Mintxdel(eth tx) = 360
empty = 757
txdel = 8
late = 617
Average speed = 0 Kbps
```

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Related Commands

Command	Description
ips netsim enable	Enables two Gigabit Ethernet interfaces to operate in the network simulation mode.

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show ips status

To display the IP storage status, use the **show ips status** command.

```
show ips status [module slot]
```

Syntax Description	module <i>slot</i>	Identifies the module in the specified slot.
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	1.1(1)	This command was introduced.
Usage Guidelines	None.	

Examples

The following example displays the IP storage status for all modules on the switch.

```
switch# show ips status
Port 8/1 READY
Port 8/2 READY
Port 8/3 READY
Port 8/4 READY
Port 8/5 READY
Port 8/6 READY
Port 8/7 READY
Port 8/8 READY
```

The following example displays the IP storage status for the module in slot 9.

```
switch# show ips status module 9
Port 9/1 READY
Port 9/2 READY
Port 9/3 READY
Port 9/4 READY
Port 9/5 READY
Port 9/6 READY
Port 9/7 READY
Port 9/8 READY
```

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show ipv6 access-list

To display a summary of IPv6 access control lists (ACLs), use the **show ipv6 access-list** command.

```
show ipv6 access-list [list-name]
```

Syntax Description	<i>list-name</i>	Specifies the name of the ACL. The maximum size is 64.
--------------------	------------------	--

Defaults	None.
----------	-------

Command Modes	EXEC mode.
---------------	------------

Command History	Release	Modification
	3.1(0)	This command was introduced.

Usage Guidelines	None.
------------------	-------

Examples The following example displays an IPv6 access control list.

```
switch# show ipv6 access-list
Access List Name/Number      Filters IF   Status      Creation Time
-----
abc                          3          7    active    Tue Jun 24 17:51:40 2003
x1                            3          1    active    Tue Jun 24 18:32:25 2003
x3                            0          1    not-ready Tue Jun 24 18:32:28 2003
```

Related Commands	Command	Description
	ipv6 access-list	Configures an IPv6-ACL.

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show ipv6 interface

To display IPv6 interface status and configuration information, use the **show ipv6 interface** command.

```
show ipv6 interface [gigabitethernet slot/port | mgmt 0 | port-channel port-channel-number |
vsan vsan-id]
```

Syntax Description	
<code>gigabitethernet slot/port</code>	Displays a Gigabit Ethernet interface.
<code>mgmt 0</code>	Displays the management interface.
<code>port-channel</code>	Displays a PortChannel interface.
<code>port-channel-number</code>	Specifies the PortChannel number. The range is 1 to 128.
<code>vsan</code>	Displays an IPFC VSAN interface.
<code>vsan-id</code>	Specifies the VSAN ID. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.1(0)	This command was introduced.

Usage Guidelines None.

Examples The following example displays IPv6 interface information.

```
switch# show ipv6 interface
GigabitEthernet1/2 is up
  IPv6 is enabled
  Global address(es):
    5000::1/64
  Link-local address(es):
    fe80::205:30ff:fe01:a6bf
  ND DAD is disabled
  ND reachable time is 30000 milliseconds
  ND retransmission time is 1000 milliseconds
  Stateless autoconfig for addresses disabled

GigabitEthernet2/2 is up
  IPv6 is enabled
  Global address(es):
    6000::1/64
  Link-local address(es):
    fe80::205:30ff:fe00:a413
  ND DAD is disabled
  ND reachable time is 30000 milliseconds
  ND retransmission time is 1000 milliseconds
```

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```
Stateless autoconfig for addresses disabled
```

Related Commands	Command	Description
	ipv6 address	Configures an IPv6 address.
	ipv6 nd	Configures IPv6 neighbor discovery commands.
	ipv6 route	Configures an IPv6 static route.
	show ipv6 neighbors	Displays information about IPv6 neighbors for the system.
	show ipv6 route	Displays the IPv6 routes configured on the system.

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show ipv6 neighbours

To display IPv6 neighbors configuration information, use the **show ipv6 neighbours** command.

```
show ipv6 neighbours [interface {gigabitethernet slot/port | mgmt 0 | vsan vsan-id}]
```

Syntax Description		
interface		Displays the IP interface status and configuration.
gigabitethernet slot/port		Displays a Gigabit Ethernet interface slot and port number.
mgmt 0		Displays the management interface.
vsan vsan-id		Displays an IPFC VSAN interface and specifies the VSAN ID. The range is 1 to 4093

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.1(0)	This command was introduced.

Usage Guidelines None.

Examples The following example displays information about IPv6 neighbor discovery.

```
switch# show ipv6 neighbours gigabitethernet 2/1
```

```
IPv6 Address                               Age Link-layer Addr State Interface
2001:0DB8:0:4::2                           0 0003.a0d6.141e REACH Ethernet2
FE80::XXXX:A0FF:FED6:141E                   0 0003.a0d6.141e REACH Ethernet2
2001:0DB8:1::45a                            - 0002.7d1a.9472 REACH Ethernet2
```

Related Commands	Command	Description
	ipv6 nd	Configures IPv6 neighbor discovery commands.

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show ipv6 route

To display the IPv6 routes configured on the system, use the **show ipv6 route** command.

show ipv6 route

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.1(0)	This command was introduced.

Usage Guidelines None.

Examples The following example displays information about an IPv6 route.

```
switch# show ipv6 route
IPv6 Routing Table
Codes: C - Connected, L - Local, S - Static G - Gateway
C    5000::/64
      via fe80::205:30ff:fe01:a6bf, GigabitEthernet1/2
C    6000::/64
      via fe80::205:30ff:fe00:a413, GigabitEthernet2/2
L    fe80::/10
      via ::
L    ff00::/8
      via ::
```

Related Commands	Command	Description
	ipv6 route	Configures an IPv6 route.

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show ipv6 routing

To display IPv6 unicast routing information, use the **show ipv6 routing** command.

show ipv6 routing

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.1(0)	This command was introduced.

Usage Guidelines None.

Examples

```
switch# show ipv6 routing
ipv6 routing is enabled
```

Related Commands	Command	Description
	ipv6 routing	Enables IPv6 unicast routing.

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show ipv6 traffic

To display IPv6 protocol statistics for the system, use the **show ipv6 traffic** command.

```
show ipv6 traffic [interface {gigabitethernet slot/port | mgmt 0 | port-channel number | vsan
vsan-id}]
```

Syntax	Description
interface	Displays the IP interface status and configuration.
gigabitethernet slot/port	Displays a Gigabit Ethernet interface slot and port number.
mgmt 0	Displays the management interface.
port-channel number	Displays the PortChannel interface. The range is 1 to 256.
vsan vsan-id	Displays a IPFC VSAN interface and specifies the VSAN ID. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.1(0)	This command was introduced.

Usage Guidelines None.

Examples The following example displays IPv6 protocol statistics on the system.

```
switch# show ipv6 traffic
IPv6 Statistics:
  Rcvd:  1 total, 0 local destination
         0 errors, 0 truncated, 0 too big
         0 unknown protocol, 0 dropped
         0 fragments, 0 reassembled
         0 couldn't reassemble, 0 reassembly timeouts
  Sent:  0 generated, 0 forwarded 0 dropped
         0 fragmented, 0 fragments created, 0 couldn't fragment

ICMPv6 Statistics:
  Rcvd:  0 total, 0 errors, 0 unreachable, 0 time exceeded
         0 too big, 0 param probs, 0 admin prohibits
         0 echos, 0 echo reply, 0 redirects
         0 group query, 0 group report, 0 group reduce
         0 router solicit, 0 router advert
         0 neighbor solicit, 0 neighbor advert
  Sent:  74 total, 0 errors, 0 unreachable, 0 time exceeded
         0 too big, 0 param probs, 0 admin prohibits
         0 echos, 0 echo reply, 0 redirects
         0 group query, 53 group report, 0 group reduce
```

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```
0 router solicit, 0 router advert
0 neighbor solicit, 21 neighbor advert
```

The following example displays IPv6 traffic on Gigabit Ethernet interface 2/2.

```
switch# show ipv6 traffic interface gigabitethernet 2/2
IPv6 Statistics for GigabitEthernet2/2
  Rcvd:  10 total, 0 local destination
        0 errors, 0 truncated, 0 too big
        0 unknown protocol, 0 dropped
        0 fragments, 0 reassembled
        0 couldn't reassemble, 0 reassembly timeouts
  Sent:  54 generated, 0 forwarded 0 dropped
        0 fragmented, 0 fragments created, 0 couldn't fragment

ICMPv6 Statistics for GigabitEthernet2/2
  Rcvd:  4 total, 0 errors, 0 unreachable, 0 time exceeded
        0 too big, 0 param probs, 0 admin prohibits
        0 echos, 0 echo reply, 0 redirects
        0 group query, 2 group report, 0 group reduce
        0 router solicit, 0 router advert
        0 neighbor solicit, 2 neighbor advert
  Sent:  21 total, 0 errors, 0 unreachable, 0 time exceeded
        0 too big, 0 param probs, 0 admin prohibits
        0 echos, 0 echo reply, 0 redirects
        0 group query, 6 group report, 3 group reduce
        2 router solicit, 0 router advert
        2 neighbor solicit, 8 neighbor advert
```

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show isapi dpp

To obtain a list of ITLs for a specific Data Path Processor (DPP), use the **show isapi dpp** command.

```
show isapi dpp dpp-number
```

Syntax Description	dpp-number Specifies the slot along with the DPP number.				
Defaults	None.				
Command Modes	EXEC mode.				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>3.2(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	3.2(1)	This command was introduced.
Release	Modification				
3.2(1)	This command was introduced.				
Usage Guidelines	None.				
Examples	<p>The following example displays the isapi information for DPP number 7.</p> <pre>module-3# show isapi dpp 7 queue I_T 0x837c9140 [vsan 42 host 0x8d0005 vt 8d0014/92:81:00:00:08:50:ca:d4]: 0 tasks, mtu 2048, seqid 99, abts 0 BSY Q 837cc380: LUN 3, status 0x22, R/W access 0x0/0x0, 0 tasks, 0 busy/TSF, 0 ho Tasks: Q 837cbd80: LUN 2, status 0x22, R/W access 0x0/0x0, 0 tasks, 0 busy/TSF, 0 ho Tasks: Q 837cb100: LUN 1, status 0x22, R/W access 0x0/0x0, 0 tasks, 0 busy/TSF, 0 ho Tasks: Q 837cb080: LUN 0, status 0x22, R/W access 0x0/0x0, 0 tasks, 0 busy/TSF, 0 ho Tasks:</pre>				
Related Commandss	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show isapi dpp all queue</td> <td>Displays ITLs for all DPPs on the SSM.</td> </tr> </tbody> </table>	Command	Description	show isapi dpp all queue	Displays ITLs for all DPPs on the SSM.
Command	Description				
show isapi dpp all queue	Displays ITLs for all DPPs on the SSM.				

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show isapi tech-support santap file

To display ISAPI information for troubleshooting, use **show isapi tech-support santap file** command.

show isapi tech-support santap file [*name*]

Syntax Description	<i>name</i>	Enter the name of the file. The file is stored on modflash.
---------------------------	-------------	---

Defaults	None.
-----------------	-------

Command Modes	Configuration mode.
----------------------	---------------------

Command History	Release	Modification
	3.4(1)	This command was introduced.

Usage Guidelines	None.
-------------------------	-------

Examples	The following example displays the isapi information for troubleshooting:
-----------------	---

```
switch# attach module 13
Attaching to module 13 ...
To exit type 'exit', to abort type '$.'
Bad terminal type: "ansi". Will assume vt100.
module-13# show isapi tech-support santap file cisco
Re-directing tech support information to file: cisco
module-13#
```

Related Commands	Command	Description
	show isapi dpp all queue	Displays ITLs for all DPPs on the SSM.

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show iscsi global

To display global iSCSI configured information, use the **show iscsi global** command.

show iscsi global

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.1(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays all configured iSCSI initiators.

```
switch# show iscsi global
iSCSI Global information
Authentication: CHAP, NONE
Import FC Target: Enabled
Initiator idle timeout: 300 seconds
Dynamic Initiator: iSLB
Number of target node: 1
Number of portals: 2
Number of session: 0
Failed session: 0, Last failed initiator name:
```

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show iscsi initiator

To display information about all the iSCSI nodes that are remote to the switch, use the **show iscsi initiator** command.

```
show iscsi initiator [configured [initiator-name] | detail | fcp-session [detail] | iscsi-session
[detail] | summary [name]]
```

Syntax Description		
configured		Displays the configured information for the iSCSI initiator.
<i>initiator-name</i>		Specifies the name of an initiator.
detail		Displays detailed iSCSI initiator information.
fcp-session		Displays the Fibre Channel session details.
iscsi-session		Displays iSCSI session details.
summary		Displays summary information.
name		Displays initiator name information.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.1(1)	This command was introduced.

Usage Guidelines If no parameter is provided the command lists all the active iSCSI initiators. If the iSCSI node name is provided then the command lists the details of that iSCSI initiator.

Examples The following example displays all iSCSI initiators.

```
switch# show iscsi initiator
iSCSI Node name is iqn.1987-05.com.cisco.01.15cee6e7925087abc82ed96377653c8
  iSCSI alias name: iscsi7-lnx
  Node WWN is 23:10:00:05:30:00:7e:a0 (dynamic)
  Member of vsans: 1
  Number of Virtual n_ports: 1
  Virtual Port WWN is 23:12:00:05:30:00:7e:a0 (dynamic)
  Interface iSCSI 8/3, Portal group tag: 0x382
  VSAN ID 1, FCID 0xdc0100

iSCSI Node name is iqn.1987-05.com.cisco.02.91b0ee2e8aa1.iscsi16-w2k
  iSCSI alias name: ISCSI16-W2K
  Node WWN is 23:1f:00:05:30:00:7e:a0 (dynamic)
  Member of vsans: 1
  Number of Virtual n_ports: 1
  Virtual Port WWN is 23:28:00:05:30:00:7e:a0 (dynamic)
  Interface iSCSI 8/3, Portal group tag: 0x382
```

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```

VSAN ID 1, FCID 0xdc0101

iSCSI Node name is iqn.1987-05.com.cisco.01.b6ca466f8b4d8e848ab17e92f24bf9cc
  iSCSI alias name: iscsi6-lnx
  Node WWN is 23:29:00:05:30:00:7e:a0 (dynamic)
  Member of vsans: 1, 2, 3, 4
  Number of Virtual n_ports: 1
  Virtual Port WWN is 23:2a:00:05:30:00:7e:a0 (dynamic)
  Interface iSCSI 8/3, Portal group tag: 0x382
    VSAN ID 4, FCID 0xee0000
    VSAN ID 3, FCID 0xee0100
    VSAN ID 2, FCID 0xee0000
    VSAN ID 1, FCID 0xdc0102
...

```

The following example displays detailed Information for all iSCSI initiators.

```

switch# show iscsi initiator detail
iSCSI Node name is iqn.1987-05.com.cisco.01.15cee6e7925087abc82ed96377653c8
  iSCSI alias name: iscsi7-lnx
  Node WWN is 23:10:00:05:30:00:7e:a0 (dynamic)
  Member of vsans: 1
  Number of Virtual n_ports: 1

Virtual Port WWN is 23:10:00:05:30:00:7e:a0 (dynamic)
  Interface iSCSI 8/3, Portal group tag is 0x382
    VSAN ID 1, FCID 0xdc0100
    No. of FC sessions: 3
    No. of iSCSI sessions: 2

  iSCSI session details

    Target node: iqn.com.domainname.172.22.93.143.08-03.gw.22000020374b5247
    Statistics:
      PDU: Command: 0, Response: 0
      Bytes: TX: 0, RX: 0
      Number of connection: 1
    TCP parameters
      Connection Local 10.1.3.3:3260, Remote 10.1.3.107:34112
      Path MTU 1500 bytes
      Current retransmission timeout is 300 ms
      Round trip time: Smoothed 2 ms, Variance: 1
      Advertised window: Current: 6 KB, Maximum: 6 KB, Scale: 3
      Peer receive window: Current: 250 KB, Maximum: 250 KB, Scale: 2
      Congestion window: Current: 8 KB

    Target node: iqn.com.domainname.172.22.93.143.08-03.gw.22000020374b5247
    Statistics:
      PDU: Command: 0, Response: 0
      Bytes: TX: 0, RX: 0
      Number of connection: 1
    TCP parameters
      Connection Local 10.1.3.3:3260, Remote 10.1.3.107:34112
      Path MTU 1500 bytes
      Current retransmission timeout is 300 ms
      Round trip time: Smoothed 2 ms, Variance: 1
      Advertised window: Current: 6 KB, Maximum: 6 KB, Scale: 3
      Peer receive window: Current: 250 KB, Maximum: 250 KB, Scale: 2
      Congestion window: Current: 8 KB
...

```

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show iscsi session

To display iSCSI session information, use the **show iscsi session** command.

```
show iscsi session [incoming] [initiator name] [outgoing] [target name] [detail]
```

Syntax Description	Parameter	Description
	detail	Displays detailed iSCSI session information.
	incoming	Displays incoming iSCSI sessions.
	initiator name	Displays specific iSCSI initiator session information. Maximum length is 80 characters.
	outgoing	Displays outgoing iSCSI sessions
	target name	Displays specific iSCSI target session information. Maximum length is 80 characters.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.1(1)	This command was introduced.

Usage Guidelines All the parameters are optional in the **show iscsi session** commands. If no parameter is provided the command lists all the active iSCSI initiator or target sessions. If the IP address or iSCSI node name is provided, then the command lists details of all sessions from that initiator or to that target.

Examples The following command displays the iSCSI session information.

```
switch# show iscsi session
Initiator iqn.1987-05.com.cisco.01.15cee6e7925087abc82ed96377653c8
  Session #1
    Target iqn.com.domainname.172.22.93.143.08-03.gw.22000020374b5247
    VSAN 1, ISID 000000000000, Status active, no reservation

  Session #2
    Target iqn.com.domainname.172.22.93.143.08-03.gw.220000203738e77d
    VSAN 1, ISID 000000000000, Status active, no reservation

Initiator iqn.1987-05.com.cisco:02.91b0ee2e8aa1.iscsi16-w2k
  Session #1
    Discovery session, ISID 00023d00022f, Status active

  Session #2
    Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037388bc2
    VSAN 1, ISID 00023d000230, Status active, no reservation
...
```

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The following command displays the specified iSCSI target.

```
switch# show iscsi session target
iqn.com.domainname.172.22.93.143.08-03.gw.220000203738e77d
Initiator iqn.1987-05.com.cisco.01.15cee6e7925087abc82ed96377653c8
Session #1
  Target iqn.com.domainname.172.22.93.143.08-03.gw.220000203738e77d
  VSAN 1, ISID 000000000000, Status active, no reservation
```



Note

On the IPS module, you can verify what iSCSI initiator IQN has been assigned which pWWN when it logs in by using the **show zone active vsan vsan-id** command.

```
switch# zone name iscsi_16_A vsan 16
* fcid 0x7700d4 [pwwn 21:00:00:20:37:c5:2d:6d]
* fcid 0x7700d5 [pwwn 21:00:00:20:37:c5:2e:2e]
* fcid 0x770100 [symbolic-nodename
iqn.1987-05.com.cisco.02.BC3FEEFC431B199F81F33E97E2809C14.NUYEAR]
```

The following command displays the specified iSCSI initiator.

```
switch# show iscsi session initiator iqn.1987-05.com.cisco:02.91b0ee2e8aa1.iscsi16-w2k
Initiator iqn.1987-05.com.cisco:02.91b0ee2e8aa1.iscsi16-w2k
Session #1
  Discovery session, ISID 00023d00022f, Status active

Session #2
  Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037388bc2
  VSAN 1, ISID 00023d000230, Status active, no reservation

Session #3
  Target iqn.com.domainname.172.22.93.143.08-03.gw.210000203739ad7f
  VSAN 1, ISID 00023d000235, Status active, no reservation

Session #4
  Target iqn.com.domainname.172.22.93.143.08-03.gw.210000203739aa3a
  VSAN 1, ISID 00023d000236, Status active, no reservation

Session #5
  Target iqn.com.domainname.172.22.93.143.08-03.gw.210000203739ada7
  VSAN 1, ISID 00023d000237, Status active, no reservation

Session #6
  Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037381ccb
  VSAN 1, ISID 00023d000370, Status active, no reservation

Session #7
  Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037388b54
  VSAN 1, ISID 00023d000371, Status active, no reservation

Session #8
  Target iqn.com.domainname.172.22.93.143.08-03.gw.220000203738a194
  VSAN 1, ISID 00023d000372, Status active, no reservation

Session #9
  Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037360053
  VSAN 1, ISID 00023d000373, Status active, no reservation
```

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show iscsi stats

To display the iSCSI statistics information, use the **show iscsi stats** command.

```
show iscsi stats [iscsi slot/port] [clear | detail]
```

Syntax Description		
	<i>iscsi slot/port</i>	Displays statistics for the specified iSCSI interface.
	clear	Clears iSCSI statistics for the session or interface.
	detail	Displays detailed iSCSI statistics for the session or interface.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.1(1)	This command was introduced.

Usage Guidelines None.

Examples

The following command displays brief iSCSI statistics.

```
switch# show iscsi stats
iscsi8/1
  5 minutes input rate 23334800 bits/sec, 2916850 bytes/sec, 2841 frames/sec
  5 minutes output rate 45318424 bits/sec, 5664803 bytes/sec, 4170 frames/sec
  iSCSI statistics
    86382665 packets input, 2689441036 bytes
      3916933 Command pdus, 82463404 Data-out pdus, 2837976576 Data-out bytes,
  0 fragments
    131109319 packets output, 2091677936 bytes
      3916876 Response pdus (with sense 0), 1289224 R2T pdus
      125900891 Data-in pdus, 93381152 Data-in bytes

iscsi8/2
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  iSCSI statistics
    0 packets input, 0 bytes
      0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
    0 packets output, 0 bytes
      0 Response pdus (with sense 0), 0 R2T pdus
      0 Data-in pdus, 0 Data-in bytes

iscsi8/3
  5 minutes input rate 272 bits/sec, 34 bytes/sec, 0 frames/sec
  5 minutes output rate 40 bits/sec, 5 bytes/sec, 0 frames/sec
  iSCSI statistics
    30 packets input, 10228 bytes
```

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```

    0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
30 packets output, 1744 bytes
    0 Response pdus (with sense 0), 0 R2T pdus
    0 Data-in pdus, 0 Data-in bytes

iscsi8/4
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  iSCSI statistics
    0 packets input, 0 bytes
      0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
    0 packets output, 0 bytes
      0 Response pdus (with sense 0), 0 R2T pdus
      0 Data-in pdus, 0 Data-in bytes

iscsi8/5
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  iSCSI statistics
    0 packets input, 0 bytes
      0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
    0 packets output, 0 bytes
      0 Response pdus (with sense 0), 0 R2T pdus
      0 Data-in pdus, 0 Data-in bytes

iscsi8/6
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  iSCSI statistics
    0 packets input, 0 bytes
      0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
    0 packets output, 0 bytes
      0 Response pdus (with sense 0), 0 R2T pdus
      0 Data-in pdus, 0 Data-in bytes

iscsi8/7
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  iSCSI statistics
    0 packets input, 0 bytes
      0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
    0 packets output, 0 bytes
      0 Response pdus (with sense 0), 0 R2T pdus
      0 Data-in pdus, 0 Data-in bytes

iscsi8/8
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  iSCSI statistics
    0 packets input, 0 bytes
      0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
    0 packets output, 0 bytes
      0 Response pdus (with sense 0), 0 R2T pdus
      0 Data-in pdus, 0 Data-in bytes

```

The following command displays detailed iSCSI statistics.

```

switch# show iscsi stats detail
iscsi8/1
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  iSCSI statistics
    0 packets input, 0 bytes
      0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments

```


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```

    0 packets output, 0 bytes
      0 Response pdus (with sense 0), 0 R2T pdus
      0 Data-in pdus, 0 Data-in bytes
iSCSI Forward:
  Command: 0 PDUs (Received: 0)
  Data-Out (Write): 0 PDUs (Received 0), 0 fragments, 0 bytes
FCP Forward:
  Xfer_rdy: 0 (Received: 0)
  Data-In: 0 (Received: 0), 0 bytes
  Response: 0 (Received: 0), with sense 0
  TMF Resp: 0

iSCSI Stats:
  Login: attempt: 0, succeed: 0, fail: 0, authen fail: 0
  Rcvd: NOP-Out: 0, Sent: NOP-In: 0
        NOP-In: 0, Sent: NOP-Out: 0
        TMF-REQ: 0, Sent: TMF-RESP: 0
        Text-REQ: 0, Sent: Text-RESP: 0
        SNACK: 0
        Unrecognized Opcode: 0, Bad header digest: 0
        Command in window but not next: 0, exceed wait queue limit: 0
        Received PDU in wrong phase: 0
FCP Stats:
  Total: Sent: 0
        Received: 0 (Error: 0, Unknown: 0)
  Sent: PLOGI: 0, Rcvd: PLOGI_ACC: 0, PLOGI_RJT: 0
        PRLI: 0, Rcvd: PRLI_ACC: 0, PRLI_RJT: 0, Error resp: 0
        LOGO: 0, Rcvd: LOGO_ACC: 0, LOGO_RJT: 0
        ABTS: 0, Rcvd: ABTS_ACC: 0
        TMF REQ: 0
        Self orig command: 0, Rcvd: data: 0, resp: 0
  Rcvd: PLOGI: 0, Sent: PLOGI_ACC: 0
        LOGO: 0, Sent: LOGO_ACC: 0
        PRLI: 0, Sent: PRLI_ACC: 0
        ABTS: 0

iSCSI Drop:
  Command: Target down 0, Task in progress 0, LUN map fail 0
           CmdSeqNo not in window 0, No Exchange ID 0, Reject 0
           Persistent Resv 0   Data-Out: 0, TMF-Req: 0
FCP Drop:
  Xfer_rdy: 0, Data-In: 0, Response: 0

Buffer Stats:
  Buffer less than header size: 0, Partial: 0, Split: 0
  Pullup give new buf: 0, Out of contiguous buf: 0, Unaligned m_data: 0

iscsi8/2
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
iSCSI statistics
  0 packets input, 0 bytes
    0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
  0 packets output, 0 bytes
    0 Response pdus (with sense 0), 0 R2T pdus
    0 Data-in pdus, 0 Data-in bytes
iSCSI Forward:
  Command: 0 PDUs (Received: 0)
  Data-Out (Write): 0 PDUs (Received 0), 0 fragments, 0 bytes
FCP Forward:
  Xfer_rdy: 0 (Received: 0)
  Data-In: 0 (Received: 0), 0 bytes
  Response: 0 (Received: 0), with sense 0
...

```

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The following command displays detailed statistics for the specified iSCSI interface.

```
switch# show iscsi stats iscsi 8/1
iscsi8/1
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  iSCSI statistics
    0 packets input, 0 bytes
    0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
  0 packets output, 0 bytes
    0 Response pdus (with sense 0), 0 R2T pdus
    0 Data-in pdus, 0 Data-in bytes
```

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show iscsi virtual-target

To display all the iSCSI nodes that are local to the switch, use the **show iscsi virtual-target** command.

```
show iscsi virtual-target [configured] [name]
```

Syntax Description		
	configured	Show the information for all iSCSI ports.
	name	Show iSCSI information for the specified virtual-target.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.1(1)	This command was introduced.

Usage Guidelines If no parameter is provided the command lists all the active iSCSI virtual targets. If the iSCSI node name is provided then the command lists the details of that iSCSI virtual target.

Examples The following example displays information on all the iSCSI virtual targets.

```
switch# show iscsi virtual-target
target: abc1
  Port WWN 21:00:00:20:37:a6:b0:bf
  Configured node
target: iqn.com.domainname.172.22.93.143.08-03.gw.22000020374b5247
  Port WWN 22:00:00:20:37:4b:52:47 , VSAN 1
  Auto-created node
...
target: iqn.com.domainname.172.22.93.143.08-03.gw.210000203739aa39
  Port WWN 21:00:00:20:37:39:aa:39 , VSAN 1
  Auto-created node
```

The following example displays a specified iSCSI virtual target.

```
switch# show iscsi virtual-target
iqn.com.domainname.172.22.93.143.08-03.gw.210000203739a95b
target: iqn.com.domainname.172.22.93.143.08-03.gw.210000203739a95b
  Port WWN 21:00:00:20:37:39:a9:5b , VSAN 1
  Auto-created node
```

The following example displays the trespass status for a virtual target.

```
switch# show iscsi virtual-target iqn.abc
target: abc
  Port WWN 00:00:00:00:00:00:00:00
  Configured node
  all initiator permit is disabled
```

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```
trespass support is enabled S
```

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show islb cfs-session status

To display iSCSI server load balancing (iSLB) Cisco Fabric Services information, use the **show islb** command.

show islb cfs-session status

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays iSLB session information.

```
ips-hac2# show islb cfs-session status
last action           : fabric distribute disable
last action result    : success
last action failure cause : success
```

Related Commands	Command	Description
	show islb initiator	Displays iSLB initiator information.
	show islb merge status	Displays iSLB merge status information.
	show islb pending	Displays iSLB pending configurations.
	show islb pending-diff	Displays iSLB pending configuration differences.
	show islb session	Displays iSLB session information.
	show islb status	Displays iSLB CFS status information.
	show islb virtual-target	Displays iSLB virtual target information.
	show islb vrrp	Display iSLB VRRP load balancing information.

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show islb initiator

To display iSCSI server load balancing (iSLB) Cisco Fabric Services information, use the **show islb initiator** command.

```
show islb initiator [name node-name [detail | fcp-session [detail] | iscsi-session [detail]] |
  configured [name initiator-name] | detail | fcp-session [detail] | iscsi-session [detail] |
  summary [name]]
```

Syntax Description

name <i>node-name</i>	Displays the initiator node name. The maximum size is 80.
detail	Displays more detailed information.
fcp-session	Displays Fbire Channel session details.
iscsi-session	Displays iSLB session details.
configured	Displays iSLB initiator configured information.
name <i>initiator-name</i>	Displays the configured initiator name. The maximum size is 223.
summary	Displays iSLB initiator summary information.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows iSLB initiator configuration information.

```
switch# show islb initiator configured
iSCSI Node name is 1.1.1.1

  No. of PWWN: 2
    Port WWN is 23:01:00:0c:85:90:3e:82
    Port WWN is 23:02:00:0c:85:90:3e:82
  Load Balance Metric: 1000
  Number of Initiator Targets: 0

iSCSI Node name is 2.2.2.2

  Load Balance Metric: 1000
  Number of Initiator Targets: 0
```

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Related Commands	Command	Description
	show islb cfs-session status	Displays iSLB session status and status information.
	show islb merge status	Displays iSLB merge status information.
	show islb pending	Displays iSLB pending configurations.
	show islb pending-diff	Displays iSLB pending configuration differences.
	show islb session	Displays iSLB session information.
	show islb status	Displays iSLB CFS status information.
	show islb virtual-target	Displays iSLB virtual target information.
	show islb vrrp	Display iSLB VRRP load balancing information.

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show islb merge status

To display iSCSI server load balancing (iSLB) merge status information, use the **show islb merge status** command.

show islb merge status

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows iSLB merge status information.

```
switch# show islb merge status
Merge Status: SUCCESS
```

Related Commands	Command	Description
	show islb cfs-session status	Displays iSLB session information.
	show islb initiator	Displays iSLB initiator information.
	show islb pending	Displays iSLB pending configurations.
	show islb pending-diff	Displays iSLB pending configuration differences.
	show islb session	Displays iSLB session information.
	show islb status	Displays iSLB CFS status information.
	show islb virtual-target	Displays iSLB virtual target information.
	show islb vrrp	Display iSLB VRRP load balancing information.

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show islb pending

To display iSCSI server load balancing (iSLB) pending configurations, use the **show islb pending** command.

show islb pending

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows iSLB pending configuration information.

```
switch# show islb pending
iscsi initiator idle-timeout 10

islb initiator ip-address 10.1.1.1
static pWWN 23:01:00:0c:85:90:3e:82
static pWWN 23:06:00:0c:85:90:3e:82
username test1

islb initiator ip-address 10.1.1.2
static nWWN 23:02:00:0c:85:90:3e:82
```

Related Commands	Command	Description
	show islb initiator	Displays iSLB initiator information.
	show islb cfs-session status	Displays iSLB session information.
	show islb merge status	Displays iSLB merge status information.
	show islb pending-diff	Displays iSLB pending configuration differences.
	show islb session	Displays iSLB session information.
	show islb status	Displays iSLB CFS status information.
	show islb virtual-target	Displays iSLB virtual target information.
	show islb vrrp	Display iSLB VRRP load balancing information.

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show islb pending-diff

To display iSCSI server load balancing (iSLB) pending configuration differences, use the **show islb pending-diff** command.

show islb pending-diff

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows iSLB pending configuration differences.

```
switch# show islb pending-diff
+iscsi initiator idle-timeout 10
islb initiator ip-address 10.1.1.1
+ static pWWN 23:06:00:0c:85:90:3e:82
+islb initiator ip-address 10.1.1.2
+ static nWWN 23:02:00:0c:85:90:3e:82
```

Related Commands	Command	Description
	show islb cfs-session status	Displays iSLB session information.
	show islb initiator	Displays iSLB initiator information.
	show islb merge status	Displays iSLB merge status information.
	show islb pending	Displays iSLB pending configurations.
	show islb session	Displays iSLB session information.
	show islb status	Displays iSLB CFS status information.
	show islb virtual-target	Displays iSLB virtual target information.
	show islb vrrp	Display iSLB VRRP load balancing information.

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show islb session

To display iSLB session information, use the **show islb session** command.

```
show islb session [detail | incoming | initiator initiator-node-name | iscsi slot-number | outgoing
| target target-node-name]
```

Syntax Description		
detail		Displays detailed iSLB session information.
incoming		Displays incoming iSLB sessions.
initiator <i>initiator-node-name</i>		Displays session information for a specific iSLB initiator. The maximum size for the initiator node name is 80.
<i>iscsi slot-port</i>		Specifies the iSCSI interface.
outgoing		Displays outgoing iSLB sessions.
target		Displays session information for a specific iSLB target. The maximum size for the target node name is 80.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows iSLB session information.

```
switch# show islb session
Initiator iqn.1987-05.com.cisco.01.15cee6e7925087abc82ed96377653c8
  Session #1
    Target iqn.com.domainname.172.22.93.143.08-03.gw.22000020374b5247
    VSAN 1, ISID 000000000000, Status active, no reservation

  Session #2
    Target iqn.com.domainname.172.22.93.143.08-03.gw.220000203738e77d
    VSAN 1, ISID 000000000000, Status active, no reservation

Initiator iqn.1987-05.com.cisco:02.91b0ee2e8aa1.iscsi16-w2k
  Session #1
    Discovery session, ISID 00023d00022f, Status active

  Session #2
    Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037388bc2
    VSAN 1, ISID 00023d000230, Status active, no reservation
```

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Related Commands	Command	Description
	show islb cfs-session status	Displays iSLB session information.
	show islb initiator	Displays iSLB initiator information.
	show islb merge status	Displays iSLB merge status information.
	show islb pending	Displays iSLB pending configurations.
	show islb pending-diff	Displays iSLB CFS pending configuration differences.
	show islb status	Displays iSLB CFS status information.
	show islb virtual-target	Displays iSLB virtual target information.
	show islb vrrp	Display iSLB VRRP load balancing information.

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show islb status

To display iSCSI server load balancing (iSLB) Cisco Fabric Services status, use the **show islb status** command.

show islb status

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows iSLB CFS status.

```
switch# show islb status
iSLB Distribute is enabled
iSLB CFS Session does not exist
```

Related Commands	Command	Description
	show islb cfs-session status	Displays iSLB session information.
	show islb initiator	Displays iSLB initiator information.
	show islb merge status	Displays iSLB merge status information.
	show islb pending	Displays iSLB pending configurations.
	show islb pending-diff	Displays iSLB CFS pending configuration differences.
	show islb session	Displays iSLB session information.
	show islb virtual-target	Displays iSLB virtual target information.
	show islb vrrp	Display iSLB VRRP load balancing information.

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show islb virtual-target

To display information about iSLB virtual targets, use the **show islb virtual-target** command.

```
show islb virtual-target [name | configured name]
```

Syntax Description	
<i>name</i>	Specifies the iSLB virtual target name. The range is 16 bytes to 223 bytes.
configured	Displays information about configured iSLB virtual targets.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows an iSLB target.

```
switch# show islb virtual-target newtarget0987654321
target: newtarget0987654321
```

```
    Configured node (iSLB)
    No. of initiators permitted: 1
      initiator frontarget1234567890 is permitted
    All initiator permit is enabled
    Trespass support is disabled
    Revert to primary support is disabled
```

The following example shows all configured iSLB virtual targets.

```
switch# show islb virtual-target configured
target: testtarget1234567
```

```
    Configured node (iSLB)
    No. of initiators permitted: 1
      initiator trespass is permitted
    All initiator permit is disabled
    Trespass support is disabled
    Revert to primary support is disabled
```

```
target: testertarget987654321
  Port WWN 10:20:30:40:50:60:70:80
  Configured node (iSLB)
  No. of initiators permitted: 1
    initiator mytargetdevice is permitted
  All initiator permit is disabled
```

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```

Trespass support is disabled
Revert to primary support is disabled

target: newtarget0987654321

Configured node (iSLB)
No. of initiators permitted: 1
  initiator fromtarget1234567890 is permitted
All initiator permit is enabled
Trespass support is disabled
Revert to primary support is disabled

target: mytargetdevice123

Configured node (iSLB)
All initiator permit is disabled
Trespass support is enabled
Revert to primary support is disabled

```

Related Commands

Command	Description
show islb cfs-session status	Displays iSLB session information.
show islb initiator	Displays iSLB initiator information.
show islb merge status	Displays iSLB merge status information.
show islb pending	Displays iSLB pending configurations.
show islb pending-diff	Displays iSLB CFS pending configuration differences.
show islb session	Displays iSLB session information.
show islb status	Displays iSLB CFS status information.
show islb vrrp	Display iSLB VRRP load balancing information.

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show islb vrrp

To display iSLB VRRP load balancing information, use the **show islb vrrp** command.

```
show islb vrrp [assignment [initiator node-name [vr group-number] | vr group-number] |
               interface [switch WWN [vr group-number] | vr group-number] | summary [vr group-number]
               | vr group-number]
```

Syntax Description	Parameter	Description
	assignment	Displays iSLB VRRP initiator to interface assignment.
	initiator <i>node-name</i>	Displays a specific iSLB initiator's interface assignment. The maximum is 80.
	vr <i>group-number</i>	Displays information for a specific VR group. The range is 1 to 255.
	interface	Displays iSLB VRRP interface information.
	switch <i>WWN</i>	Displays a interface information for a specific switch. The format of WWN is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> .
	summary	Displays iSLB VRRP load balancing summary information.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows iSLB VRRP interface information.

```
switch# show islb vrrp interface vr 41
-- Interfaces For Load Balance --

Interface GigabitEthernet1/1.441
  Switch wwn: 20:00:00:0d:ec:02:cb:00
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Interface VRRP state: backup
  Interface load: 3000
  Interface redirection: enabled
  Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.115
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None
```


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```

Interface GigabitEthernet1/2.441
  Switch wwn: 20:00:00:0d:ec:02:cb:00
  VRRP group id: 41, VRRP IP address: 10.10.122.112
    Interface VRRP state: backup
    Interface load: 2000
    Interface redirection: enabled
    Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.114
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

Interface GigabitEthernet2/1.441
  Switch wwn: 20:00:00:0d:ec:0c:6b:c0
  VRRP group id: 41, VRRP IP address: 10.10.122.112
    Interface VRRP state: backup
    Interface load: 2000
    Interface redirection: enabled
    Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.111
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

Interface GigabitEthernet2/2.441
  Switch wwn: 20:00:00:0d:ec:0c:6b:c0
  VRRP group id: 41, VRRP IP address: 10.10.122.112
    Interface VRRP state: master
    Interface load: 1000
    Interface redirection: enabled
    Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.112
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

Interface GigabitEthernet2/3.441
  Switch wwn: 20:00:00:0d:ec:0c:6b:c0
  VRRP group id: 41, VRRP IP address: 10.10.122.112
    Interface VRRP state: backup
    Interface load: 2000
    Interface redirection: enabled
    Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.113
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

```

The following example shows iSLB VRRP summary information.

```
switch# show islb vrrp summary
```

```
-- Groups For Load Balance --
```

```
-----
      VR Id           VRRP Address Type           Configured Status
-----
```

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```

41                                     IPv4                                     Enabled
42                                     IPv4                                     Enabled

-- Interfaces For Load Balance --
-----
VR Id          VRRP IP          Switch WWN          Ifindex          Load
-----
41  10.10.122.112  20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441  3000
41  10.10.122.112  20:00:00:0d:ec:02:cb:00  GigabitEthernet1/2.441  2000
41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.441  2000
M  41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/2.441  1000
41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.441  2000
M  42  10.10.142.111  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.442  2000
42  10.10.142.111  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/2.442  1000
42  10.10.142.111  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.442  2000

-- Initiator To Interface Assignment --
-----
Initiator VR Id          VRRP IP          Switch WWN          Ifindex
-----
iqn.1987-05.com.cisco:01.09ea2e99c97
41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.441
iqn.1987-05.com.cisco:01.5ef81885f8d
41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.441
iqn.1987-05.com.cisco:01.8fbdb3fdf8
41  10.10.122.112  20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441
iqn.1987-05.com.cisco:01.99eddd9b134
41  10.10.122.112  20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441
iqn.1987-05.com.cisco:01.a1398a8c6bc6
41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.441
iqn.1987-05.com.cisco:01.e15c63d09d18
41  10.10.122.112  20:00:00:0d:ec:02:cb:00  GigabitEthernet1/2.441
iqn.1987-05.com.cisco:01.e9aab57a51e0
41  10.10.122.112  20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441
iqn.1987-05.com.cisco:01.ecc2b77b6086
41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/2.441
iqn.1987-05.com.cisco:01.f047da798a44
41  10.10.122.112  20:00:00:0d:ec:02:cb:00  GigabitEthernet1/2.441
iqn.1987-05.com.cisco:01.f686f5cd11f
41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.441

```

The following example shows iSLB VRRP summary information for vr 41.

```

switch# show islb vrrp summary vr 41

-- Groups For Load Balance --
-----
VR Id          VRRP Address Type          Configured Status
-----
41                                     IPv4                                     Enabled

-- Interfaces For Load Balance --
-----
VR Id          VRRP IP          Switch WWN          Ifindex          Load
-----
41  10.10.122.112  20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441  3000
41  10.10.122.112  20:00:00:0d:ec:02:cb:00  GigabitEthernet1/2.441  2000
41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.441  2000
M  41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/2.441  1000
41  10.10.122.112  20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.441  2000

-- Initiator To Interface Assignment --
-----
Initiator VR Id          VRRP IP          Switch WWN          Ifindex
-----

```

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```

-----
iqn.1987-05.com.cisco:01.09ea2e99c97
    41  10.10.122.112 20:00:00:0d:ec:0c:6b:c0 GigabitEthernet2/1.441
iqn.1987-05.com.cisco:01.5ef81885f8d
    41  10.10.122.112 20:00:00:0d:ec:0c:6b:c0 GigabitEthernet2/3.441
iqn.1987-05.com.cisco:01.8fdbb3fdf8
    41  10.10.122.112 20:00:00:0d:ec:02:cb:00 GigabitEthernet1/1.441
iqn.1987-05.com.cisco:01.99eddd9b134
    41  10.10.122.112 20:00:00:0d:ec:02:cb:00 GigabitEthernet1/1.441
iqn.1987-05.com.cisco:01.a1398a8c6bc6
    41  10.10.122.112 20:00:00:0d:ec:0c:6b:c0 GigabitEthernet2/3.441
iqn.1987-05.com.cisco:01.e15c63d09d18
    41  10.10.122.112 20:00:00:0d:ec:02:cb:00 GigabitEthernet1/2.441
iqn.1987-05.com.cisco:01.e9aab57a51e0
    41  10.10.122.112 20:00:00:0d:ec:02:cb:00 GigabitEthernet1/1.441
iqn.1987-05.com.cisco:01.ecc2b77b6086
    41  10.10.122.112 20:00:00:0d:ec:0c:6b:c0 GigabitEthernet2/2.441
iqn.1987-05.com.cisco:01.f047da798a44
    41  10.10.122.112 20:00:00:0d:ec:02:cb:00 GigabitEthernet1/2.441
iqn.1987-05.com.cisco:01.f686f5cd11f
    41  10.10.122.112 20:00:00:0d:ec:0c:6b:c0 GigabitEthernet2/1.441

```

The following example shows complete iSLB VRRP load balancing information.

```

switch# show islb vrrp
-- Groups For Load Balance --

VRRP group id 41
  Address type: IPv4
  Configured status: Enabled

VRRP group id 42
  Address type: IPv4
  Configured status: Enabled

-- Interfaces For Load Balance --

Interface GigabitEthernet1/1.441
  Switch wwn: 20:00:00:0d:ec:02:cb:00
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Interface VRRP state: backup
  Interface load: 3000
  Interface redirection: enabled
  Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.115
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

Interface GigabitEthernet1/2.441
  Switch wwn: 20:00:00:0d:ec:02:cb:00
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Interface VRRP state: backup
  Interface load: 2000
  Interface redirection: enabled
  Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.114
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

```

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```

Interface GigabitEthernet2/1.441
  Switch wwn: 20:00:00:0d:ec:0c:6b:c0
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Interface VRRP state: backup
  Interface load: 2000
  Interface redirection: enabled
  Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.111
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

Interface GigabitEthernet2/2.441
  Switch wwn: 20:00:00:0d:ec:0c:6b:c0
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Interface VRRP state: master
  Interface load: 1000
  Interface redirection: enabled
  Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.112
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

Interface GigabitEthernet2/3.441
  Switch wwn: 20:00:00:0d:ec:0c:6b:c0
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Interface VRRP state: backup
  Interface load: 2000
  Interface redirection: enabled
  Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.122.113
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

Interface GigabitEthernet2/1.442
  Switch wwn: 20:00:00:0d:ec:0c:6b:c0
  VRRP group id: 42, VRRP IP address: 10.10.142.111
  Interface VRRP state: master
  Interface load: 2000
  Interface redirection: enabled
  Group redirection: enabled
  Number of physical IP address: 1
    (1) 10.10.142.111
  Port vsan: 1
  Forwarding mode: store-and-forward
  Proxy initiator mode: disabled
  iSCSI authentication: CHAP or None

Interface GigabitEthernet2/2.442
  Switch wwn: 20:00:00:0d:ec:0c:6b:c0
  VRRP group id: 42, VRRP IP address: 10.10.142.111
  Interface VRRP state: backup
  Interface load: 1000
  Interface redirection: enabled
  Group redirection: enabled

```

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```

Number of physical IP address: 1
  (1) 10.10.142.112
Port vsan: 1
Forwarding mode: store-and-forward
Proxy initiator mode: disabled
iSCSI authentication: CHAP or None

Interface GigabitEthernet2/3.442
Switch wwn: 20:00:00:0d:ec:0c:6b:c0
VRRP group id: 42, VRRP IP address: 10.10.142.111
  Interface VRRP state: backup
  Interface load: 2000
  Interface redirection: enabled
  Group redirection: enabled
Number of physical IP address: 1
  (1) 10.10.142.113
Port vsan: 1
Forwarding mode: store-and-forward
Proxy initiator mode: disabled
iSCSI authentication: CHAP or None

-- Initiator To Interface Assignment --

Initiator iqn.1987-05.com.cisco:01.09ea2e99c97
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:0c:6b:c0
    ifindex: GigabitEthernet2/1.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

Initiator iqn.1987-05.com.cisco:01.5ef81885f8d
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:0c:6b:c0
    ifindex: GigabitEthernet2/3.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

Initiator iqn.1987-05.com.cisco:01.8fbdb3fdf8
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:02:cb:00
    ifindex: GigabitEthernet1/1.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

Initiator iqn.1987-05.com.cisco:01.99eddd9b134
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:02:cb:00
    ifindex: GigabitEthernet1/1.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

Initiator iqn.1987-05.com.cisco:01.a1398a8c6bc6
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:0c:6b:c0
    ifindex: GigabitEthernet2/3.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

Initiator iqn.1987-05.com.cisco:01.e15c63d09d18
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:02:cb:00
    ifindex: GigabitEthernet1/2.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

```

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```

Initiator iqn.1987-05.com.cisco:01.e9aab57a51e0
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:02:cb:00
  ifindex: GigabitEthernet1/1.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

Initiator iqn.1987-05.com.cisco:01.ecc2b77b6086
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:0c:6b:c0
  ifindex: GigabitEthernet2/2.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

Initiator iqn.1987-05.com.cisco:01.f047da798a44
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:02:cb:00
  ifindex: GigabitEthernet1/2.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

Initiator iqn.1987-05.com.cisco:01.f686f5cd11f
  VRRP group id: 41, VRRP IP address: 10.10.122.112
  Assigned to switch wwn: 20:00:00:0d:ec:0c:6b:c0
  ifindex: GigabitEthernet2/1.441
  Waiting for the redirected session request: False
  Initiator weighted load: 1000

```

Related Commands

Command	Description
show islb cfs-session status	Displays iSLB session information.
show islb initiator	Displays iSLB initiator information.
show islb merge status	Displays iSLB merge status information.
show islb pending	Displays iSLB pending configurations.
show islb pending-diff	Displays iSLB CFS pending configuration differences.
show islb session	Displays iSLB session information.
show islb status	Displays iSLB CFS status information.
show islb virtual-target	Displays iSLB virtual target information.

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show isns

To display Internet Storage Name Service (iSNS) information, use the **show isns** command.

```
show isns { config |
  database [full | virtual-targets [local | switch switch-wwn]] |
  entity [all [detail] | id entity-id] |
  iscsi global config [all | switch switch-wwn]] |
  node [all [detail] | configured | detail | name node-name | virtual [switch switch-wwn
  [detail]]] |
  portal [all [detail] | detail | ipaddress ip-address port tcp-port | virtual [switch switch-wwn
  [detail]]] |
  profile [profile-name [counters] | counters] |
  query profile-name { gigabitethernet slot/port | port-channel port} |
  stats }
```

Syntax	Description
config	Displays iSNS server configuration.
database	Displays the iSNS database contents.
full	Specifies all virtual targets or registered nodes in database.
virtual-targets	Specifies just virtual targets.
local	Specifies only local virtual targets.
switch <i>switch-wwn</i>	Specifies a specific switch WWN. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number.
entity	Displays entity attributes.
all	Specifies all information.
detail	Specifies detailed information.
id <i>entity-id</i>	Specifies an entity ID. Maximum length is 255.
iscsi global config	Displays iSCSI global configuration for import of Fibre Channel targets.
node	Displays node attributes.
configured	Specifies configured nodes with detailed information.
name <i>node-name</i>	Specifies the node name. Maximum length is 255.
virtual	Specifies virtual targets.
portal	Displays portal attributes.
ipaddress <i>ip-address</i>	Specifies the IP address for the portal.
port <i>tcp-port</i>	Specifies the TCP port for the portal. The range is 1 to 66535.
profile	Displays iSNS profile information.
<i>profile-name</i>	Specifies a profile name. Maximum length is 64 characters.
counters	Specifies statistics for the interfaces.
query <i>profile-name</i>	Specifies a query to send to the iSNS server.
gigabitethernet <i>slot/port</i>	Specifies a Gigabit Ethernet interface.
port-channel <i>port</i>	Specifies a PortChannel interface. The range is 1 to 128.
stats	Displays iSNS server statistics.

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Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.
	2.0(x)	Added config , database , entity , iscsi , node , portal , and stats options.

Usage Guidelines To access all but the **profile** and **query** options for this command, you must perform the **isns-server enable** command.

Examples The following example shows how to display the iSNS configuration.

```
switch# show isns config
Server Name: ips-hacl(Cisco Systems) Up since: Mon Apr 27 06:59:49 1981

Index: 1      Version: 1      TCP Port: 3205
fabric distribute (remote sync): ON
ESI
  Non Response Threshold: 5 Interval(seconds): 60
Database contents
  Number of Entities: 1
  Number of Portals: 0
  Number of ISCSI devices: 2
  Number of Portal Groups: 0
```

The following example displays a specified iSNS profile.

```
switch# show isns profile ABC

iSNS profile name ABC
tagged interface GigabitEthernet2/3
iSNS Server 10.10.100.204
```

The following example displays all iSNS profiles.

```
switch# show isns profile

iSNS profile name ABC
tagged interface GigabitEthernet2/3
iSNS Server 10.10.100.204

iSNS profile name NBV
tagged interface GigabitEthernet2/5
iSNS Server 10.10.100.201
```

The following example displays iSNS PDU statistics for a specified iSNS profile.

```
switch# show isns profile ABC counters

iSNS profile name ABC
tagged interface GigabitEthernet2/3
iSNS statistics
  Input 54 pdus (registration/deregistration pdus only)
```


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```

    Reg pdus 37,  Dereg pdus 17
  Output 54 pdus (registration/deregistration pdus only)
    Reg pdus 37,  Dereg pdus 17
iSNS Server 10.10.100.204

```

The following example displays iSNS PDU statistics for all iSNS profiles.

```
switch# show isns profile counters
```

```

iSNS profile name ABC
tagged interface GigabitEthernet2/3
iSNS statistics
  Input 54 pdus (registration/deregistration pdus only)
    Reg pdus 37,  Dereg pdus 17
  Output 54 pdus (registration/deregistration pdus only)
    Reg pdus 37,  Dereg pdus 17
iSNS Server 10.10.100.204

```

```

iSNS profile name NBV
tagged interface GigabitEthernet2/5
iSNS statistics
  Input 54 pdus (registration/deregistration pdus only)
    Reg pdus 37,  Dereg pdus 17
  Output 54 pdus (registration/deregistration pdus only)
    Reg pdus 37,  Dereg pdus 17
iSNS Server 10.10.100.201

```

Related Commands

Command	Description
isns-server enable	Enables the iSNS server.

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show ivr

To display various Inter-VSAN Routing (IVR) configurations, use the **show ivr** command.

```
show ivr [pending | pending-diff | session status | virtual-domains [vsan vsan-id] |
virtual-fcdomain-add-status | vsan-topology [active | configured] | zone [active | name name
[active]] | zoneset [active | brief | fabric | name name | status]]
```

Syntax	Description
merge	Displays the IVR merge status.
pending	Displays the IVR pending configuration.
pending-diff	Displays the IVR pending configuration differences with the active configuration.
vsan vsan-id	Specifies a VSAN ID. The range is 1 to 4093.
session	Displays the IVR session status.
status	Displays the status of the configured IVR session.
virtual-domains	Displays IVR virtual domains for all local VSANs.
virtual-fcdomain-add-status	Displays IVR virtual fcdomain status.
vsan-topology	Displays the IVR VSAN topology
active	Displays the active IVR facilities.
configured	Displays the configured IVR facilities
zone	Displays the Inter-VSA Zone (IVZ) configurations.
name name	Specifies the name as configured in the database.
zoneset	Displays the Inter-VSA Zone Set (IVZS) configurations.
brief	Displays configured information in brief format.
fabric	Displays the status of active zone set in the fabric.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.
	2.0(1b)	Added the pending and pending-diff keywords.

Usage Guidelines To access this command, you must perform the **ivr enable** command.

Examples The following example displays the status of the IVR virtual domain configuration.

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```
switch# show ivr virtual-fcdomain-add-status
IVR virtual domains are added to fcdomain list in VSANS: 1
(As well as to VSANS in interoperability mode 2 or 3)
```

The following example displays IVR-enabled switches for a specified VSAN.

```
switch# show ivr enabled-switches vsan 2
AFID      VSAN      DOMAIN          CAPABILITY    SWITCH WWN
-----
1         2         0x62( 98)      00000001     20:00:00:05:30:01:1b:c2 *
```

Total: 1 ivr-enabled VSAN-Domain pair>

The following example displays the status of the IVR session.

```
switch# show ivr session status
Last Action           : None
Last Action Result    : None
Last Action Failure Reason : None
```

The following example displays the configured IVR VSAN topology.

```
switch# show ivr vsan-topology
AFID SWITCH WWN          Active  Cfg. VSANS
-----
1 20:00:00:05:30:00:3c:5e  yes    yes 3,2000
1 20:00:00:05:30:00:58:de  yes    yes 2,2000
1 20:00:00:05:30:01:1b:c2 * yes    yes 1-2
1 20:02:00:44:22:00:4a:05  yes    yes 1-2,6
1 20:02:00:44:22:00:4a:07  yes    yes 2-5
```

Total: 5 entries in active and configured IVR VSAN-Topology

```
Current Status: Inter-VSAN topology is ACTIVE
Last activation time: Sat Mar 22 21:46:15 1980
```

The following example displays the active IVR VSAN topology.

```
switch# show ivr vsan-topology active
AFID SWITCH WWN          Active  Cfg. VSANS
-----
1 20:00:00:05:30:00:3c:5e  yes    yes 3,2000
1 20:00:00:05:30:00:58:de  yes    yes 2,2000
1 20:00:00:05:30:01:1b:c2 * yes    yes 1-2
1 20:02:00:44:22:00:4a:05  yes    yes 1-2,6
1 20:02:00:44:22:00:4a:07  yes    yes 2-5
```

Total: 5 entries in active IVR VSAN-Topology

```
Current Status: Inter-VSAN topology is ACTIVE
Last activation time: Sat Mar 22 21:46:15
```

The following example displays the configured IVR VSAN topology.

```
switch# show ivr vsan-topology configured
AFID SWITCH WWN          Active  Cfg. VSANS
-----
1 20:00:00:05:30:00:3c:5e  yes    yes 3,2000
1 20:00:00:05:30:00:58:de  yes    yes 2,2000
1 20:00:00:05:30:01:1b:c2 * yes    yes 1-2
1 20:02:00:44:22:00:4a:05  yes    yes 1-2,6
1 20:02:00:44:22:00:4a:07  yes    yes 2-5
```

Total: 5 entries in configured IVR VSAN-Topology

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The following example displays the combined user-defined and the automatically discovered IVR VSAN topology database.

```
switch(config)# show ivr vsan-topology
```

AFID	SWITCH WWN	Active	Cfg.	VSANS
1	20:00:00:0d:ec:04:99:00	yes	no	1-4
1	20:00:00:0d:ec:0e:9c:80 *	yes	no	2,6-7,9
1	20:00:00:0d:ec:0e:b0:40	yes	no	1-3,5,8
1	20:00:00:0d:ec:04:99:00	no	yes	1-4
1	20:00:00:0d:ec:0e:9c:80 *	no	yes	2,6-7,9
1	20:00:00:0d:ec:0e:b0:40	no	yes	1-3,5,8

Total: 6 entries in active and configured IVR VSAN-Topology

Table 22-6 describes the significant fields shown in the `show ivr vsan-topology` display.

Table 22-6 *show ivr vsan-topology Field Descriptions*

Field	Description
AFID	Autonomous fabric ID (AFID)
Switch WWN	Switch world wide number
Active	Automatically discovered
Cfg.	Manually configured
VSANS	VSANs configured

The following example displays the IVZ configuration.

```
switch# show ivr zone
zone name Ivz_vsan2-3
  pwn 21:00:00:e0:8b:02:ca:4a vsan 3
  pwn 21:00:00:20:37:c8:5c:6b vsan 2

zone name ivr_qa_z_all
  pwn 21:00:00:e0:8b:06:d9:1d vsan 1
  pwn 21:01:00:e0:8b:2e:80:93 vsan 4
  pwn 10:00:00:00:c9:2d:5a:dd vsan 1
  pwn 10:00:00:00:c9:2d:5a:de vsan 2
  pwn 21:00:00:20:37:5b:ce:af vsan 6
  pwn 21:00:00:20:37:39:6b:dd vsan 6
  pwn 22:00:00:20:37:39:6b:dd vsan 3
  pwn 22:00:00:20:37:5b:ce:af vsan 3
  pwn 50:06:04:82:bc:01:c3:84 vsan 5
```

The following example displays the active IVZS configuration.

```
switch# show ivr zoneset active
zoneset name IVR_ZoneSet1
  zone name Ivz_vsan2-3
    pwn 21:00:00:e0:8b:02:ca:4a vsan 3
    pwn 21:00:00:20:37:c8:5c:6b vsan 2
```

The following example displays information for a specified IVZ.

```
switch# show ivr zone name Ivz_vsan2-3
zone name Ivz_vsan2-3
  pwn 21:00:00:e0:8b:02:ca:4a vsan 3
  pwn 21:00:00:20:37:c8:5c:6b vsan 2
```

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The following example displays the specified zone in the active IVZS.

```
switch# show ivr zone name Ivz_vsan2-3 active
zone name Ivz_vsan2-3
  pwwn 21:00:00:e0:8b:02:ca:4a vsan 3
  pwwn 21:00:00:20:37:c8:5c:6b vsan 2
```

The following example displays the IVZS configuration.

```
switch# show ivr zoneset
zoneset name ivr_qa_zs_all
  zone name ivr_qa_z_all
    pwwn 21:00:00:e0:8b:06:d9:1d vsan 1
    pwwn 21:01:00:e0:8b:2e:80:93 vsan 4
    pwwn 10:00:00:00:c9:2d:5a:dd vsan 1
    pwwn 10:00:00:00:c9:2d:5a:de vsan 2
    pwwn 21:00:00:20:37:5b:ce:af vsan 6
    pwwn 21:00:00:20:37:39:6b:dd vsan 6
    pwwn 22:00:00:20:37:39:6b:dd vsan 3
    pwwn 22:00:00:20:37:5b:ce:af vsan 3
    pwwn 50:06:04:82:bc:01:c3:84 vsan 5

zoneset name IVR_ZoneSet1
  zone name Ivz_vsan2-3
    pwwn 21:00:00:e0:8b:02:ca:4a vsan 3
    pwwn 21:00:00:20:37:c8:5c:6b vsan 2
```

The following example displays brief information for an IVR VSAN topology.

```
switch# show ivr vsan-topology configured
AFID SWITCH WWN Active Cfg. VSANS
-----
  1 20:00:00:05:30:00:3c:5e yes yes 3,2000
  1 20:00:00:05:30:00:58:de yes yes 2,2000
  1 20:00:00:05:30:01:1b:c2 * yes yes 1-2
  1 20:02:00:44:22:00:4a:05 yes yes 1-2,6
  1 20:02:00:44:22:00:4a:07 yes yes 2-5
```

Total: 5 entries in configured IVR VSAN-Topology

The following example displays brief information for the active IVZS.

```
switch# show ivr zoneset brief Active
zoneset name IVR_ZoneSet1
  zone name Ivz_vsan2-3
```

The following example displays the status information for the IVZ.

```
switch# show ivr zoneset brief status
Zoneset Status
-----
name           : IVR_ZoneSet1
state          : activation success
last activate time : Sat Mar 22 21:38:46 1980
force option   : off

status per vsan:
-----
vsan          status
-----
2             active
```

The following example displays the specified zone set.

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```
switch# show ivr zoneset name IVR_ZoneSet1
zoneset name IVR_ZoneSet1
  zone name Ivz_vsan2-3
    pwwn 21:00:00:e0:8b:02:ca:4a vsan 3
    pwwn 21:00:00:20:37:c8:5c:6b vsan 2
```

Related Commands

Command	Description
ivr distribute	Enables IVR CFS distribution.
ivr enable	Enables IVR.

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show ivr fcdomain database

To display the IVR fcdomain database that contains the persistent FC ID mapping, use the **show ivr fcdomain database** command.

show ivr fcdomain database [**autonomous-fabric-num** *afid-num* **vsan** *vsan-id*]

Syntax Description		
autonomous-fabric-num <i>afid-num</i>		Specifies the AFID. The range is 1 to 64.
vsan <i>vsan-id</i>		Specifies the VSAN ID. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.1(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays all IVR fcdomain database entries.

```
switch# show ivr fcdomain database
-----
  AFID  Vsan  Native-AFID  Native-Vsan  Virtual-domain
-----
    1    2      10           11           0xc(12)
   21   22      20           11           0xc(12)
```

Number of Virtual-domain entries: 2

```
-----
  AFID  Vsan  Pwwn                Virtual-fcid
-----
   21   22  11:22:33:44:55:66:77:88  0x114466
   21   22  21:22:33:44:55:66:77:88  0x0c4466
   21   22  21:22:33:44:55:66:78:88  0x0c4466
```

Number of Virtual-fcid entries: 3

The following example displays the IVR fcdomain database entries for a specific AFID and VSAN.

```
switch# show ivr fcdomain database autonomous-fabric-num 21 vsan 22
-----
  AFID  Vsan  Native-AFID  Native-Vsan  Virtual-domain
-----
   21   22      20           11           0xc(12)
```

Number of Virtual-domain entries: 1

```
show ivr fcdomain database
```

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```
-----
AFID  Vsan          Pwwn          Virtual-fcid
-----
 21   22  11:22:33:44:55:66:77:88  0x114466
 21   22  21:22:33:44:55:66:77:88  0x0c4466
 21   22  21:22:33:44:55:66:78:88  0x0c4466
```

Number of Virtual-fcid entries: 3

Related Commands

Command	Description
ivr fcdomain database	Creates IVR persistent FC IDs.
autonomous-fabric-num	

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show ivr service-group

To display an inter-VSAN routing (IVR) service groups, use the **show ivr service-group** command.

show ivr service-group [active | configured]

Syntax Description	active	Displays active IVR service groups.
	configured	Displays configured IVR service groups.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines You can configure a maximum of 16 IVR service groups.

Examples The following example displays IIVR service groups.

```
switch# show ivr service-group

IVR CONFIGURED Service Group
=====
SG-ID SG-NAME AFID VSANS
-----
1 sg-100 1 200-201,250,270
2 sg-200 1 100-101,150,170
Total: 2 entries in configured service group table

IVR ACTIVE Service Group
=====
SG-ID SG-NAME AFID VSANS
-----
1 sg-100 1 200-201,250,270
2 sg-200 1 100-101,150,170
Total: 2 entries in active service group table
```

Related Commands	Command	Description
	clear ivr service-group database	Clears an IVR service group database.
	ivr service-group name	Configures an IVR service group.

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show ivr virtual-fcdomain-add-status2

To display the RDI (Request Domain ID) mode in a specific AFID and VSAN for all IVR-enabled switches, use the **show ivr virtual-fcdomain-add-status2** command.

show ivr virtual-fcdomain-add-status2

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes Exec mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the RDI mode in the local switch.

```
switch# show ivr virtual-fcdomain-add-status2
IVR virtual domains are added to fcdomain list in VSANS: 2 for afid 1
```

Related Commands	Command	Description
	ivr virtual-fcdomain-add2	Configures the RDI mode in a specific AFID and VSAN for all IVR-enabled switches.

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show ivr virtual-switch-wwn

To display an inter-VSAN routing (IVR) virtual switch WWN, use the **show ivr virtual-switch-wwn** command.

show ivr virtual-switch-wwn native-switch-wwn *switch-wwn* **native-vsan** *vsan-id*

Syntax Description	Parameter	Description
	<code>native-switch-wwn</code> <i>switch-wwn</i>	Specifies the sWWN of the native switch. The format is in dotted hex.
	<code>native-vsan</code> <i>vsan-id</i>	Specifies the ID of the native VSAN. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines The sWWN of the virtual switch must be present in the fabric binding database of all the VSANs where the virtual switch is in use. If the sWWN is not in the database, you must add it before attempting to implement FICON over IVR.

Examples The following example displays an IVR virtual sWNN.

```
switch# show ivr virtual-switch-wwn native-switch-wwn 20:00:00:0d:ec:00:8c:c0 native-vsan
1
virtual switch wwn : 20:01:00:0d:ec:00:8c:c1
```

Related Commands	Command	Description
	<code>show ivr</code>	Displays IVR information.

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show kernel core

To display kernel core configuration information, use the **show kernel core** command.

```
show kernel core {limit | module slot | target}
```

Syntax Description	limit	Displays the configured line card limit.
	module <i>slot</i>	Displays the kernel core configuration for a module in the specified slot.
	target	Displays the configured target IP address.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.1(1)	This command was introduced.

Usage Guidelines None.

Examples The following examples display kernel core settings.

```
switch# show kernel core limit
2

switch# show kernel core target
10.50.5.5

switch# show kernel core module 5
module 5 core is enabled
  level is header
  dst_ip is 10.50.5.5
  src_port is 6671
  dst_port is 6666
  dump_dev_name is eth1
  dst_mac_addr is 00:00:0C:07:AC:01
```

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show license

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

show license [**brief** | **default** | **file** *filename* | **host-id** *license-name* | **usage**]

Syntax Description		
brief		Displays a list of license files installed on a switch.
default		Displays services using a default license.
file <i>filename</i>		Displays information for a specific license file.
host-id <i>license-name</i>		Displays host ID used to request node-locked license.
usage		Displays information about the current license usage.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(2)	This command was introduced.
	3.1(2)	Added the default keyword.

Usage Guidelines None.

Examples The following example displays a specific license installed on a switch.

```
switch# show license file fcports.lic
fcports.lic:
SERVER this_host ANY
VENDOR cisco
FEATURE fcports cisco 1.000 permanent 30 HOSTID=VDH=4C0AF664 \
SIGN=24B2B68AA676 <-----fcport license
```

The following example displays a list of license files installed on a switch.

```
switch# show license brief
fcports.lic
ficon.lic
```

The following example displays all licenses installed on a switch.

```
switch# show license
fcports.lic:
SERVER this_host ANY
VENDOR cisco
FEATURE fcports cisco 1.000 permanent 30 HOSTID=VDH=4C0AF664 \
SIGN=24B2B68AA676 <-----fcport license
ficon.lic:
```

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```
FEATURE ficon cisco 1.000 permanent uncounted HOSTID=VDH=4C0AF664 \
SIGN=CB7872B23700 <-----ficon license
```

The following example displays the host IDs, required to request node locked license.

```
switch# show license host-id
License hostid:VDH=4C0AF664
```

The following example displays information about current license usage.

```
switch# show license usage
```

Feature	Installed	License Count	Status	ExpiryDate	Comments
FM_SERVER_PKG	Yes	-	Unused	never	license missing
MAINFRAME_PKG	No	-	Unused		Grace Period 57days15hrs
ENTERPRISE_PKG	Yes	-	InUse	never	-
SAN_EXTN_OVER_IP	No	0	Unused		-
SAN_EXTN_OVER_IP_IPS4	No	0	Unused		

The following example displays services using a default license.

```
switch# show license default
```

Feature	Default License Count
FM_SERVER_PKG	-
ENTERPRISE_PKG	-
PORT_ACTIVATION_PKG	12
10G_PORT_ACTIVATION_PKG	0

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show line

To configure a virtual terminal line, use the **show line** command.

```
show line [com1 [user-input-string] | console [connected | user-input-string]]
```

Syntax Description		
	com1	Displays aux line configuration.
	user-input-string	Displays the user-input initial string.
	console	Displays console line configuration.
	connected	Displays the physical connection status.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.2(1)	This command was introduced.
	3.0(1)	Modified examples for Supervisor-1 and Supervisor-2 modules.

Usage Guidelines None.

Examples The following example displays output from an MDS switch with a Supervisor-1 module.

```
switch# show line console
line Console:
Speed: 9600 bauds
Databits: 8 bits per byte
Stopbits: 1 bit(s)
Parity: none
Modem In: Enable
Modem Init-String -
default : ATE0Q1&D2&C1S0=1\015
Statistics: tx:12842 rx:366 Register Bits:RTS|CTS|DTR|DSR|CD|RI
```

The following example displays output from an MDS switch with a Supervisor-2 module.

```
switch# show line console
line Console:
Speed: 9600 bauds
Databits: 8 bits per byte
Stopbits: 1 bit(s)
Parity: none
Modem In: Enable
Modem Init-String -
default : ATE0Q0V1&D0&C0S0=1\015
Statistics: tx:12842 rx:366 Register Bits:RTS|CTS|DTR|DSR|CD|RI
```

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The following example displays output from an MDS switch with a Supervisor-1 module.

```
switch# show line com1
line Aux:
Speed: 9600 bauds
Databits: 8 bits per byte
Stopbits: 1 bit(s)
Parity: none
Modem In: Enable
Modem Init-String -
default : ATE0Q1&D2&C1S0=1\015
Statistics: tx:17 rx:0 Register Bits:RTS|DTR
```

The following example displays output from an MDS switch with a Supervisor-2 module.

```
switch# show line com1
line Aux:
Speed: 9600 bauds
Databits: 8 bits per byte
Stopbits: 1 bit(s)
Parity: none
Modem In: Enable
Modem Init-String -
default : ATE0Q0V1&D0&C0S0=1\015
Statistics: tx:17 rx:0 Register Bits:RTS|DTR
```

Related Commands

Command	Description
line console	Configure primary terminal line.
line aux	Configures the auxiliary COM 1 port
clear line	Deleted configured line sessions.

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show logging

To display the current message logging configuration, use the **show logging** command.

```
show logging [console | info | last lines | level facility | logfile | module | monitor |
nvrnm [last lines] | onboard information | pending | pending-diff | server | status]
```

Syntax Description	
console	Displays console logging configuration.
info	Displays logging configuration.
last lines	Displays last few lines of the log file. The range is 1 to 9999.
level facility	Displays facility logging configuration. Facility values include aaa , acl , auth , authpriv , bootvar , callhome , cdp , cfs , cimserver , cron , daemon , device-alias , dstats , ethport , fc2d , fcc , fed , fedomain , fcns , fcsp-mgr , fdmi , ficon , flogi , fspf , ftp , ike , ipacl , ipconf , ipfc , ips , ipsec , isns , kernel , license , localn , lpr , mail , mcast , module , news , platform , port , port-security , qos , radius , rdl , rib , rlir , rscn , scsi-target , security , syslog , sysmgr , systemhealth , tacacs , tlport , user , uucp , vni , vrrp-cfg , vsan , vshd , wm , xbar , zone .
logfile	Displays contents of the log file.
module	Displays module logging configuration.
monitor	Displays monitor logging configuration.
nvrnm	Displays NVRAM log.
onboard information	Displays onboard failure logging (OBFL) information. The types of information include boot-uptime , cpu-hog , device-version , endtime , environmental-history , error-stats , exception-log , interrupt-stats , mem-leak , miscellaneous-error , module , obfl-history , obfl-logs , register-log , stack-trace , starttime , status , system-health .
pending	Displays the server address pending configuration.
pending-diff	Displays the server address pending configuration differences with the active configuration.
server	Displays server logging configuration.
status	Displays the status of the last operation.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.
	2.0(x)	Added the pending , pending-diff , and status keywords.
	3.0(1)	Added the onboard keyword.

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Usage Guidelines None.

Examples The following example displays current system message logging.

```
switch# show logging

Logging console:           enabled (Severity: notifications)
Logging monitor:          enabled (Severity: information)
Logging linecard:         enabled (Severity: debugging)
Logging server:           enabled
{172.22.0.0}
    server severity:       debugging
    server facility:       local7
{172.22.0.0}
    server severity:       debugging
    server facility:       local7
Logging logfile:          enabled
    Name - external/sampleLogFile: Severity - notifications Size - 3000000

syslog_get_levels :: Error(-1) querying severity values for fcmps at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfwd at SAP 38
Facility      Default Severity      Current Session Severity
-----
kern          6                        4
user          3                        3
mail          3                        3
daemon       7                        7
auth          0                        0
syslog        3                        3
lpr           3                        3
news          3                        3
uucp          3                        3
cron          3                        3
authpriv      3                        3
ftp           3                        3
local0        3                        3
local1        3                        3
local2        3                        3
local3        3                        3
local4        3                        3
local5        3                        3
local6        3                        3
local7        3                        3
fspf          3                        3
fcdomain      2                        2
module        5                        5
zone          2                        2
vni           2                        2
ipconf        2                        2
ipfc          2                        2
xbar          3                        3
fcns          2                        2
fcs           2                        2
acl           2                        2
tlport        2                        2
port          5                        5
port_channel  5                        5
fcmps         0                        0
wwn           3                        3
fcc           2                        2
qos           3                        3
```

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```

vrrp_cfg          2          2
fcfwd             0          0
ntp               2          2
platform         5          5
vrrp_eng         2          2
callhome         2          2
mcast            2          2
rscn             2          2
securityd        2          2
vhbad            2          2
rib              2          2
vshd             5          5

0(emergencies)   1(alerts)       2(critical)
3(errors)        4(warnings)     5(notifications)
6(information)  7(debugging)

```

```

Nov  8 16:48:04 excal-113 %LOG_VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console
from pts/1 (171.71.58.56)
Nov  8 17:44:09 excal-113 %LOG_VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console
from pts/0 (171.71.58.72)

```

The following example displays console logging status.

```

switch# show logging console
Logging console:          enabled (Severity: notifications)

```

The following example displays logging facility status.

```

switch# show logging facility
syslog_get_levels :: Error(-1) querying severity values for fcmpls at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfwd at SAP 38
Facility           Default Severity      Current Session Severity
-----
kern                6                      4
user                3                      3
mail                3                      3
daemon              7                      7
auth                0                      0
syslog              3                      3
lpr                 3                      3
news                3                      3
uucp                 3                      3
cron                 3                      3
authpriv            3                      3
ftp                 3                      3
local0               3                      3
local1               3                      3
local2               3                      3
local3               3                      3
local4               3                      3
local5               3                      3
local6               3                      3
local7               3                      3
fspf                 3                      3
fcdomain            2                      2
module              5                      5
zone                2                      2
vni                 2                      2
ipconf              2                      2
ipfc                 2                      2
xbar                 3                      3
fcns                 2                      2
fcs                  2                      2

```

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```

acl                2                2
tlport            2                2
port              5                5
port_channel      5                5
fcmpls            0                0
wwn               3                3
fcc               2                2
qos               3                3
vrrp_cfg          2                2
fcfwd             0                0
ntp               2                2
platform          5                5
vrrp_eng          2                2
callhome          2                2
mcast             2                2
rscn              2                2
securityd         2                2
vhbad             2                2
rib               2                2
vshd              5                5

0(emergencies)    1(alerts)      2(critical)
3(errors)         4(warnings)    5(notifications)
6(information)   7(debugging)

```

The following example displays logging information.

```

switch# show logging info

Logging console:          enabled (Severity: notifications)
Logging monitor:         enabled (Severity: information)
Logging linecard:        enabled (Severity: debugging)
Logging server:          enabled
{172.22.95.167}
    server severity:      debugging
    server facility:      local7
{172.22.92.58}
    server severity:      debugging
    server facility:      local7
Logging logfile:         enabled
    Name - external/sampleLogFile: Severity - notifications Size - 3000000

syslog_get_levels :: Error(-1) querying severity values for fcpls at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfwd at SAP 38
Facility                Default Severity        Current Session Severity
-----                -
kern                    6                        4
user                    3                        3
mail                    3                        3
daemon                  7                        7
auth                    0                        0
syslog                  3                        3
lpr                     3                        3
news                    3                        3
uucp                    3                        3
cron                    3                        3
authpriv                3                        3
ftp                     3                        3
local0                  3                        3
local1                  3                        3
local2                  3                        3
local3                  3                        3
local4                  3                        3
local5                  3                        3

```

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```

local6                3                3
local7                3                3
fspf                  3                3
fcdomain              2                2
module                5                5
zone                  2                2
vni                   2                2
ipconf                2                2
ipfc                  2                2
xbar                  3                3
fcns                  2                2
fcs                   2                2
acl                   2                2
tlport               2                2
port                  5                5
port_channel          5                5
fcmpls                0                0
wwn                   3                3
fcc                   2                2
qos                   3                3
vrrp_cfg              2                2
fcfwd                 0                0
ntp                   2                2
platform              5                5
vrrp_eng              2                2
callhome              2                2
mcast                 2                2
rscn                  2                2
securityd             2                2
vhbad                 2                2
rib                   2                2
vshd                  5                5

0 (emergencies)      1 (alerts)       2 (critical)
3 (errors)           4 (warnings)     5 (notifications)
6 (information)      7 (debugging)

```

The following example displays last few lines of a log file.

```

switch# show logging last 2
Nov  8 16:48:04 excal-113 %LOG_VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console
from pts/1 (171.71.58.56)
Nov  8 17:44:09 excal-113 %LOG_VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console
from pts/0 (171.71.58.72)

```

The following example displays switching module logging status.

```

switch# show logging module
Logging linecard:          enabled (Severity: debugging)

```

The following example displays monitor logging status.

```

switch# show logging monitor
Logging monitor:          enabled (Severity: information)

```

The following example displays server information.

```

switch# show logging server
Logging server:           enabled
{172.22.95.167}
  server severity:        debugging
  server facility:        local7
{172.22.92.58}
  server severity:        debugging
  server facility:        local7

```

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The following example shows onboard failure logging for boot-uptime for module 2.

```
switch# show logging onboard module 2 boot-uptime
-----
Module: 2
-----

Wed Nov  9 12:05:56 2005:  Boot Record
-----
Boot Time.....: Wed Nov  9 12:05:56 2005
Slot Number.....: 2
Serial Number.....: JAB0912026U
Bios Version.....: v0.0.8(08/18/05)
Alt Bios Version...: v0.0.8(08/18/05)
Firmware Version...: 3.0(1) [build 3.0(0.276)]

Wed Nov  9 11:58:04 2005:  Card Uptime Record
-----
Uptime: 273, 0 days 0 hour(s) 4 minute(s) 33 second(s)
Reset Reason: Reset Requested by CLI command reload (9)
Card Mode.....: Runtime
```

```
Wed Nov  9 12:05:56 2005:  Card Uptime Record
-----
Uptime: 32, 0 days 0 hour(s) 0 minute(s) 32 second(s)
Reset Reason: Unknown (0)
Card Mode.....: Runtime
```

The following example shows onboard failure logging for boot-uptime.

```
switch# show logging onboard boot-uptime
-----
Module: 2
-----

Wed Nov  9 12:05:56 2005:  Boot Record
-----
Boot Time.....: Wed Nov  9 12:05:56 2005
Slot Number.....: 2
Serial Number.....: JAB0912026U
Bios Version.....: v0.0.8(08/18/05)
Alt Bios Version...: v0.0.8(08/18/05)
Firmware Version...: 3.0(1) [build 3.0(0.276)]

Wed Nov  9 11:58:04 2005:  Card Uptime Record
-----
Uptime: 273, 0 days 0 hour(s) 4 minute(s) 33 second(s)
Reset Reason: Reset Requested by CLI command reload (9)
Card Mode.....: Runtime

Wed Nov  9 12:05:56 2005:  Card Uptime Record
-----
Uptime: 32, 0 days 0 hour(s) 0 minute(s) 32 second(s)
Reset Reason: Unknown (0)
```

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```
Card Mode.....: Runtime
```

```
-----
Module: 5
-----
```

```
Wed Nov 9 12:05:05 2005: Boot Record
```

```
-----
Boot Time.....: Wed Nov 9 12:05:05 2005
Slot Number.....: 5
Serial Number.....: JAB091100TS
Bios Version.....: 00.01.01 (Oct 25 2005 - 15:48:45)
Alt Bios Version...: 00.01.01 (Oct 25 2005 - 15:48:45)
Firmware Version...: 3.0(1) [build 3.0(0.274)]
```

```
Wed Nov 9 11:58:04 2005: Card Uptime Record
```

```
-----
Uptime: 503255, 5 days 19 hour(s) 47 minute(s) 35 second(s)
Reset Reason: Reset reason: Reset Requested by CLI command reload (9)
Card Mode.....: Runtime
```

```
Wed Nov 9 12:05:05 2005: Card Uptime Record
```

```
-----
Uptime: 172, 0 days 0 hour(s) 2 minute(s) 52 second(s)
Reset Reason: Reset reason: Unknown (0)
Card Mode.....: Runtime
```

The following example shows onboard failure logging for device-version.

```
switch# show logging onboard device-version
```

```
-----
Module: 2
-----
```

```
Device Version Record
```

```
-----
Timestamp                Device Name                Instance Hardware Software
                          Num   Version   Version
-----
Wed Nov 9 12:05:56 2005   Stratosphere                0         1         1
Wed Nov 9 12:05:56 2005   Stratosphere                1         1         1
Wed Nov 9 12:05:56 2005   Skyline-asic                0         1         1
Wed Nov 9 12:05:56 2005   Tuscany-asic                0         1         0
Wed Nov 9 12:05:56 2005   X-Bus IO                    0         6         0
Wed Nov 9 12:05:56 2005   Power Mngmnt Epl           0         6         0
```

```
-----
Module: 5
-----
```

```
Device Version Record
```

```
-----
Timestamp                Device Name                Instance Hardware Software
                          Num   Version   Version
-----
Wed Nov 9 12:05:05 2005   Power Mngmnt Epl           0         7         0
Wed Nov 9 12:05:05 2005   IO FPGA Molakini           0         8         0
Wed Nov 9 12:05:05 2005   bellagio2                   0         1         0
```

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```
Wed Nov 9 12:05:05 2005 BabyCaesar 0 1 0
```

The following example show onboard failure logging for system health.

```
switch# show logging onboard system-health
```

```
Feature supported only on active-sup
```

```
-----
Module: 5
-----
Wed Nov 9 12:04:58 2005@345463 (5/31/0x0): System health started with pid 2607
Wed Nov 9 12:05:05 2005@943388 (5/31/0xb): Module Supervisor 5, swid 31 came online
Wed Nov 9 12:05:05 2005@944275 (5/31/0xb): LC config removed for module 7
Wed Nov 9 12:05:05 2005@944454 (5/31/0xb): LC config removed for module 8
Wed Nov 9 12:05:05 2005@944592 (5/31/0xb): LC config removed for module 9
Wed Nov 9 12:05:05 2005@944717 (5/31/0xb): LC config removed for module 10
Wed Nov 9 12:05:05 2005@944846 (5/31/0xb): LC config removed for module 11
Wed Nov 9 12:05:05 2005@944969 (5/31/0xb): LC config removed for module 12
Wed Nov 9 12:05:05 2005@945094 (5/31/0xb): LC config removed for module 13
Wed Nov 9 12:05:05 2005@945222 (5/31/0xb): LC config removed for module 14
Wed Nov 9 12:05:05 2005@945343 (5/31/0xb): LC config removed for module 15
Wed Nov 9 12:05:05 2005@945470 (5/31/0xb): LC config removed for module 16
Wed Nov 9 12:05:50 2005@814217 (2/29/0x0): System health started with pid 397
Wed Nov 9 12:05:56 2005@904068 (5/31/0xb): LC inserted for module 2
Wed Nov 9 12:05:59 2005@167373 (5/31/0xb): Module Linecard 2, swid 29 came online
```

```
switch# show logging onboard
boot-uptime          exception-log         obfl-logs
cpu-hog              interrupt-stats      register-log
device-version       mem-leak             stack-trace
endtime              miscellaneous-error  starttime
environmental-history module               status
error-stats          obfl-history         system-health
```

The following example show onboard failure logging for obfl-logs.

```
switch# show logging onboard obfl-logs
```

```
Module: 1 not online.
```

```
OBFL: Status:
```

```
Module: 2 OBFL Log:
cpu-hog          Enabled
environmental-history Enabled
error-stats      Enabled
exception-log    Enabled
interrupt-stats  Enabled
mem-leak         Enabled
miscellaneous-error Enabled
obfl-log (boot-uptime/device-version/obfl-history) Enabled
register-log      Enabled
stack-trace      Enabled
```

```
OBFL: Memory Leak:
```

```
-----
Module: 2
-----
```

```
OBFL: Stack Trace:
```

```
-----
Module: 2
-----
```


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OBFL: Environment History:

Module: 2

===== Sensor Temperature History Log =====

Wed Nov 9 12:05:50 2005 sensor 0 temperature 31
Wed Nov 9 12:05:50 2005 sensor 1 temperature 31
Wed Nov 9 12:05:50 2005 sensor 2 temperature 29
Wed Nov 9 12:06:20 2005 sensor 0 temperature 33
Wed Nov 9 12:06:20 2005 sensor 1 temperature 34
Wed Nov 9 12:06:50 2005 sensor 0 temperature 35
Wed Nov 9 12:06:50 2005 sensor 1 temperature 36
Wed Nov 9 12:07:20 2005 sensor 1 temperature 38
Wed Nov 9 12:08:50 2005 sensor 0 temperature 37
Wed Nov 9 12:08:50 2005 sensor 1 temperature 40

===== Sensor Temperature Error Log =====

Wed Nov 9 12:05:50 2005 Start of Service: sensor 0 initial temperature 31
Wed Nov 9 12:05:50 2005 Start of Service: sensor 1 initial temperature 31
Wed Nov 9 12:05:50 2005 Start of Service: sensor 2 initial temperature 29

OBFL: Interrupt Statistics:

Module: 2

INTERRUPT COUNTS INFORMATION FOR DEVICE ID 63 DEVICE: Stratosphere

Interrupt Counter Name	Count	Thresh	Time Stamp MM/DD/YY HH:MM:SS	In Port st Rang Id e
FCP_LAF_MISC_INT_DT_IN_OBUF	7	0	11/09/05 12:06:00	00 1
FCP_MAC_SR1_LR_DETECTED	1	0	11/09/05 12:06:00	00 1
FCP_MAC_SR1_LRR_DETECTED	1	0	11/09/05 12:06:00	00 1
FCP_MAC_SR1_OLS_DETECTED	1	0	11/09/05 12:06:00	00 1
FCP_MAC_SR2_LRR_IDLE_RECEIVED	1	0	11/09/05 12:06:00	00 1
FCP_MAC_SR2_AL_NON_F8_LIP_RECEIVED	2	0	11/09/05 12:06:00	00 1
FCP_MAC_SR2_AL_LIP_RECEIVED	1	0	11/09/05 12:06:00	00 1
FCP_MAC_SR2_AL_ARB_F0_RECEIVED	1	0	11/09/05 12:06:00	00 1
FCP_LAF_MISC_INT_DT_IN_OBUF	2	0	11/09/05 12:06:00	00 2
FCP_MAC_SR1_OLS_DETECTED	1	0	11/09/05 12:06:00	00 2
FCP_MAC_SR2_AL_NON_F8_LIP_RECEIVED	2	0	11/09/05 12:06:00	00 2
FCP_MAC_SR2_AL_LIP_RECEIVED	3	0	11/09/05 12:06:00	00 2
FCP_LAF_MISC_INT_DT_IN_OBUF	b	0	11/09/05 12:06:00	00 3
FCP_MAC_SR1_LR_DETECTED	3	0	11/09/05 12:06:00	00 3
FCP_MAC_SR1_LRR_DETECTED	2	0	11/09/05 12:06:00	00 3
FCP_MAC_SR1_OLS_DETECTED	2	0	11/09/05 12:06:00	00 3
FCP_MAC_SR2_LR_IDLE_RECEIVED	1	0	11/09/05 12:06:00	00 3
FCP_MAC_SR2_LRR_IDLE_RECEIVED	2	0	11/09/05 12:06:00	00 3
FCP_MAC_SR2_AL_NON_F8_LIP_RECEIVED	3	0	11/09/05 12:06:00	00 3
FCP_MAC_SR2_AL_LIP_RECEIVED	1	0	11/09/05 12:06:00	00 3
FCP_MAC_SR2_AL_ARB_F0_RECEIVED	2	0	11/09/05 12:06:00	00 3
FCP_LAF_MISC_INT_DT_IN_OBUF	2	0	11/09/05 12:06:00	00 4
FCP_MAC_SR1_LRR_DETECTED	1	0	11/09/05 12:06:00	00 4
FCP_MAC_SR1_OLS_DETECTED	3	0	11/09/05 12:06:00	00 4
FCP_MAC_SR2_LRR_IDLE_RECEIVED	1	0	11/09/05 12:06:00	00 4
FCP_MAC_SR2_AL_NON_F8_LIP_RECEIVED	3	0	11/09/05 12:06:00	00 4

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```
FCP_MAC_SR2_AL_LIP_RECEIVED      |3      |0      |11/09/05 12:06:00|00|4
FCP_LAF_MISC_INT_DT_IN_OBUF     |d      |0      |11/09/05 12:06:05|00|1
FCP_MAC_SR1_LRR_DETECTED        |2      |0      |11/09/05 12:06:05|00|1
FCP_MAC_SR1_OLS_DETECTED        |2      |0      |11/09/05 12:06:05|00|1
FCP_MAC_SR2_LRR_IDLE_RECEIVED   |2      |0      |11/09/05 12:06:05|00|1
FCP_MAC_SR2_AL_LIP_RECEIVED     |2      |0      |11/09/05 12:06:05|00|1
FCP_MAC_SR2_AL_ARB_F0_RECEIVED  |2      |0      |11/09/05 12:06:05|00|1
FCP_LAF_MISC_INT_DT_IN_OBUF     |3      |0      |11/09/05 12:06:05|00|2
FCP_MAC_SR1_LR_DETECTED         |1      |0      |11/09/05 12:06:05|00|2
FCP_MAC_SR1_OLS_DETECTED        |3      |0      |11/09/05 12:06:05|00|2
FCP_MAC_SR2_LR_IDLE_RECEIVED    |1      |0      |11/09/05 12:06:05|00|2
FCP_MAC_SR2_AL_NON_F8_LIP_RECEIVED|4      |0      |11/09/05 12:06:05|00|2
```

OBFL: Error Statistics:

```
-----
Module: 2
-----
```

OBFL: System Bootup Record:

```
-----
Module: 2
-----
```

Wed Nov 9 12:05:56 2005: Boot Record

```
-----
Boot Time.....: Wed Nov 9 12:05:56 2005
Slot Number.....: 2
Serial Number.....: JAB0912026U
Bios Version.....: v0.0.8(08/18/05)
Alt Bios Version...: v0.0.8(08/18/05)
Firmware Version...: 3.0(1) [build 3.0(0.276)]
```

Wed Nov 9 12:05:56 2005: Card Uptime Record

```
-----
Uptime: 32, 0 days 0 hour(s) 0 minute(s) 32 second(s)
Reset Reason: Unknown (0)
Card Mode.....: Runtime
```

OBFL: Device Versions in Switch:

```
-----
Module: 2
-----
```

Device Version Record

```
-----
Timestamp                Device Name          Instance Hardware Software
                          Num   Version   Version
-----
Wed Nov 9 12:05:56 2005  Stratosphere        0         1         1
Wed Nov 9 12:05:56 2005  Stratosphere        1         1         1
Wed Nov 9 12:05:56 2005  Skyline-asic        0         1         1
Wed Nov 9 12:05:56 2005  Tuscany-asic        0         1         0
Wed Nov 9 12:05:56 2005  X-Bus IO            0         6         0
Wed Nov 9 12:05:56 2005  Power Mngmnt Epl    0         6         0
```

OBFL: Exception Log:

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```

-----
Module: 2
-----

OBFL: Register Log:
-----
Module: 2
-----

OBFL: Miscellaneous Error Logs:
-----
Module: 2
-----

LC Config Record: Wed Nov  9 12:05:40 2005@471600
lc_copy_from_sup_to_lc() failure for sdwrap: 121

OBFL: Status:

Module: 5 OBFL Log:
error-stats Enabled
exception-log Enabled
miscellaneous-error Enabled
obfl-log (boot-uptime/device-version/obfl-history) Enabled
system-health Enabled
stack-trace Enabled

OBFL: Memory Leak:
-----
Module: 5
-----
mem-leak: This option not supported on SUP.

OBFL: Stack Trace:
-----
Module: 5
-----
stack-trace: This option not supported on SUP.

OBFL: Environment History:
-----
Module: 5
-----

===== Sensor Temperature History Log =====
-----
Wed Nov  9 12:05:06 2005 sensor 0 temperature 36
Wed Nov  9 12:05:06 2005 sensor 1 temperature 35
Wed Nov  9 12:05:06 2005 sensor 2 temperature 31

OBFL: Interrupt Statistics:
-----
Module: 5
-----
interrupt-stats: This option not supported on SUP.

```

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OBFL: Error Statistics:

 Module: 5

 Date (mm/dd/yy)=11/09/05 Time (hs:mn:sec): 12:10:05

Baby Ceaser data

 Date (mm/dd/yy)=11/09/05 Time (hs:mn:sec): 12:10:05

Arbiter Bellagio2 data

GROUP:4

bkt_tx_perr_drop_cnt 0
 bkr_rx_req_fifo_drop_cnt 0
 bkr_rx_req_fifo_perr_drop_cnt 0
 bkr_rx_di_lut_perr_drop_cnt 0
 fil_drop_cnt 0
 crm_gid_drop_cnt 0
 ser_rxs_perr_cnt 0
 top_ddr_rx_perr_cnt 0

Bucket Counters

Bkt	Cos	Gresend	Grant	Request	Rresend
0	0	0	0	0	0
0	1	0	0	0	0
0	2	0	0	0	0
0	3	0	1127	1127	0
64	0	0	0	0	0
64	1	0	0	0	0
64	2	0	0	0	0
64	3	0	0	0	0
128	0	0	0	0	0
128	1	0	0	0	0
128	2	0	0	0	0
128	3	0	0	0	0
192	0	0	0	0	0
192	1	0	0	0	0
192	2	0	0	0	0
192	3	0	73	73	0
256	0	0	0	0	0
256	1	0	0	0	0
256	2	0	0	0	0
256	3	0	0	0	0
320	0	0	0	0	0
320	1	0	0	0	0
320	2	0	0	0	0
320	3	0	0	0	0
384	0	0	0	0	0
384	1	0	0	0	0
384	2	0	0	0	0
384	3	0	0	0	0
448	0	0	0	0	0
448	1	0	0	0	0
448	2	0	0	0	0
448	3	0	0	0	0
512	0	0	0	0	0
512	1	0	0	0	0
512	2	0	0	0	0
512	3	0	0	0	0
576	0	0	0	0	0
576	1	0	0	0	0
576	2	0	0	0	0
576	3	0	0	0	0

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```

640 0 0 0 0 0
640 1 0 0 0 0
640 2 0 0 0 0
640 3 0 0 0 0
704 0 0 0 0 0
704 1 0 0 0 0
704 2 0 0 0 0
704 3 0 0 0 0
768 0 0 0 0 0
768 1 0 0 0 0
768 2 0 0 0 0
768 3 0 0 0 0
832 0 0 0 0 0
832 1 0 0 0 0
832 2 0 0 0 0
832 3 0 0 0 0
896 0 0 0 0 0
896 1 0 0 0 0
896 2 0 0 0 0
896 3 0 0 0 0
960 0 0 0 0 0
960 1 0 0 0 0
960 2 0 0 0 0
960 3 0 0 0 0
LDI Counters
LDI COS OUT_REQ CREDIT CREDITNA
-----
0 0 0 14164 63
0 1 0 41874 63
0 2 0 41874 63
0 3 0 41905 63
1 0 0 14164 63
1 1 0 41874 63
1 2 0 41874 63
1 3 0 41904 63
2 0 0 14164 63
2 1 0 41874 63
2 2 0 41874 63
2 3 0 41902 63
3 0 0 14164 63
3 1 0 41874 63
3 2 0 41874 63
3 3 0 41903 63
4 0 0 14164 63
4 1 0 41873 63
4 2 0 41873 63
4 3 0 41903 63
5 0 0 14164 63
5 1 0 41873 63
5 2 0 41873 63
5 3 0 41903 63
6 0 0 14164 63
6 1 0 41872 63
6 2 0 41872 63
6 3 0 41903 63
7 0 0 14164 63
7 1 0 41872 63
7 2 0 41872 63
7 3 0 41903 63
8 0 0 14163 63
8 1 0 41871 63
8 2 0 41871 63
8 3 0 41902 63
9 0 0 14163 63

```

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9	1	0	41871	63
9	2	0	41871	63
9	3	0	41902	63
10	0	0	14163	63
10	1	0	41871	63
10	2	0	41871	63
10	3	0	41901	63
11	0	0	14163	63
11	1	0	41871	63
11	2	0	41871	63
11	3	0	41901	63
12	0	0	14163	63
12	1	0	41870	63
12	2	0	41870	63
12	3	0	41901	63
13	0	0	14163	63
13	1	0	41870	63
13	2	0	41870	63
13	3	0	41900	63
14	0	0	14163	63
14	1	0	41869	63
14	2	0	41869	63
14	3	0	41900	63
15	0	0	14163	63
15	1	0	41869	63
15	2	0	41869	63
15	3	0	41900	63
16	0	0	14163	63
16	1	0	41869	63
16	2	0	41869	63
16	3	0	41900	63
17	0	0	14162	63
17	1	0	41868	63
17	2	0	41868	63
17	3	0	41899	63
18	0	0	14162	63
18	1	0	41868	63
18	2	0	41868	63
18	3	0	41898	63
19	0	0	14162	63
19	1	0	41868	63
19	2	0	41868	63
19	3	0	41898	63
20	0	0	14162	63
20	1	0	41868	63
20	2	0	41868	63
20	3	0	41898	63
21	0	0	14162	63
21	1	0	41867	63
21	2	0	41867	63
21	3	0	41898	63
22	0	0	14162	63
22	1	0	41867	63
22	2	0	41867	63
22	3	0	41897	63
23	0	0	14162	63
23	1	0	41866	63
23	2	0	41866	63
23	3	0	41897	63
24	0	0	0	0
24	1	0	0	0
24	2	0	0	0
24	3	0	0	0
25	0	0	0	0

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25	1	0	0	0
25	2	0	0	0
25	3	0	0	0
26	0	0	0	0
26	1	0	0	0
26	2	0	0	0
26	3	0	0	0
27	0	0	0	0
27	1	0	0	0
27	2	0	0	0
27	3	0	0	0
28	0	0	0	0
28	1	0	0	0
28	2	0	0	0
28	3	0	0	0
29	0	0	0	0
29	1	0	0	0
29	2	0	0	0
29	3	0	0	0
30	0	0	0	0
30	1	0	0	0
30	2	0	0	0
30	3	0	0	0
31	0	0	0	0
31	1	0	0	0
31	2	0	0	0
31	3	0	0	0
32	0	0	0	0
32	1	0	0	0
32	2	0	0	0
32	3	0	0	0
33	0	0	0	0
33	1	0	0	0
33	2	0	0	0
33	3	0	0	0
34	0	0	0	0
34	1	0	0	0
34	2	0	0	0
34	3	0	0	0
35	0	0	0	0
35	1	0	0	0
35	2	0	0	0
35	3	0	0	0
36	0	0	0	0
36	1	0	0	0
36	2	0	0	0
36	3	0	0	0
37	0	0	0	0
37	1	0	0	0
37	2	0	0	0
37	3	0	0	0
38	0	0	0	0
38	1	0	0	0
38	2	0	0	0
38	3	0	0	0
39	0	0	0	0
39	1	0	0	0
39	2	0	0	0
39	3	0	0	0
40	0	0	0	0
40	1	0	0	0
40	2	0	0	0
40	3	0	0	0
41	0	0	0	0

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```

41 1 0 0 0
41 2 0 0 0
41 3 0 0 0
42 0 0 0 0
42 1 0 0 0
42 2 0 0 0
42 3 0 0 0
43 0 0 0 0
43 1 0 0 0
43 2 0 0 0
43 3 0 0 0
44 0 0 0 0
44 1 0 0 0
44 2 0 0 0
44 3 0 0 0
45 0 0 0 0
45 1 0 0 0
45 2 0 0 0
45 3 0 0 0
46 0 0 0 0
46 1 0 0 0
46 2 0 0 0
46 3 0 0 0
47 0 0 0 0
47 1 0 0 0
47 2 0 0 0
47 3 0 0 0
48 0 0 0 0
48 1 0 0 0
48 2 0 0 0
48 3 0 0 0
49 0 0 0 0
49 1 0 0 0
49 2 0 0 0
49 3 0 0 0
50 0 0 0 0
50 1 0 0 0
50 2 0 0 0
50 3 0 0 0
51 0 0 0 0
51 1 0 0 0
51 2 0 0 0
51 3 0 0 0
52 0 0 0 0
52 1 0 0 0
52 2 0 0 0
52 3 0 0 0
53 0 0 0 0
53 1 0 0 0
53 2 0 0 0
53 3 0 0 0
54 0 0 0 0
54 1 0 0 0
54 2 0 0 0
54 3 0 0 0
55 0 0 0 0
55 1 0 0 0
55 2 0 0 0
55 3 0 0 0
56 0 0 0 0
56 1 0 0 0
56 2 0 0 0
56 3 0 0 0
57 0 0 0 0

```


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```

57 1 0 0 0
57 2 0 0 0
57 3 0 0 0
58 0 0 0 0
58 1 0 0 0
58 2 0 0 0
58 3 0 0 0
59 0 0 0 0
59 1 0 0 0
59 2 0 0 0
59 3 0 0 0
60 0 0 0 0
60 1 0 0 0
60 2 0 0 0
60 3 0 0 0
61 0 0 0 0
61 1 0 0 0
61 2 0 0 0
61 3 0 0 0
62 0 0 0 0
62 1 0 0 0
62 2 0 0 0
62 3 0 0 0
63 0 0 0 0
63 1 0 0 0
63 2 0 0 0
63 3 0 0 0

```

Date (mm/dd/yy)=11/09/05 Time (hs:mn:sec): 12:10:05

Arbiter Bellagio2 data

GROUP:10

```

bkt_tx_perr_drop_cnt      0
bkr_rx_req_fifo_drop_cnt  0
bkr_rx_req_fifo_perr_drop_cnt 0
bkr_rx_di_lut_perr_drop_cnt 0
fil_drop_cnt              0
crm_gid_drop_cnt          0
ser_rxs_perr_cnt          0
top_ddr_rx_perr_cnt       0

```

Bucket Counters

Bkt	Cos	Gresend	Grant	Request	Resend
0	0	0	0	0	0
0	1	0	0	0	0
0	2	0	0	0	0
0	3	0	73	73	0
64	0	0	0	0	0
64	1	0	0	0	0
64	2	0	0	0	0
64	3	0	0	0	0
128	0	0	0	0	0
128	1	0	0	0	0
128	2	0	0	0	0
128	3	0	0	0	0
192	0	0	0	0	0
192	1	0	0	0	0
192	2	0	0	0	0
192	3	0	59	59	0
256	0	0	0	0	0
256	1	0	0	0	0
256	2	0	0	0	0
256	3	0	0	0	0
320	0	0	0	0	0

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```

320 1 0 0 0 0
320 2 0 0 0 0
320 3 0 0 0 0
384 0 0 0 0 0
384 1 0 0 0 0
384 2 0 0 0 0
384 3 0 0 0 0
448 0 0 0 0 0
448 1 0 0 0 0
448 2 0 0 0 0
448 3 0 0 0 0
512 0 0 0 0 0
512 1 0 0 0 0
512 2 0 0 0 0
512 3 0 0 0 0
576 0 0 0 0 0
576 1 0 0 0 0
576 2 0 0 0 0
576 3 0 0 0 0
640 0 0 0 0 0
640 1 0 0 0 0
640 2 0 0 0 0
640 3 0 0 0 0
704 0 0 0 0 0
704 1 0 0 0 0
704 2 0 0 0 0
704 3 0 0 0 0
768 0 0 0 0 0
768 1 0 0 0 0
768 2 0 0 0 0
768 3 0 0 0 0
832 0 0 0 0 0
832 1 0 0 0 0
832 2 0 0 0 0
832 3 0 0 0 0
896 0 0 0 0 0
896 1 0 0 0 0
896 2 0 0 0 0
896 3 0 0 0 0
960 0 0 0 0 0
960 1 0 0 0 0
960 2 0 0 0 0
960 3 0 0 0 0

```

LDI Counters

LDI	COS	OUT_REQ	CREDIT	CREDITNA
0	0	0	9471	63
0	1	0	0	0
0	2	0	0	0
0	3	0	9548	63
1	0	0	9471	63
1	1	0	0	0
1	2	0	0	0
1	3	0	9487	63
2	0	0	0	0
2	1	0	0	0
2	2	0	0	0
2	3	0	0	0
3	0	0	0	0
3	1	0	0	0
3	2	0	0	0
3	3	0	0	0
4	0	0	0	0
4	1	0	0	0

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4	2	0	0	0
4	3	0	0	0
5	0	0	0	0
5	1	0	0	0
5	2	0	0	0
5	3	0	0	0
6	0	0	0	0
6	1	0	0	0
6	2	0	0	0
6	3	0	0	0
7	0	0	0	0
7	1	0	0	0
7	2	0	0	0
7	3	0	0	0
8	0	0	0	0
8	1	0	0	0
8	2	0	0	0
8	3	0	0	0
9	0	0	0	0
9	1	0	0	0
9	2	0	0	0
9	3	0	0	0
10	0	0	0	0
10	1	0	0	0
10	2	0	0	0
10	3	0	0	0
11	0	0	0	0
11	1	0	0	0
11	2	0	0	0
11	3	0	0	0
12	0	0	0	0
12	1	0	0	0
12	2	0	0	0
12	3	0	0	0
13	0	0	0	0
13	1	0	0	0
13	2	0	0	0
13	3	0	0	0
14	0	0	0	0
14	1	0	0	0
14	2	0	0	0
14	3	0	0	0
15	0	0	0	0
15	1	0	0	0
15	2	0	0	0
15	3	0	0	0
16	0	0	0	0
16	1	0	0	0
16	2	0	0	0
16	3	0	0	0
17	0	0	0	0
17	1	0	0	0
17	2	0	0	0
17	3	0	0	0
18	0	0	0	0
18	1	0	0	0
18	2	0	0	0
18	3	0	0	0
19	0	0	0	0
19	1	0	0	0
19	2	0	0	0
19	3	0	0	0
20	0	0	0	0
20	1	0	0	0

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```

20 2      0      0      0
20 3      0      0      0
21 0      0      0      0
21 1      0      0      0
21 2      0      0      0
21 3      0      0      0
22 0      0      0      0
22 1      0      0      0
22 2      0      0      0
22 3      0      0      0
23 0      0      0      0
23 1      0      0      0
23 2      0      0      0
23 3      0      0      0
24 0      0      0      0
24 1      0      0      0
24 2      0      0      0
24 3      0      0      0
25 0      0      0      0
25 1      0      0      0
25 2      0      0      0
25 3      0      0      0
26 0      0      0      0
26 1      0      0      0
26 2      0      0      0
26 3      0      0      0
27 0      0      0      0
27 1      0      0      0
27 2      0      0      0
27 3      0      0      0
28 0      0      0      0
28 1      0      0      0
28 2      0      0      0
28 3      0      0      0
29 0      0      0      0
29 1      0      0      0
29 2      0      0      0
29 3      0      0      0
30 0      0      0      0
30 1      0      0      0
30 2      0      0      0
30 3      0      0      0
31 0      0      0      0
31 1      0      0      0
31 2      0      0      0
31 3      0      0      0
32 0      0      0      0
32 1      0      0      0
32 2      0      0      0
32 3      0      0      0
33 0      0      0      0
33 1      0      0      0
33 2      0      0      0
33 3      0      0      0
34 0      0      0      0
34 1      0      0      0
34 2      0      0      0
34 3      0      0      0
35 0      0      0      0
35 1      0      0      0
35 2      0      0      0
35 3      0      0      0
36 0      0      0      0
36 1      0      0      0

```

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36	2	0	0	0
36	3	0	0	0
37	0	0	0	0
37	1	0	0	0
37	2	0	0	0
37	3	0	0	0
38	0	0	0	0
38	1	0	0	0
38	2	0	0	0
38	3	0	0	0
39	0	0	0	0
39	1	0	0	0
39	2	0	0	0
39	3	0	0	0
40	0	0	0	0
40	1	0	0	0
40	2	0	0	0
40	3	0	0	0
41	0	0	0	0
41	1	0	0	0
41	2	0	0	0
41	3	0	0	0
42	0	0	0	0
42	1	0	0	0
42	2	0	0	0
42	3	0	0	0
43	0	0	0	0
43	1	0	0	0
43	2	0	0	0
43	3	0	0	0
44	0	0	0	0
44	1	0	0	0
44	2	0	0	0
44	3	0	0	0
45	0	0	0	0
45	1	0	0	0
45	2	0	0	0
45	3	0	0	0
46	0	0	0	0
46	1	0	0	0
46	2	0	0	0
46	3	0	0	0
47	0	0	0	0
47	1	0	0	0
47	2	0	0	0
47	3	0	0	0
48	0	0	0	0
48	1	0	0	0
48	2	0	0	0
48	3	0	0	0
49	0	0	0	0
49	1	0	0	0
49	2	0	0	0
49	3	0	0	0
50	0	0	0	0
50	1	0	0	0
50	2	0	0	0
50	3	0	0	0
51	0	0	0	0
51	1	0	0	0
51	2	0	0	0
51	3	0	0	0
52	0	0	0	0
52	1	0	0	0

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```

52 2      0      0      0
52 3      0      0      0
53 0      0      0      0
53 1      0      0      0
53 2      0      0      0
53 3      0      0      0
54 0      0      0      0
54 1      0      0      0
54 2      0      0      0
54 3      0      0      0
55 0      0      0      0
55 1      0      0      0
55 2      0      0      0
55 3      0      0      0
56 0      0      0      0
56 1      0      0      0
56 2      0      0      0
56 3      0      0      0
57 0      0      0      0
57 1      0      0      0
57 2      0      0      0
57 3      0      0      0
58 0      0      0      0
58 1      0      0      0
58 2      0      0      0
58 3      0      0      0
59 0      0      0      0
59 1      0      0      0
59 2      0      0      0
59 3      0      0      0
60 0      0      0      0
60 1      0      0      0
60 2      0      0      0
60 3      0      0      0
61 0      0      0      0
61 1      0      0      0
61 2      0      0      0
61 3      0      0      0
62 0      0      0      0
62 1      0      0      0
62 2      0      0      0
62 3      0      0      0
63 0      0      0      0
63 1      0      0      0
63 2      0      0      0
63 3      0      0      0

```

OBFL: System Bootup Record:

```

-----
Module: 5
-----

```

OBFL: Device Versions in Switch:

```

-----
Module: 5
-----

```

OBFL: Exception Log:

```

-----
Module: 5
-----

```

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```
OBFL: Register Log:
-----
      Module:  5
-----
register-log: This option not supported on SUP.
```

```
OBFL: Miscellaneous Error Logs:
-----
      Module:  5
-----.
```

Related Commands

Command	Description
logging	Configures logging parameters.

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show mcast

To display multicast information, use the **show mcast** command.

```
show mcast [vsan vsan-id]
```

Syntax Description	vsan <i>vsan-id</i>	Specifies the number of the VSAN. The range is 1 to 4093.
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines None.

Examples The following example displays multicast information.

```
switch# show mcast
Multicast root for VSAN 1
    Configured root mode : Principal switch
    Operational root mode : Principal switch
    Root Domain ID : 0x15(21)

Multicast root for VSAN 73
    Configured root mode : Principal switch
    Operational root mode : Principal switch
    Root Domain ID : 0x65(101)

Multicast root for VSAN 99
    Configured root mode : Principal switch
    Operational root mode : Principal switch
    Root Domain ID : 0xe4(228)

Multicast root for VSAN 4001
    Configured root mode : Principal switch
    Operational root mode : Principal switch
    Root Domain ID : 0xe9(233)

Multicast root for VSAN 4002
    Configured root mode : Principal switch
    Operational root mode : Principal switch
    Root Domain ID : 0x78(120)
```


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```
Multicast root for VSAN 4003
  Configured root mode : Principal switch
  Operational root mode : Principal switch
  Root Domain ID : 0xe0(224)
```

```
Multicast root for VSAN 4004
  Configured root mode : Principal switch
  Operational root mode : Lowest domain switch
  Root Domain ID : 0x01(1)
```

Related Commands

Command	Description
mcast root	Configures the multicast root VSAN.

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show module

To verify the status of a module, use the **show module** command.

```
show module [slot [recovery-steps] | diag | uptime | xbar number]
```

Syntax Description

slot	Specifies the slot number for the module.
recovery-steps	Displays information about modules and the steps to recover a module.
<i>diag</i>	Displays module-related information.
uptime	Displays the length of time that the modules have been functional in the switch.
xbar <i>number</i>	Displays information about the specified crossbar, either 1 or 2.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
SAN-OS 3.1	Keyword diag has been deprecated.
1.3(4)	This command was introduced.
3.0(1)	Added the recovery-steps and xbar options.

Usage Guidelines

If your chassis has more than one switching module, you will see the progress check if you issue the show module command several times and view the status column each time.

The switching module goes through a testing and an initializing stage before displaying an `ok` status.

Use the **uptime** option to display the time that a specified supervisor module, switching module, or services module is functional in the switch. This time is computed from the time a module goes online after a disruptive upgrade or reset.

You can use the **recovery-steps** option only for modules that are powered down because of problems with index allocation.

Before using the **recovery-steps** option, make sure that **debug module no-power-down** is not on.



Note

You cannot use the **recovery-steps** option to recover a Supervisor module. Also, the Cisco MDS 9124 switch does not support the **recovery-steps** option.

For additional information about port indices, refer to the *Cisco MDS 9000 Family CLI Configuration Guide* and to the *Cisco MDS 9000 Family Troubleshooting Guide*.

Examples

The following example displays information about the modules on the switch.

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```
switch# show module
Mod  Ports  Module-Type                Model                Status
---  ---
2    32     Advanced Services Module   DS-X9032-SMV        powered-dn
4    32     Advanced Services Module   DS-X9032-SMV        powered-dn
5    0      Supervisor/Fabric-1        DS-X9530-SF1-K9     active *
6    0      Supervisor/Fabric-1        DS-X9530-SF1-K9     ha-standby
8    32     1/2 Gbps FC Module         DS-X9032             ok

Mod  Sw          Hw          World-Wide-Name(s) (WWN)
---  ---
5    1.2(2)      0.610      --
6    1.2(2)      0.610      --
8    1.2(2)      0.3        21:c1:00:0b:46:79:f1:40 to 21:e0:00:0b:46:79:f1:40

Mod  MAC-Address(es)                Serial-Num
---  ---
5    00-d0-97-38-b4-01 to 00-d0-97-38-b4-05  JAB06350B0H
6    00-d0-97-38-b3-f9 to 00-d0-97-38-b3-fd  JAB06350B1R
8    00-05-30-00-2b-e2 to 00-05-30-00-2b-e6  jab062407x4
```

* this terminal session

The following example displays uptime information about the modules on the switch.

```
switch# show module uptime
----- Module 1 -----
Module Start Time:   Wed Apr 14 18:12:48 2004
Up Time:             16 days, 5 hours, 59 minutes, 41 seconds

----- Module 6 -----
Module Start Time:   Wed Apr 14 18:11:57 2004
Up Time:             16 days, 6 hours, 0 minutes, 32 second
```

The following example displays information about the crossbar.

```
switch# show module xbar 1
Xbar Ports  Module-Type                Model                Status
---  ---
1    0      Xbar                      DS-13SLT-FAB1       ok

Xbar Sw          Hw          World-Wide-Name(s) (WWN)
---  ---
1    NA          0.306      --

Xbar MAC-Address(es)                Serial-Num
---  ---
1    NA          JAB094102RQ
```

The following example uses the **show module**, **show port index-allocation**, and **show module recovery-steps** commands to display a Generation 1 module that is powered down due to a lack of indices.

```
switch# show module
Mod  Ports  Module-Type                Model                Status
---  ---
1    48     1/2/4 Gbps FC Module       DS-X9148             ok
2    48     1/2/4 Gbps FC Module       DS-X9148             ok
3    48     1/2/4 Gbps FC Module       DS-X9148             ok
4    48     1/2/4 Gbps FC Module       DS-X9148             ok
6    0      Supervisor/Fabric-1        DS-X9530-SF1-K9     active *
7    48     1/2/4 Gbps FC Module       DS-X9148             ok
9    16     1/2 Gbps FC Module         DS-X9016             powered-dn
```

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```
Mod Power-Status Power Down Reason
---
9 powered-dn Insufficient resources (dest Index)
```

```
switch# show port index-allocation
```

```
Module index distribution:
```

```
-----+
Slot | Allowed | Allotted indices info |
     | range* | Total | Index values |
-----+-----+-----+-----+
1 | 0- 31 | 48 | 160-187,192-207,220-223 | (Slot 2 shares 28-31)
     | | | (Slot 3 shares 16-27) (Slot 7 shares 0-15) |
2 | 32- 63 | 48 | 28-63,240-251 |
3 | 64- 95 | 48 | 16-27,64-95,188-191 |
4 | 96- 127 | 48 | 96-127,224-239 |
7 | 128- 159 | 48 | 0-15,128-159 |
8 | 160- 191 | - | (None) | (Slot 1 shares 160-187
     | | | ) (Slot 3 shares 188-191) |
9 | 192- 223 | - | (None) | (Slot 1 shares 192-207
     | | | ,220-223) |
SUP | 253-255 | 3 | 253-255 |
```

*Allowed range applicable only for Generation-1 modules

```
switch# show module 9 recovery-steps
```

```
Failure Reason:
```

```
Insufficient indices in range 0-255. Module cannot be powered up
```

The following example uses the show port index-allocation command on the Cisco MDS 9124 switch.

```
switch# show port index-allocation
```

```
Module index distribution:
```

```
-----+
Slot | Allowed | Allotted indices info |
     | range* | Total | Index values |
-----+-----+-----+
1 | 0- 255 | 24 | 0-23 |
SUP | ----- | - | (None) |
```

*Allowed range applicable only for Generation-1 modules

The following example uses the **show module**, **show port index-allocation**, and **show module recovery-steps** commands to display a Generation 1 module that is powered down because indices are not available in its slot. Specifically, indices 28 through 31 are taken by a 48-port card in slot 2.

```
switch# show module
```

```
Mod Ports Module-Type Model
Status
---
1 32 1/2 Gbps FC Module powered-dn
2 48 1/2/4 Gbps FC Module DS-X9148 ok
4 48 1/2/4 Gbps FC Module DS-X9148 ok
6 0 Supervisor/Fabric-1 DS-X9530-SF1-K9 active *
```

```
Mod Power-Status Power Down Reason
---
1 powered-dn Insufficient resources (dest Index)
```

```
switch# show port index-allocation
```

```
Module index distribution:
```

```
-----+
```

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Slot	Allowed range*	Alloted indices info	
		Total	Index values
1	0- 31	-	(None)
2	32- 63	48	28-63,240-251
3	64- 95	-	(None)
4	96- 127	48	96-127,224-239
7	128- 159	-	(None)
8	160- 191	-	(None)
9	192- 223	-	(None)
SUP	253-255	3	253-255

(Slot 2 shares 28-31)

*Allowed range applicable only for Generation-1 modules

```
switch# show module 1 recovery-steps
Failure Reason:
Indices in allowed range 0 - 31 unavailable
Check "show port index-allocation" for more details
```

```
Recovery Steps:
Insert failed module in any one of the slots: 3, 7, 8, 9
```

The following example uses the **show module**, **show port index-allocation**, and **show module recovery-steps** commands to display a Generation 1 module that is powered down because of a lack of indices between 0 and 255.

```
switch# show module
Mod  Ports  Module-Type                Model          Status
---  ---  -
1    48     1/2/4 Gbps FC Module      DS-X9148      ok
2    48     1/2/4 Gbps FC Module      DS-X9148      ok
3    48     1/2/4 Gbps FC Module      DS-X9148      ok
4    48     1/2/4 Gbps FC Module      DS-X9148      ok
5    0      Supervisor/Fabric-2       DS-X9530-SF2-K9  active *
6    0      Supervisor/Fabric-2       DS-X9530-SF2-K9  ha-standby
7    48     1/2/4 Gbps FC Module      DS-X9148      ok
8    24     1/2/4 Gbps FC Module      DS-X9124      ok
9    32     1/2 Gbps FC Module                powered-dn

Mod  Power-Status  Power Down Reason
---  -
9    powered-dn   Insufficient resources (dest Index)
```

```
switch# show port index-allocation
```

```
Module index distribution:
```

Slot	Allowed range	Alloted indices info	
		Total	Index values
1	0-1023	48	160-207
2	0-1023	48	3-50
3	0-1023	48	0-2,208-252
4	0-1023	48	51-98
7	0-1023	48	99-146
8	0-1023	24	147-159,256-266
9	-----	-	(None)
SUP	253-255	3	253-255

```
switch# show module 9 recovery-steps
Failure Reason:
Insufficient indices in range 0-255. Module cannot be powered up
```

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The following example uses the **show module**, **show port index-allocation**, and **show module recovery-steps** commands to display a Generation 1 module that is powered down due to non-availability of contiguous indices.

```
switch# show module
Mod  Ports  Module-Type                Model                Status
---  ---  -
1    48     1/2/4 Gbps FC Module      DS-X9112             powered-dn
3    12     1/2/4 Gbps FC Module      DS-X9112             ok
4    8       IP Storage Services Module                powered-dn
5    48     1/2/4 Gbps FC Module      DS-X9148             ok
6    48     1/2/4 Gbps FC Module      DS-X9148             ok
7    0       Supervisor/Fabric-2        DS-X9530-SF2-K9     active *
8    0       Supervisor/Fabric-2        DS-X9530-SF2-K9     ha-standby
9    24     1/2/4 Gbps FC Module      DS-X9124             ok
11   4       10 Gbps FC Module         DS-X9704             ok
12   48     1/2/4 Gbps FC Module      DS-X9148             ok
13   16     1/2 Gbps FC Module        DS-X9016             ok

Mod  Power-Status  Power Down Reason
---  -
1    powered-dn    Config down
4    powered-dn    Insufficient resources (dest Index)

Mod  Sw          Hw          World-Wide-Name(s) (WWN)
---  -
3    3.0(0.322)  0.222      20:81:00:05:30:01:9c:02 to 20:8c:00:05:30:01:9c:02
```

```
switch# show port index-allocation
```

```
Module index distribution:
```

Slot	Allowed range	Alloted indices info	
		Total	Index values
1	-----	-	(None)
2	-----	-	(None)
3	0- 255	12	219-230
4	-----	-	(None)
5	0- 255	48	0-13,74-79,96-123
6	0- 255	48	124-150,232-252
9	0- 255	24	154-177
10	-----	-	(None)
11	0- 255	4	151-153,231
12	0- 255	48	32-73,178-183
13	0- 255	16	80-95
SUP	253-255	3	253-255

```
switch# show module 4 recovery-steps
```

```
Failure Reason:
```

```
Contiguous and aligned indices unavailable for Generation-1 modules
```

```
Check "show port index-allocation" for more details
```

```
Please follow the steps below:
```

1. Power-off module in one of the following slots: 12
2. Power-on module in slot 4 and wait till it comes online
3. Power-on the module powered-off in step 1
4. Do "copy running-config startup-config" to save this setting

The following example uses the **show module**, **show port index-allocation**, and **show module recovery-steps** commands to display a Generation 1 module that is powered down because of alignment, even though contiguous indices 208 through 252 are available.

```
switch# show module
```

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```

Mod  Ports  Module-Type                Model                Status
---  ---
1    48      1/2/4 Gbps FC Module      DS-X9148             ok
2    48      1/2/4 Gbps FC Module      DS-X9148             ok
4    48      1/2/4 Gbps FC Module      DS-X9148             ok
5    0        Supervisor/Fabric-2       DS-X9530-SF2-K9     active *
6    0        Supervisor/Fabric-2       DS-X9530-SF2-K9     ha-standby
7    48      1/2/4 Gbps FC Module      DS-X9148             ok
9    32      1/2 Gbps FC Module        DS-X9032             powered-dn

```

```

Mod  Power-Status  Power Down Reason
---  ---
9    powered-dn    Insufficient resources (dest Index)

```

switch# **show port index-allocation**

Module index distribution:

```

-----+
Slot | Allowed | Alloted indices info |
    | range   | Total | Index values |
-----+-----+-----+
1   | 0-1023 | 48   | 160-207 |
2   | 0-1023 | 48   | 3-50 |
3   | ----- | -    | (None) |
4   | 0-1023 | 48   | 51-98 |
7   | 0-1023 | 48   | 99-146 |
8   | ----- | -    | (None) |
9   | ----- | -    | (None) |
SUP | 253-255 | 3    | 253-255 |

```

switch# **show module 9 recovery-steps**

Failure Reason:

Contiguous and aligned indices unavailable for Generation-1 modules

Check "show port index-allocation" for more details

Recovery Steps:

Please follow the steps below:

1. Power off module in ANY ONE of the slots: 1, 4
2. Power on failed module in slot 9 and wait till it comes online
3. Power on the module that was powered off in step 1 and wait till it comes online
4. Do "copy running-config startup-config" to save this setting

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show nasb

To display the Network-Accelerated Serverless Backup (NASB) configuration on the Storage Services Module (SSM), use the **show nasb** command in EXEC mode.

```
show nasb [module slot] [vsan vsan-id]
```

Syntax	Description
module <i>slot</i>	Specifies the slot number with the SSM where NASB is configured.
vsan <i>vsan-id</i>	Displays information for the specified VSAN ID. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.1(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the NASB configuration on all SSM modules in the switch.

```
switch# show nasb
NASB: module 4 vsan 1:DPP-1, VT-nWWN=2700000530002926, pWWN=2701000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-2, VT-nWWN=2702000530002926, pWWN=2703000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-3, VT-nWWN=2704000530002926, pWWN=2705000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-4, VT-nWWN=2706000530002926, pWWN=2707000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-5, VT-nWWN=2708000530002926, pWWN=2709000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-6, VT-nWWN=270a000530002926, pWWN=270b000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-7, VT-nWWN=270c000530002926, pWWN=270d000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-8, VT-nWWN=270e000530002926, pWWN=270f000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-1, VT-nWWN=26f0000530002926, pWWN=26f1000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-2, VT-nWWN=26f2000530002926, pWWN=26f3000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-3, VT-nWWN=26f4000530002926, pWWN=26f5000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-4, VT-nWWN=26f6000530002926, pWWN=26f7000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-5, VT-nWWN=26f8000530002926, pWWN=26f9000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-6, VT-nWWN=26fa000530002926, pWWN=26fb000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-7, VT-nWWN=26fc000530002926, pWWN=26fd000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-8, VT-nWWN=26fe000530002926, pWWN=26ff000530002926 (provisioned)
NASB: module 8 vsan 3:DPP-1, VT-nWWN=2500000530002926, pWWN=2501000530002926 (not
provisioned)
NASB: module 8 vsan 3:DPP-2, VT-nWWN=2502000530002926, pWWN=2503000530002926 (not
provisioned)
NASB: module 8 vsan 3:DPP-3, VT-nWWN=2504000530002926, pWWN=2505000530002926 (not
provisioned)
NASB: module 8 vsan 3:DPP-4, VT-nWWN=2506000530002926, pWWN=2507000530002926 (not
provisioned)
NASB: module 8 vsan 3:DPP-5, VT-nWWN=2508000530002926, pWWN=2509000530002926 (not
provisioned)
```


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```
NASB: module 8 vsan 3:DPP-6, VT-nWWN=250a000530002926, pWWN=250b000530002926 (not
provisioned)
NASB: module 8 vsan 3:DPP-7, VT-nWWN=250c000530002926, pWWN=250d000530002926 (not
provisioned)
NASB: module 8 vsan 3:DPP-8, VT-nWWN=250e000530002926, pWWN=250f000530002926 (not
provisioned)
```

The following example displays the NASB configuration on the SSM in slot 4.

```
switch# show nasb module 4
NASB: module 4 vsan 1:DPP-1, VT-nWWN=2700000530002926, pWWN=2701000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-2, VT-nWWN=2702000530002926, pWWN=2703000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-3, VT-nWWN=2704000530002926, pWWN=2705000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-4, VT-nWWN=2706000530002926, pWWN=2707000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-5, VT-nWWN=2708000530002926, pWWN=2709000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-6, VT-nWWN=270a000530002926, pWWN=270b000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-7, VT-nWWN=270c000530002926, pWWN=270d000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-8, VT-nWWN=270e000530002926, pWWN=270f000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-1, VT-nWWN=26f0000530002926, pWWN=26f1000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-2, VT-nWWN=26f2000530002926, pWWN=26f3000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-3, VT-nWWN=26f4000530002926, pWWN=26f5000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-4, VT-nWWN=26f6000530002926, pWWN=26f7000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-5, VT-nWWN=26f8000530002926, pWWN=26f9000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-6, VT-nWWN=26fa000530002926, pWWN=26fb000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-7, VT-nWWN=26fc000530002926, pWWN=26fd000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-8, VT-nWWN=26fe000530002926, pWWN=26ff000530002926 (provisioned)
```

The following example displays the NASB configuration on the SSM in slot 4 and VSAN 1.

```
switch# show nasb module 4 vsan 1
NASB: module 4 vsan 1:DPP-1, VT-nWWN=2700000530002926, pWWN=2701000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-2, VT-nWWN=2702000530002926, pWWN=2703000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-3, VT-nWWN=2704000530002926, pWWN=2705000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-4, VT-nWWN=2706000530002926, pWWN=2707000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-5, VT-nWWN=2708000530002926, pWWN=2709000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-6, VT-nWWN=270a000530002926, pWWN=270b000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-7, VT-nWWN=270c000530002926, pWWN=270d000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-8, VT-nWWN=270e000530002926, pWWN=270f000530002926 (provisioned)
```

Table 22-7 describes the significant fields shown in the display.

Table 22-7 show nasb Field Descriptions

Field	Description
tpc module	Displays the slot number of the SSM.
vsan	Displays the VSAN number in the database associated to the NASB process.
DPP-	Displays which of the eight data path processors (DPP) is forwarding the data.
VT-nWWN=	Displays the virtual target (VT) node WWN associated with this XCopy LUN.
pWWN=	Displays the port WWN associated with this XCopy LUN.
provisioned	Implies the range of FC <i>slot/port-port</i> interfaces has been enabled using the ssm enable feature nasb command.
not provisioned	Implies the range of FC <i>slot/port-port</i> interfaces has not been enabled using the ssm enable feature nasb command.

Send documentation comments to mdsfeedback-doc@cisco.com

Related Commands

Command	Description
nasb module	Enables TPC on a VSAN and maps it to the SSM where the feature has been enabled.

Send documentation comments to mdsfeedback-doc@cisco.com

show ntp

To display the configured Network Time Protocol (NTP) server and peer associations, use the **show ntp** command.

```
show ntp {peers | pending peers | pending-diff | session-status | statistics [io | local | memory | peer {ipaddr ip-address | name peer-name}] | timestamp-status}
```

Syntax Description	
peers	Displays all the peers.
pending peers	Displays pending NTP configuration changes on all peers.
pending-diff	Displays the differences between the pending NTP configuration changes and the active NTP configuration.
session-status	Displays the Cisco Fabric Services (CFS) session status.
statistics	Displays the NTP statistics
io	Displays the input/output statistics.
local	Displays the counters maintained by the local NTP.
memory	Displays the statistics counters related to memory code.
peer	Displays the per-peer statistics counter of a peer.
ipaddr <i>ip-address</i>	Displays the peer statistics for the specified IP address.
name <i>peer-name</i>	Displays the peer statistics for the specified peer name.
timestamp-status	Displays if the timestamp check is enabled.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.
	2.0(x)	Added the pending , pending-diff , and session-status keywords.

Usage Guidelines None.

Examples The following example displays the NTP peer information.

```
switch# show ntp peers
-----
Peer IP Address          Serv/Peer
-----
10.20.10.2              Server
10.20.10.0              Peer
```

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The following example displays the NTP IO statistics.

```
switch# show ntp statistics io
time since reset:      11152
receive buffers:      9
free receive buffers: 9
used receive buffers: 9
low water refills:    0
dropped packets:      0
ignored packets:      0
received packets:     3
packets sent:         2
packets not sent:     0
interrupts handled:   3
received by int:      3
```

The following example displays the NTP local statistics.

```
switch# show ntp statistics local
system uptime:        11166
time since reset:     11166
bad stratum in packet: 0
old version packets:  4
new version packets:  0
unknown version number: 0
bad packet format:    0
packets processed:    0
bad authentication:   0
```

The following example displays the NTP memory statistics information.

```
switch# show ntp statistics memory
time since reset:     11475
total peer memory:   15
free peer memory:    15
calls to findpeer:   0
new peer allocations: 0
peer demobilizations: 0
hash table counts:
                   0  0  0  0  0  0  0  0
                   0  0  0  0  0  0  0  0
                   0  0  0  0  0  0  0  0
                   0  0  0  0  0  0  0  0
```

The following example displays the NTP peer statistics information using the IP address of the peer.

```
switch# show ntp statistics peer ipaddr 10.1.1.1
```

The following example displays the NTP peer statistics information using the name of the peer.

```
switch# show ntp statistics peer name Peer1
```

The following example displays the NTP timestamp status information.

```
switch# show ntp timestamp-status
Linecard 9 does not support Timestamp check.
```

Related Commands

Command	Description
ntp	Configures NTP parameters.

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show npv flogi-table

To display the information about N Port Virtualization (NPV) FLOGI session, use the **show npv flogi-table** command.

show npv flogi-table

Syntax Description	This command has no other arguments or keywords.
---------------------------	--

Defaults	None.
-----------------	-------

Command Modes	EXEC mode.
----------------------	------------

Command History	Release	Modification
	3.2(1)	This command was introduced.

Usage Guidelines	None.
-------------------------	-------

Examples	The following example displays the information on NPV FLOGI session.
-----------------	--

```
switch# show npv flogi-table
```

```
-----
SERVER EXTERNAL
INTERFACE VSAN FCID PORT NAME NODE NAME INTERFACE
-----
fc1/13 1 0x330100 2f:ff:00:06:2b:10:c1:14 2f:ff:00:06:2b:10:c1:14 fc1/4
fc1/13 1 0x333500 2f:bf:00:06:2b:10:c1:14 2f:bf:00:06:2b:10:c1:14 fc1/4
fc1/13 1 0x333600 2f:9f:00:06:2b:10:c1:14 2f:9f:00:06:2b:10:c1:14 fc1/3
fc1/13 1 0x333800 2f:7f:00:06:2b:10:c1:14 2f:7f:00:06:2b:10:c1:14 fc1/2
fc1/13 1 0x333e00 2f:3f:00:06:2b:10:c1:14 2f:3f:00:06:2b:10:c1:14 fc1/4
fc1/13 1 0x334a00 2e:bf:00:06:2b:10:c1:14 2e:bf:00:06:2b:10:c1:14 fc1/3
fc1/13 1 0x335400 2e:7f:00:06:2b:10:c1:14 2e:7f:00:06:2b:10:c1:14 fc1/4
fc1/13 1 0x336200 2d:ff:00:06:2b:10:c1:14 2d:ff:00:06:2b:10:c1:14 fc1/1
fc1/13 1 0x336f00 2d:9f:00:06:2b:10:c1:14 2d:9f:00:06:2b:10:c1:14 fc1/2
fc1/13 1 0x337300 2d:5f:00:06:2b:10:c1:14 2d:5f:00:06:2b:10:c1:14 fc1/2
fc1/13 1 0x337900 2c:ff:00:06:2b:10:c1:14 2c:ff:00:06:2b:10:c1:14 fc1/1
fc1/13 1 0x338500 2c:bf:00:06:2b:10:c1:14 2c:bf:00:06:2b:10:c1:14 fc1/2
fc1/13 1 0x338a00 2c:9f:00:06:2b:10:c1:14 2c:9f:00:06:2b:10:c1:14 fc1/1
```

Related Commands	Command	Description
	show npv status	Displays the NPV current status.

[Send documentation comments to mdsfeedback-doc@cisco.com](mailto:mdsfeedback-doc@cisco.com)

show npv internal info

To display internal N Port Virtualization (NPV) information, use the **show npv internal info** command.

show npv internal info

Syntax Description	This command has no other arguments or keywords.	
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	3.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the NPV internal information.

```
switch# show npv internal info
NPV Globals:
=====
NPV mode: ENABLED
Switch-Name: 172.20.150.98
Switch Mgmt IP Address: 172.20.150.98
proxy logo Retries: 1
Internal FLOGI max timeout Retries: -1
NS Registration max timeout Retries: 5
timer group handle: 0x30038fe0
Number of Active External Interfaces: 0

External Interface Info:
=====
Interface Information:
  ifindex: fc1/1, VSAN: 1, internal FLOGI fcid: 0x1e0000
  FSM current state: NPIVP_EXT_IF_ST_FLOGI_FAILED
  Internal FLOGI Fail Reason: Mismatch in VSAN for this upstream port
  fabric pwwn: 20:05:00:05:30:00:ca:16, fabric nwwn: 20:0a:00:05:30:00:ca:17
  my pwwn: 20:01:00:05:30:01:71:b8, my nwwn: 20:01:00:05:30:01:71:b9
Port Parameters:
  Rx B2B Credits: 16, Multiplier: 0, Buff Size: 2112
  Tx B2B Credits: 16, Multiplier: 0, Buff Size: 2112, bbscn: 0
  bbscn_capable: TRUE bbscn_max: 14, port_bbscn: 0
Timer & Retry Information:
  Busy Timer          (1), id: 21045, active: FALSE time remaining: 0
  Fail Retry Timer    (7), id: 4209, active: TRUE time remaining: 1
  FDISC Response Timer (2), id: 00, active: FALSE time remaining: 0
  Error Clear Timer   (6), id: 71, active: TRUE time remaining: 433
```

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```

Statistics:
  flogi retry count          : 113
  ns registration retry count : 0
  number of flogis accepted: 0
  login failures out of ids: 0
  other login failures      : 0
  timed out login_failures : 0
  pending queue size        : 0
FLOGIs on this interface :
Interface Information:
  ifindex: fc1/5, VSAN: 1, internal FLOGI fcid: 0x000000
  FSM current state: NPIVP_EXT_IF_ST_PREINIT_DONE
  fabric pwwn: 00:00:00:00:00:00:00:00, fabric nwwn: 00:00:00:00:00:00:00:00
  my pwwn: 00:00:00:00:00:00:00:00, my nwwn: 00:00:00:00:00:00:00:00
Port Parameters:
  Rx B2B Credits: 0, Multiplier: 0, Buff Size: 0
  Tx B2B Credits: 0, Multiplier: 0, Buff Size: 0, bbscn: 0
  bbscn_capable: FALSE bbscn_max: 0, port_bbscn: 0
Timer & Retry Information:
  Busy Timer (1), id: 00, active: FALSE time remaining: 0
  Fail Retry Timer (7), id: 00, active: FALSE time remaining: 0
  FDISC Response Timer (2), id: 00, active: FALSE time remaining: 0
  Error Clear Timer (6), id: 71, active: TRUE time remaining: 433
Statistics:
  flogi retry count          : 0
  ns registration retry count : 0
  number of flogis accepted: 0
  login failures out of ids: 0
  other login failures      : 0
  timed out login_failures : 0
  pending queue size        : 0
FLOGIs on this interface :
Server Interface Info:
=====
Interface Information:
  ifindex: fc1/4, VSAN: 1, NPIV enable: FALSE, lcp init done: FALSE
Selected External Interface:
  FSM current state: NPIVP_SVR_IF_ST_WAITING_EXTERNAL_INTERFACE
Port Parameters:
  rxbbcredit: 0 rxbufsize: 0
  txbbcredit: 0 txbufsize: 0 txbbbscn: 0
  bbscn_capable: FALSE bbscn_max: 0, port_bbscn: 0
Statistics:
  number of FLOGIs: 0

```

Related Commands	Command	Description
	debug npv	Enables debugging NPV configurations.
	show debug npv	Displays the NPV debug commands configured on the switch.

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show npv internal info traffic-map

To display internal N port virtualization (NPV) information about a traffic map, use the **show npv internal info traffic-map** command.

show npv internal info traffic-map

Syntax Description	This command has no other arguments or keywords.
---------------------------	--

Defaults	None.
-----------------	-------

Command Modes	EXEC mode
----------------------	-----------

Command History	Release	Modification
	3.4(1)	Command output has been changed.
	3.3(1a)	This command was introduced.

Usage Guidelines	None.
-------------------------	-------

Examples	The following example displays NPV internal information.
-----------------	--

```
switch# show npv internal info traffic-map
NPV Traffic Map Information:
-----
Server-If          Last Change Time      External-If(s)
-----
fc1/10             2147469648.265604868  fc1/9, fc1/13
fc1/20             2147469648.265604868  fc1/9, fc1/13
-----
switch#
```

Related Commands	Command	Description
	show npv traffic-map	Displays npv traffic map.

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show npv traffic-map

To display an N port virtualization (NPV) traffic map, use the **show npv traffic-map** command.

show npv traffic-map

Syntax Description	This command has no other arguments or keywords.
---------------------------	--

Defaults	None.
-----------------	-------

Command Modes	EXEC mode.
----------------------	------------

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines	None.
-------------------------	-------

Examples	The following example displays the NPV traffic map information.
-----------------	---

```
switch# show npv traffic-map
NPV Traffic Map Information:
-----
Server-If      External-If(s)
-----
fc1/10         fc1/9, fc1/13
fc1/20         fc1/9, fc1/13
-----
switch#
```

Related Commands	Command	Description
	show npv flogi-table	Displays information about NPV FLOGI sessions.
	show npv internal info traffic-map	Displays internal information about the traffic map.

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show npv status

To display the N Port Virtualization (NPV) current status, use the **show npv status** command.

show npv status

Syntax Description	This command has no other arguments or keywords.
---------------------------	--

Defaults	None.
-----------------	-------

Command Modes	EXEC mode.
----------------------	------------

Command History	Release	Modification
	3.2(1)	This command was introduced.

Usage Guidelines	None.
-------------------------	-------

Examples	The following example displays the current status of NPV.
-----------------	---

```
switch# show npv status
External Interfaces:
=====
Number of External Interfaces: 6
Interface: fc1/1, FCID: 0x330037, State: Up
Interface: fc1/2, FCID: 0x330038, State: Up
Interface: fc1/3, FCID: 0x330039, State: Up
Interface: fc1/4, FCID: 0x33003a, State: Up
Interface: fc1/23, FCID: 0x7d0007, State: Up
Interface: fc1/24, FCID: 0x7d0006, State: Up
Server Interfaces:
=====
Number of Server Interfaces: 4
Interface: fc1/13, NPIV: Yes, State: Up
Interface: fc1/14, NPIV: Yes, State: Up
Interface: fc1/15, NPIV: Yes, State: Up
```

Related Commands	Command	Description
	show npv flogi-table	Displays the information about NPV FLOGI session.

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show port index-allocation

To display port index allocation information, use the **show port index-allocation** command.

```
show port {index-allocation startup | naming}
```

Syntax Description		
	index-allocation	Displays port index allocation information.
	startup	Displays port index allocation information at startup.
	naming	Displays port naming information.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.
	3.1(2)	Added the naming keyword.

Usage Guidelines All software releases prior to Cisco SAN-OS Release 3.0(1) support Generation 1 hardware. Cisco SAN-OS Release 3.0(1) and later support Generation 2 hardware. You can combine Generation 1 and Generation 2 switching modules, with either Supervisor-1 modules or Supervisor-2 modules. However, combining switching modules and supervisor modules has the following limitations:

- Supervisor-1 modules only support a maximum of 256 port indexes, regardless of type of switching modules.
- Supervisor-2 modules support a maximum of 1024 port indexes when all switching modules in the chassis are Generation 2.
- Supervisor-2 modules only support a maximum of 256 port indexes when both Generation 1 and Generation 2 switching modules are installed in the chassis.



Note The Cisco MDS 9124 switch does not support the **show port index-allocation startup** command; however, it does support the **show port index-allocation** command.



Note On a switch where the maximum number of port indexes is 256, any module that exceeds that limit does not power up.

Examples The following example displays port index allocation information at startup on a Cisco MDS switch with only Generation 1 switching modules installed.

```
switch# show port index-allocation startup
```

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Startup module index distribution:

Slot	Allowed range	Alloted indices info	
		Total	Index values
1	0- 31	32	0-31
2	32- 63	32	32-63
3	64- 95	32	64-95
SUP	-----	3	253-255

The following example displays current port index allocation on a Cisco MDS switch with only Generation 1 switching modules installed.

```
switch# show port index-allocation
```

Module index distribution:

Slot	Allowed range	Alloted indices info	
		Total	Index values
1	0- 31	32	0-31
2	32- 63	32	32-63
3	64- 95	32	64-95
4	96- 127	-	(None)
SUP	-----	3	253-255

The following example displays port index allocation information at startup on a Cisco MDS switch with Generation 1 and Generation 2 switching modules installed.

```
switch# show port index-allocation startup
```

Startup module index distribution:

Slot	Allowed range	Alloted indices info	
		Total	Index values
4	0- 255	32	0-31
5	0- 255	32	32-63
6	0- 255	32	96-127
9	0- 255	24	64-87
SUP	-----	3	253-255

The following example shows the current port index allocation on a Cisco MDS switch with Generation 1 and Generation 2 switching modules installed.

```
switch# show port index-allocation
```

Module index distribution:

Slot	Allowed range	Alloted indices info	
		Total	Index values
1	0- 255	-	(None)
2	0- 255	-	(None)
3	0- 255	-	(None)
4	0- 255	32	0-31
5	0- 255	32	32-63
6	0- 255	32	96-127
9	0- 255	24	64-87
10	0- 255	-	(None)
11	0- 255	-	(None)
12	0- 255	-	(None)
13	0- 255	-	(None)

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SUP		-----		3		253-255	
-----	--	-------	--	---	--	---------	--

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show port-channel

Use the **show port-channel** command to view information about existing PortChannel configurations.

```
show port-channel { compatibility-parameters | consistency [detail] | database [interface
port-channel port-channel-number] | summary | usage }
```

Syntax Description

<i>compatibility-parameters</i>	Displays compatibility parameters.
consistency	Displays the database consistency information of all modules.
detail	Displays detailed database consistency information.
database	Displays PortChannel database information.
interface port-channel <i>port-channel-number</i>	Specifies the PortChannel number. The range is 1 to 256.
summary	Displays PortChannel summary.
usage	Displays PortChannel number usage.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
3.0(1)	<ul style="list-style-type: none"> Increased the interface port-channel range to 256. Modified the output of the compatibility-parameters option.

Usage Guidelines

None.

Examples

The following example displays the PortChannel summary.

```
switch# show port-channel summary
NEW
```

The following example displays the PortChannel compatibility parameters.

```
switch# show port-channel compatibility-parameters
Parameters that have to be consistent across all members in a port-channel.
```

```
1. physical port layer
```

```
Members must have the same interface type, such as fibre channel, ethernet
or fcip.
```

```
2. port mode
```

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Members must have the same port mode configured, either E or AUTO. If they are configured in AUTO port mode, they have to negotiate E mode when they come up. If a member negotiates a different mode, it will be suspended.

3. trunk mode

Members must have the same trunk mode configured. If they are configured in AUTO trunking mode, they have to negotiate the same trunking mode when they come up. If a member negotiates a different mode, it will be suspended.

4. speed

Members must have the same speed configured. If they are configured in AUTO speed, they have to negotiate the same speed when they come up. If a member negotiates a different speed, it will be suspended.

5. MTU

Members have to have the same MTU configured. This only applies to ethernet port-channel.

6. ethernet port index

This only applies to ethernet port-channel. Each ethernet port-channel could only have two ethernet ports. They must be in the same slot, their port indices must be adjacent and the lower number must be odd. Example: Gigabitethernet 8/5 - 6.

7. rate mode

Members must have the same rate mode configured. Rate Mode applies only to isola FC ports

8. Maximum Speed Mismatch

Members must be configured to auto-negotiate to the same maximum speed.

9. Resources Unavailable

Members must be able to acquire resources required to maintain compatibility. Check shared resources like speed, rate-mode and port mode.

10. Out of Service

Members must be in-service.

11. port VSAN

Members must have the same port VSAN.

12. port allowed VSAN list

Members must have the same port allowed VSAN list.

13. IP address

Members must not have IP address configured. This only applies to ethernet port-channel.

14. IPv6 configuration

Members must not have any IPv6 configuration. This only applies to ethernet port-channel.

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15. port-security active bindings

Members must all be permitted by the activated port-security bindings and fabric-bindings in all the allowed VSANs.

16. FC receive buffer size

Members must have the same fc receive buffer size. If the configured receive buffer size is not compatible with the port capability then the port will be error disabled

17. IP ACLs

Members must not have IP ACLs configured individually on them. This only applies to ethernet port-channel.

18. sub interfaces

Members must not have sub-interfaces.

19. Access VLAN

Members must have same Access VLAN configured.

20. Native VLAN

Members must have same Native VLAN configured.

21. Duplex Mode

Members must have same Duplex Mode configured.

22. Ethernet Layer

Members must have same Ethernet Layer (switchport/no-switchport) configured.

23. Span Port

Members cannot be SPAN ports.

The following example displays the PortChannel database.

```
switch# show port-channel database
port-channel 2
  Administrative channel mode is on
  Operational channel mode is on
  Last membership update succeeded
  First operational port is fc2/2
  1 port in total, 1 port up
  Ports:  fc2/2  [up]
```

The **show port-channel consistency** command has two options—without detail and detail.

Command Without Details

```
switch# show port-channel consistency
Database is consistent
switch#
```

Command With Details

```
switch# show port-channel consistency detail
Authoritative port-channel database:
=====
```


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```

totally 1 port-channels
port-channel 2:
  1 ports, first operational port is fc2/2
    fc2/2    [up]
=====
database 1: from module 5
=====
totally 1 port-channels

port-channel 2:
  1 ports, first operational port is fc2/2
    fc2/2    [up]
=====
database 2: from module 2
=====
totally 1 port-channels
port-channel 2:
  1 ports, first operational port is fc2/2
    fc2/2    [up]
=====

```

The **show port-channel usage** command displays details of the used and unused PortChannel numbers.

PortChannel Usage

```

switch# show port-channel usage
Totally 2 port-channel numbers used
=====
Used   :   3, 9
Unused:   1-2, 4-8, 10-256

```

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show port-license

To display the licensing usage on a Cisco MDS 9124, use the **show port-license** command.

show port-license

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the default port activation license configuration for the Cisco MDS 9124 switch.

```
switch# show port-license
Available port activation licenses are 0
-----
Interface      Port Activation License
-----
fc1/1          acquire
fc1/2          acquire
fc1/3          acquire
fc1/4          acquire
fc1/5          acquire
fc1/6          acquire
fc1/7          acquire
fc1/8          acquire
fc1/9          eligible
fc1/10         eligible
fc1/11         eligible
...
fc1/24         eligible
```

Related Commands

Command	Description
port-license	Makes a port eligible or ineligible to receive a license. Also used to acquire a license for a port.

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show port-monitor

To configure the counter details of the policy, use the **show port-monitor** command.

show port-monitor [*name*]

Syntax Description	<i>name</i> Displays a policy name.				
Defaults	None.				
Command Modes	Configuration mode.				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>3.4(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	3.4(1)	This command was introduced.
Release	Modification				
3.4(1)	This command was introduced.				
Usage Guidelines	The show port-monitor command can also take a string name of policy and displays the details of that policy only.				
Examples	<p>The following example shows how to display the counter details of the policy.</p> <pre>switch# show port-monitor cisco Policy Name : cisco Status : Not Active Port type : All Ports Counter Threshold Interval Rising Threshold Falling Threshold Status ----- Link Loss Delta 60 5 1 Active Sync Loss Delta 60 5 1 Active Protocol Error Delta 60 1 0 Active Signal Loss Delta 60 5 1 Active Invalid Words Delta 60 1 0 Active Invalid CRC's Delta 263635064 3 4 Active RX Performance Delta 60 2147483648 524288000 Active TX Performance Delta 60 2147483648 524288000 Active State Change Delta 60 1 0 Active ----- switch#</pre>				
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show port-monitor</td> <td>Shows port monitor policies.</td> </tr> </tbody> </table>	Command	Description	show port-monitor	Shows port monitor policies.
Command	Description				
show port-monitor	Shows port monitor policies.				

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show port-resources module

To display information about port resources in a Generation 2 module, use the **show port-resources** command.

show port-resources module *slot*

Syntax Description	<i>slot</i>	Specifies the module number. The range is 1 to 6.
--------------------	-------------	---

Defaults	None.
----------	-------

Command Modes	EXEC mode.
---------------	------------

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines	None.
------------------	-------

Examples The following example displays the Generation 2 module shared resources configuration.

```
switch# show port-resources module 2
Module 2
Available dedicated buffers are 5164

Port-Group 1
Total bandwidth is 12.8 Gbps
Total shared bandwidth is 4.8 Gbps
Allocated dedicated bandwidth is 8.0 Gbps
-----
Interfaces in the Port-Group B2B Credit Bandwidth Rate Mode
                          Buffers (Gbps)
-----
fc2/1                      16      4.0 shared
fc2/2                      16      4.0 shared
fc2/3                      16      4.0 shared
fc2/4                      16      4.0 shared
fc2/5                      16      4.0 dedicated
fc2/6                      16      4.0 dedicated

Port-Group 2
Total bandwidth is 12.8 Gbps
Total shared bandwidth is 4.8 Gbps
Allocated dedicated bandwidth is 8.0 Gbps
-----
Interfaces in the Port-Group B2B Credit Bandwidth Rate Mode
                          Buffers (Gbps)
-----
fc2/7                      16      4.0 shared
```

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```
fc2/8          16      4.0 shared
fc2/9          16      4.0 shared
fc2/10         16      4.0 shared
fc2/11         16      4.0 dedicated
fc2/12         16      4.0 dedicated
```

Port-Group 3

```
Total bandwidth is 12.8 Gbps
Total shared bandwidth is 4.8 Gbps
Allocated dedicated bandwidth is 8.0 Gbps
```

```
-----
Interfaces in the Port-Group B2B Credit Bandwidth Rate Mode
                          Buffers (Gbps)
```

```
-----
fc2/13          16      4.0 shared
fc2/14          16      4.0 shared
fc2/15          16      4.0 shared
fc2/16          250     4.0 dedicated
fc2/17          16      2.0 dedicated
fc2/18          16      2.0 dedicated
```

Port-Group 4

```
Total bandwidth is 12.8 Gbps
Total shared bandwidth is 0.8 Gbps
Allocated dedicated bandwidth is 12.0 Gbps
```

```
-----
Interfaces in the Port-Group B2B Credit Bandwidth Rate Mode
                          Buffers (Gbps)
```

```
-----
fc2/19          16      1.0 shared
fc2/20          16      1.0 shared
fc2/21          16      1.0 shared
fc2/22          16      4.0 dedicated
fc2/23          16      4.0 dedicated
fc2/24          16      4.0 dedicated
```

Related Commands

Command	Description
show module	Verifies the status of a module.

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show port-security

To display configured port security feature information, use the **show port-security database** command.

show port-security

```
{ database [active [vsan vsan-id]] | fwwn fwwn-id vsan vsan-id | interface { fc slot/port |
port-channel port } vsan vsan-id | vsan vsan-id |
pending [vsan vsan-id] |
pending-diff [vsan vsan-id] |
statistics [vsan vsan-id] |
status [vsan vsan-id] |
violations [last count | vsan vsan-id]}
```

Syntax Description

database	Displays database-related port security information.
active	Displays the activated database information.
vsan <i>vsan-id</i>	Displays information for the specified database.
fwwn <i>fwwn-id</i>	Displays information for the specified fabric WWN.
interface	Displays information for an interface.
fc <i>slot/port</i>	Displays information for the specified Fibre Channel interface.
port-channel <i>port</i>	Displays information for the specified PortChannel interface. The range is 1 to 128.
pending	Displays the server address pending configuration.
pending-diff	Displays the server address pending configuration differences with the active configuration.
statistics	Displays port security statistics.
status	Displays the port security status on a per VSAN basis.
violations	Displays violations in the port security database.
last <i>count</i>	Displays the last number of lines in the database. The range is 1 to 100.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.2(1)	This command was introduced.
2.0(x)	Added the pending and pending-diff keywords.

Usage Guidelines

The access information for each port can be individually displayed. If you specify the fwwn or interface options, all devices that are paired in the active database (at that point) with the given fWWN or the interface are displayed.

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The **show port-security** command issued with the **last number** option displays only the specified number of entries that appear first.

Examples

The following example displays the contents of the port security database.

```
switch# show port-security database
-----
VSAN   Logging-in Entity           Logging-in Point(   Interface)
-----
1      21:00:00:e0:8b:06:d9:1d(pwwn) 20:0d:00:05:30:00:95:de(fc1/13)
1      50:06:04:82:bc:01:c3:84(pwwn) 20:0c:00:05:30:00:95:de(fc1/12)
2      20:00:00:05:30:00:95:df(swwn) 20:0c:00:05:30:00:95:de(port-channel 128)
3      20:00:00:05:30:00:95:de(swwn) 20:01:00:05:30:00:95:de(fc1/1)
[Total 4 entries]
```

The following example displays the output of the active port security database in VSAN 1.

```
switch# show port-security database vsan 1
-----
Vsan   Logging-in Entity           Logging-in Point   (Interface)
-----
1      *                           20:85:00:44:22:00:4a:9e (fc3/5)
1      20:11:00:33:11:00:2a:4a(pwwn) 20:81:00:44:22:00:4a:9e (fc3/1)
[Total 2 entries]
```

The following example displays the active database.

```
switch# show port-security database active
-----
VSAN   Logging-in Entity           Logging-in Point(   Interface)   Learnt
-----
1      21:00:00:e0:8b:06:d9:1d(pwwn) 20:0d:00:05:30:00:95:de(fc1/13)         Yes
1      50:06:04:82:bc:01:c3:84(pwwn) 20:0c:00:05:30:00:95:de(fc1/12)         Yes
2      20:00:00:05:30:00:95:df(swwn) 20:0c:00:05:30:00:95:de(port-channel 128) Yes
3      20:00:00:05:30:00:95:de(swwn) 20:01:00:05:30:00:95:de(fc1/1)
[Total 4 entries]
```

The following example displays the wildcard fwwn port security in VSAN 1.

```
switch# show port-security database fwwn 20:85:00:44:22:00:4a:9e vsan 1
Any port can login thru' this fwwn
```

The following example displays the configured fWWN port security in VSAN 1.

```
switch# show port-security database fwwn 20:01:00:05:30:00:95:de vsan 1
20:00:00:0c:88:00:4a:e2(swwn)
```

The following example displays the interface port information in VSAN 2.

```
switch# show port-security database interface fc 1/1 vsan 2
20:00:00:0c:88:00:4a:e2(swwn)
```

The following example displays the port security statistics.

```
switch# show port-security statistics
Statistics For VSAN: 1
-----
Number of pWWN permit: 2
Number of nWWN permit: 2
Number of sWWN permit: 2
Number of pWWN deny   : 0
Number of nWWN deny   : 0
Number of sWWN deny   : 0
```

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```
Total Logins permitted : 4
Total Logins denied   : 0
Statistics For VSAN: 2
-----
Number of pWWN permit: 0
Number of nWWN permit: 0
Number of sWWN permit: 2
Number of pWWN deny  : 0
Number of nWWN deny  : 0
Number of sWWN deny  : 0
...
```

The following example displays the status of the active database and the autolearn configuration.

```
switch# show port-security status
VSAN 1 :Activated database, auto-learning is enabled
VSAN 2 :No Active database, auto-learning is disabled
...
```

The following example displays the previous 100 violations.

```
switch# show port-security violations
-----
VSAN   Interface      Logging-in Entity          Last-Time                [Repeat count]
-----
1      fc1/13          21:00:00:e0:8b:06:d9:1d(pwwn) Jul  9 08:32:20 2003  [20]
                20:00:00:e0:8b:06:d9:1d(nwwn)
1      fc1/12          50:06:04:82:bc:01:c3:84(pwwn) Jul  9 08:32:20 2003  [1]
                50:06:04:82:bc:01:c3:84(nwwn)
2      port-channel 1 20:00:00:05:30:00:95:de(swwn) Jul  9 08:32:40 2003  [1]
[Total 2 entries]
```

Related Commands

Command	Description
port-security	Configures port security parameters.

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show processes

To display general information about all the processes, use the **show processes** command.

```
show processes [cpu | log [details | pid process-id] | memory]
```

Syntax Description		
cpu		Displays processes CPU information.
log		Displays information about process logs.
details		Displays detailed process log information.
pid <i>process-id</i>		Displays process information about a specific process ID. The range is 0 to 2147483647.
memory		Displays processes memory information.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following examples display general information about system processes.

```
switch# show process
PID      State  PC          Start_cnt  TTY  Process
-----  -----  -----  -----  ---  -
  868    S    2ae4f33e          1    -    snmpd
  869    S    2acee33e          1    -    rscn
  870    S    2ac36c24          1    -    qos
  871    S    2ac44c24          1    -    port-channel
  872    S    2ac7a33e          1    -    ntp
    -    ER    -                1    -    mdog
    -    NR    -                0    -    vbuilder
```

PID: process ID.

State: process state

```

D    uninterruptible sleep (usually IO)
R    runnable (on run queue)
S    sleeping
T    traced or stopped
Z    a defunct ("zombie") process
```

NR not-running

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ER should be running but currently not-running

PC: Current program counter in hex format

Start_cnt: how many times a process has been started.

TTY: Terminal that controls the process. A "-" usually means a daemon not running on any particular tty.

Process: name of the process.

=====

2. show processes cpu (new output)

Description: show cpu utilization information about the processes.

switch# **show processes cpu**

PID	Runtime(ms)	Invoked	uSecs	1Sec	Process
842	3807	137001	27	0.0	sysmgr
1112	1220	67974	17	0.0	syslogd
1269	220	13568	16	0.0	fcfwd
1276	2901	15419	188	0.0	zone
1277	738	21010	35	0.0	xbar_client
1278	1159	6789	170	0.0	wnn
1279	515	67617	7	0.0	vsan

Runtime(ms): cpu time the process has used, expressed in milliseconds

Invoked: Number of times the process has been invoked.

uSecs: Microseconds of CPU time in average for each process invocation.

1Sec: CPU utilization in percentage for the last 1 second.

=====

3. show processes mem

Description: show memory information about the processes.

PID	MemAlloc	StackBase/Ptr	Process
1277	120632	7ffffcd0/7ffffefe4	xbar_client
1278	56800	7ffffce0/7ffffb5c	wnn
1279	1210220	7ffffce0/7ffffbac	vsan
1293	386144	7ffffcf0/7ffffebd4	span
1294	1396892	7ffffce0/7ffffdff4	snmpd
1295	214528	7ffffcf0/7ffff904	rscn
1296	42064	7ffffce0/7ffffb5c	qos

MemAlloc: total memory allocated by the process.

StackBase/Ptr: process stack base and current stack pointer in hex format

=====

3. show processes log

Description: list all the process logs

switch# **show processes log**

Process	PID	Normal-exit	Stack-trace	Core	Log-create-time
fspf	1339	N	Y	N	Jan 5 04:25
lichen	1559	N	Y	N	Jan 2 04:49
rib	1741	N	Y	N	Jan 1 06:05

Normal-exit: whether or not the process exited normally.

Stack-trace: whether or not there is a stack trace in the log.

Core: whether or not there exists a core file.

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Log-create-time: when the log file got generated.

The following example displays the detail log information about a particular process.

```
switch# show processes log pid 1339
Service: fspf
Description: FSPF Routing Protocol Application

Started at Sat Jan  5 03:23:44 1980 (545631 us)
Stopped at Sat Jan  5 04:25:57 1980 (819598 us)
Uptime: 1 hours 2 minutes 2 seconds

Start type: SRV_OPTION_RESTART_STATELESS (23)
Death reason: SYSMGR_DEATH_REASON_FAILURE_SIGNAL (2)
Exit code: signal 9 (no core)
CWD: /var/sysmgr/work

Virtual Memory:

CODE      08048000 - 0809A100
DATA      0809B100 - 0809B65C
BRK       0809D988 - 080CD000
STACK     7FFFFFFD20
TOTAL     23764 KB

Register Set:

EBX 00000005      ECX 7FFFFFF8CC      EDX 00000000
ESI 00000000      EDI 7FFFFFF6CC      EBP 7FFFFFF95C
EAX FFFFFFFDDE      XDS 8010002B      XES 0000002B
EAX 0000008E (orig) EIP 2ACE133E      XCS 00000023
EFL 00000207      ESP 7FFFFFF654      XSS 0000002B

Stack: 1740 bytes. ESP 7FFFFFF654, TOP 7FFFFFFD20

0x7FFFFFF654: 00000000 00000008 00000003 08051E95 .....
0x7FFFFFF664: 00000005 7FFFFFF8CC 00000000 00000000 .....
0x7FFFFFF674: 7FFFFFF6CC 00000001 7FFFFFF95C 080522CD .....\"..
0x7FFFFFF684: 7FFFFFF9A4 00000008 7FFFFFFC34 2AC1F18C .....4.....*
```

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show role

To display the description about the various Cisco SME role configurations, use the **show role** command.

show role

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines Execute the **setup sme** command to set up the Cisco SME administrator and Cisco SME recovery roles and then use the **show role** command to display the role details.

Examples The following example displays the Cisco SME role configurations:

```
switch# setup sme
Set up two roles necessary for SME, sme-admin and sme-recovery? (yes/no) [no] y
s
SME setup done
switch# show role

Role: network-admin
Description: Predefined Network Admin group. This role cannot be modified
Access to all the switch commands

Role: network-operator
Description: Predefined Network Operator group. This role cannot be modified
Access to Show commands and selected Exec commands

Role: svc-admin
Description: Predefined SVC Admin group. This role cannot be modified
Access to all SAN Volume Controller commands

Role: svc-operator
Description: Predefined SVC Operator group. This role cannot be modified
Access to selected SAN Volume Controller commands

Role: default-role
Description: This is a system defined role and applies to all users
```

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```
vsan policy: permit (default)
```

```
-----
Rule      Type      Command-type      Feature
-----
1.  permit      show              system
2.  permit      show              snmp
3.  permit      show              module
4.  permit      show              hardware
5.  permit      show              environment
```

```
Role: sme-admin
```

```
vsan policy: permit (default)
```

```
-----
Rule      Type      Command-type      Feature
-----
1.  permit      show              sme
2.  permit      config         sme
3.  permit      debug          sme
```

```
Role: sme-recovery
```

```
vsan policy: permit (default)
```

```
-----
Rule      Type      Command-type      Feature
-----
1.  permit      configsme-recovery-officer
```

Related Commands

Command	Description
setup sme	Sets up the Cisco SME administrator and Cisco SME recovery roles.

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show qos

To display the current QoS settings along with a the number of frames marked high priority, use the **show qos** command.

```
show qos { class-map [name class-name] | dwrr | policy-map [name policy-name] | service policy
[interface fc slot/port | vsan vsan-id] | statistics }
```

Syntax Description		
class-map		Displays QoS class maps.
name <i>class-name</i>		Specifies a class map name. The maximum length is 63 alpha-numeric characters.
dwrr		Displays deficit weighted round robin queue weights.
policy-map		Displays QoS policy-maps.
name <i>policy-name</i>		Specifies a policy map name. The maximum length is 63 alpha-numeric characters.
service policy		Displays QoS service policy associations.
interface fc <i>slot/port</i>		Specifies a Fibre Channel interface.
vsan <i>vsan-id</i>		Specifies a VSAN ID. The range is 1 to 4093.
statistics		Displays QoS related statistics.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.

Usage Guidelines To access all but the **statistics** option for this command, you must perform the **qos enable** command.

Examples The following example displays the contents of all class maps.

```
switch# show qos class-map
qos class-map MyClass match-any
  match dest-wwn 20:01:00:05:30:00:28:df
  match src-wwn 23:15:00:05:30:00:2a:1f
  match src-intf fc2/1
qos class-map Class2 match-all
  match src-intf fc2/14
qos class-map Class3 match-all
  match src-wwn 20:01:00:05:30:00:2a:1f
```

The following example displays the contents of a specified class map.

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```
switch# show qos class-map name MyClass
qos class-map MyClass match-any
    match dest-wwn 20:01:00:05:30:00:28:df
    match src-wwn 23:15:00:05:30:00:2a:1f
    match src-intf fc2/1
```

The following example displays all configured policy maps.

```
switch# show qos policy-map
qos policy-map MyPolicy
    class MyClass
    priority medium

qos policy-map Policy1
    class Class2
    priority low
```

The following example displays a specified policy map.

```
switch# show qos policy-map name MyPolicy
qos policy-map MyPolicy
    class MyClass
    priority medium
```

The following example displays scheduled DWRR configurations.

```
switch# show qos dwrr
qos dwrr-q high weight 50
qos dwrr-q medium weight 30
qos dwrr-q low weight 20
```

The following example displays all applied policy maps.

```
switch# show qos service policy
qos service policy MyPolicy vsan 1
qos service policy Policy1 vsan 4
```

The following example displays QoS statistics.

```
switch# show qos statistics
Total number of FC frames transmitted from the Supervisor= 301431
Number of highest-priority FC frames transmitted          = 137679
Current priority of FC control frames = 7      (0 = lowest; 7 = highest)
```

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show radius

To display the RADIUS Cisco Fabric Services (CFS) distribution status and other details, use the **show radius** command.

show radius { **distribution status** | **pending** | **pending-diff** }

Syntax Description		
	distribution status	Displays the status of the RADIUS CFS distribution.
	pending	Displays the pending configuration that is not yet applied.
	pending-diff	Displays the difference between the active configuration and the pending configuration.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the RADIUS distribution status.

```
switch# show radius distribution status
session ongoing: no
session db: does not exist
merge protocol status: merge activation done

last operation: none
last operation status: none
```

Related Commands	Command	Description
	radius distribute	Enables RADIUS CFS distribution.

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show radius-server

To display all configured RADIUS server parameters, use the **show radius-server** command.

```
show radius-server [server-name | ipv4-address | ipv6-address]
[directed-request | groups | sorted | statistics]
```

Syntax Description		
<i>server-name</i>	Specifies the RADIUS server DNS name. The maximum character size is 256.	
<i>ipv4-address</i>	Specifies the RADIUS server IP address in the format <i>A.B.C.D</i> .	
<i>ipv6-address</i>	Specifies the RADIUS server IP address in the format <i>X:X::X</i> .	
directed-request	Displays an enabled directed request RADIUS server configuration.	
groups	Displays configured RADIUS server group information.	
sorted	Displays RADIUS server information sorted by name.	
statistics	Displays RADIUS statistics for the specified RADIUS server.	

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.
	3.0(1)	<ul style="list-style-type: none"> Added the <i>server-name</i>, <i>ipv4-address</i>, and <i>ipv6-address</i> arguments. Added the directed-request and statistics options.

Usage Guidelines Only administrators can view the RADIUS preshared key.

Examples The following example shows the output of the **show radius-server** command.

```
switch# show radius-server
Global RADIUS shared secret:Myxgqc
retransmission count:5
timeout value:10

following RADIUS servers are configured:
  myradius.cisco.users.com:
    available for authentication on port:1812
    available for accounting on port:1813
  172.22.91.37:
    available for authentication on port:1812
    available for accounting on port:1813
    RADIUS shared secret:23MHcUnD
  10.10.0.0:
    available for authentication on port:1812
```

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```
available for accounting on port:1813  
RADIUS shared secret:hostkey----> for administrators only
```

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show rlir

To display the information about Registered Link Incident Report (RLIR), Link Incident Record Registration (LIRR), and Distribute Registered Link Incident Record (DRLIR) frames, use the **show rlir** command.

```
show rlir {erl [vsan vsan-id] | history | recent [interface fc slot/port | portnumber port-number]
           | statistics [vsan vsan-id]}
```



Note

On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs as follows:

```
interface {bay port | ext port}
```

Syntax Description

<i>erl vsan-id</i>	Displays Established Registration List (ERL) information.
<i>vsan vsan-id</i>	Specifies a VSAN ID. The range is 1 to 4093.
<i>history</i>	Displays link incident history.
<i>recent</i>	Displays recent link incident.
<i>interface</i>	Specifies an interface.
<i>fc slot/port</i>	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
<i>bay port ext port</i>	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9124 Fabric Switch, a Cisco Fabric Switch for HP c-Class BladeSystem, and a Cisco Fabric Switch for IBM BladeCenter.
<i>portnumber port-number</i>	Specifies a port number for the link incidents. The range is 1 to 224.
<i>statistics</i>	Displays RLIR statistics.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(2)	This command was introduced.
3.0(3)	Modified the show rlir erl command.
3.1(2)	Added the bay port ext port keywords and arguments.

Usage Guidelines

If available, the host timestamp (marked by the *) is printed along with the switch timestamp. If the host timestamp is not available, only the switch timestamp is printed.

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Examples

The following example displays the RLIR statistics for all VSANs.

```
switch# show rlir statistics

Statistics for VSAN: 1
-----

Number of LIRR received      = 0
Number of LIRR ACC sent      = 0
Number of LIRR RJT sent      = 0
Number of RLIR sent          = 0
Number of RLIR ACC received  = 0
Number of RLIR RJT received  = 0
Number of DRLIR received     = 0
Number of DRLIR ACC sent     = 0
Number of DRLIR RJT sent     = 0
Number of DRLIR sent         = 0
Number of DRLIR ACC received = 0
Number of DRLIR RJT received = 0
```

```
Statistics for VSAN: 4
-----

Number of LIRR received      = 0
Number of LIRR ACC sent      = 0
Number of LIRR RJT sent      = 0
Number of RLIR sent          = 0
Number of RLIR ACC received  = 0
Number of RLIR RJT received  = 0
Number of DRLIR received     = 0
Number of DRLIR ACC sent     = 0
Number of DRLIR RJT sent     = 0
Number of DRLIR sent         = 0
Number of DRLIR ACC received = 0
Number of DRLIR RJT received = 0
```

```
Statistics for VSAN: 61
-----

Number of LIRR received      = 0
Number of LIRR ACC sent      = 0
Number of LIRR RJT sent      = 0
Number of RLIR sent          = 0
Number of RLIR ACC received  = 0
Number of RLIR RJT received  = 0
Number of DRLIR received     = 0
Number of DRLIR ACC sent     = 0
Number of DRLIR RJT sent     = 0
Number of DRLIR sent         = 0
Number of DRLIR ACC received = 0
Number of DRLIR RJT received = 0
```

The following example displays the RLIR statistics for a specified VSAN.

```
switch# show rlir statistics vsan 4

Statistics for VSAN: 4
-----

Number of LIRR received      = 0
Number of LIRR ACC sent      = 0
Number of LIRR RJT sent      = 0
```

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```

Number of RLIR sent           = 0
Number of RLIR ACC received  = 0
Number of RLIR RJT received  = 0
Number of DRLIR received    = 0
Number of DRLIR ACC sent    = 0
Number of DRLIR RJT sent    = 0
Number of DRLIR sent        = 0
Number of DRLIR ACC received = 0
Number of DRLIR RJT received = 0

```

The following example displays the RLIR statistics for all ERLs.

```

switch# show rlir erl

Established Registration List for VSAN: 2
-----
FC-ID          LIRR FORMAT    REGISTERED FOR
-----
0x0b0200      0x18           always receive
Total number of entries = 1

Established Registration List for VSAN: 100
-----
FC-ID          LIRR FORMAT    REGISTERED FOR
-----
0x0b0500      0x18           conditional receive
0x0b0600      0x18           conditional receive
Total number of entries = 2

```

The following example displays the ERLs for the specified VSAN.

```

switch# show rlir erl vsan 100
Established Registration List for VSAN: 100
-----
FC-ID          LIRR FORMAT    REGISTERED FOR
-----
0x0b0500      0x18           conditional receive
0x0b0600      0x18           conditional receive
Total number of entries = 2

```

The following example displays the RLIR preferred host configuration.

```

switch# show rlir erl
Established Registration List for VSAN: 5
-----
FC-ID          LIRR FORMAT    REGISTERED FOR
-----
0x772c00      0x18           conditional receive(*)
0x779600      0x18           conditional receive
0x779700      0x18           conditional receive
0x779800      0x18           conditional receive
Total number of entries = 4
(*) - Denotes the preferred host

```

The following example displays the RLIR history.

```

switch# show rlir history
Link incident history
-----
Host Time Stamp          Switch Time Stamp      VSAN  Domain  Port  Intf      Link
Incident Loc/Rem
-----
Sep 20 12:42:44 2006    Sep 20 12:42:44 2006    ****  ****    0x0b  fc1/12   Loss
of sig/sync LOC

```

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```

Reported Successfully to: [0x640001] [0x640201]
Sep 20 12:42:48 2006   Sep 20 12:42:48 2006   ****   ****   0x0b   fc1/12   Loss
of sig/sync LOC
Reported Successfully to: [0x640001] [0x640201]
*** ** **:**:** ****   Sep 20 12:42:51 2006   1001   230   0x12   ****   Loss
of sig/sync REM
Reported Successfully to: [0x640001] [0x640201]
Sep 20 12:42:55 2006   Sep 20 12:42:55 2006   ****   ****   0x0b   fc1/12   Loss
of sig/sync LOC
Reported Successfully to: None [No Registrations]
*** ** **:**:** ****   Sep 20 12:45:56 2006   1001   230   0x12   ****   Loss
of sig/sync REM
Reported Successfully to: None [No Registrations]
*** ** **:**:** ****   Sep 20 12:45:56 2006   1001   230   0x12   ****   Loss
of sig/sync REM
Reported Successfully to: None [No Registrations]
Sep 20 12:52:45 2006   Sep 20 12:52:45 2006   ****   ****   0x0b   fc1/12   Loss
of sig/sync LOC
Reported Successfully to: None [No Registrations]

**** - Info not required/unavailable

```

The following example displays recent RLIRs for a specified interface.

```
switch# show rlr recent interface fc1/1-4
```

```
Recent link incident records
```

```

-----
Host Time Stamp           Switch Time Stamp           Port Intf   Link Incident
-----
Thu Dec 4 05:02:29 2003   Wed Dec 3 21:02:56 2003   2   fc1/2   Implicit Incident
Thu Dec 4 05:02:54 2003   Wed Dec 3 21:03:21 2003   4   fc1/4   Implicit Incident

```

The following example displays the recent RLIRs for a specified port number.

```
switch# show rlr recent portnumber 1-4
```

```
Recent link incident records
```

```

-----
Host Time Stamp           Switch Time Stamp           Port Intf   Link Incident
-----
Thu Dec 4 05:02:29 2003   Wed Dec 3 21:02:56 2003   2   fc1/2   Implicit Incident
Thu Dec 4 05:02:54 2003   Wed Dec 3 21:03:21 2003   4   fc1/4   Implicit Incident

```

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show rmon

To display the remote monitoring (RMON) configuration or onboard log, use the **show rmon** command.

```
show rmon {alarms | events | hcalarms | logs}
```

Syntax Description		
	alarms	Displays the configured 32-bit RMON alarms.
	events	Displays the configured RMON events.
	hcalarms	Displays the configured 64-bit high-capacity (HC) RMON alarms.
	logs	Displays the RMON event logs.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	2.0(x)	This command was introduced.
	2.1(2)	Added the logs option.
	3.0(1)	Added the hcalarms option.

Usage Guidelines None.

Examples The following example displays the configured RMON alarms.

```
switch# show rmon alarms
Alarm 20 is active, owned by test
Monitors 1.3.6.1.2.1.2.2.1.16.30 every 30 second(s)
  Taking delta samples, last value was 17
  Rising threshold is 15, assigned to event 1
  Falling threshold is 0, assigned to event 0
  On startup enable rising or falling alarm
```

The following example displays the configured RMON events.

```
switch# show rmon events
Event 4 is active, owned by administrator@london_op_center
Description is WARNING(4)
Event firing causes log and trap to community public, last fired 03:32:43
```

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The following example displays the configured high-capacity RMON alarms.

```
switch# show rmon hcalarms
High Capacity Alarm 1 is active, owned by cseSysCPUUtilization.0@test
Monitors 1.3.6.1.4.1.9.9.305.1.1.1.0 every 10 second(s)
Taking absolute samples, last value was 0
Rising threshold is 60, assigned to event 4
Falling threshold is 59, assigned to event 4
On startup enable rising alarm
Number of Failed Attempts is 0
```

The following example displays the RMON event log located on the switch.

```
switch# show rmon logs
Event 4
  1 WARNING(4)Falling alarm 1, fired at 0 days 0:02:23 uptime
    iso.3.6.1.4.1.9.9.305.1.1.1.0=17 <= 59
Event 5
  1 INFORMATION(5)Startup Falling alarm 1, fired at 0 days 0:02:23 uptime
    iso.3.6.1.4.1.9.9.305.1.1.1.0=17 <= 59
  2 INFORMATION(5)Falling alarm 1, fired at 0 days 0:02:33 uptime
    iso.3.6.1.4.1.9.9.305.1.1.1.0=17 <= 59
```

Related Commands

Command	Description
rmon alarm	Configures the 32-bit RMON alarm.
rmon event	Configures an RMON event.
rmon hcalarm	Configures the 64-bit RMON alarm.
show snmp host	Displays the SNMP trap destination information.

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show rmon status

To display the count of currently configured and maximum RMON alarm and hcalarm, use the **show rmon status** command.

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the count of currently configured and maximum RMON alarm and hcalarm.

```
switch# show rmon status
Maximum allowed 32 bit or 64 bit alarms : 512
Number of 32 bit alarms configured : 0
Number of 64 bit hcalarms configured : 0
```

Related Commands	Command	Description
	show rmon alarms	Display the RMON alarm table.
	show rmon hcalarms	Display the RMON hcalarm table.
	show rmon events	Display the RMON event table.
	show rmon logs	Display the RMON event log table.

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show role

To display roles (and their associated rules) configured on the switch, including those roles that have not yet been committed to persistent storage, use the **show role** command.

show role [*name string* | **pending** | **pending-diff** | **session status** | **status**]

Syntax Description

<i>name string</i>	Specifies a name of the role.
pending	Displays uncommitted role configuration for fabric distribution.
pending-diff	Displays the differences between the pending configuration and the active configuration.
session status	Displays the session status for a role.
status	Displays the status of the latest Cisco Fabric Services (CFS) operation.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
2.0(x)	Added the pending , pending-diff , session , and status options.

Usage Guidelines

The rules are displayed by rule number and are based on each role. All roles are displayed even if role name is not specified.

Only network-admin role can access this command.

Examples

The following example shows how to display information for all roles.

```
switch# show role
Role: network-admin
Description: Predefined Network Admin group. This role cannot be modified
Access to all the switch commands

Role: network-operator
Description: Predefined Network Operator group. This role cannot be modified
Access to Show commands and selected Exec commands

Role: svc-admin
Description: Predefined SVC Admin group. This role cannot be modified
Access to all SAN Volume Controller commands

Role: svc-operator
Description: Predefined SVC Operator group. This role cannot be modified
Access to selected SAN Volume Controller commands
```

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```
Role: default-role
Description: This is a system defined role and applies to all users
vsan policy: permit (default)
```

Rule	Type	Command-type	Feature
1.	permit	show	system
2.	permit	show	snmp
3.	permit	show	module
4.	permit	show	hardware
5.	permit	show	environment

```
Role: sangroup
Description: SAN management group
```

Rule	Type	Command-type	Feature
1.	permit	config	*
2.	deny	config	fspf
3.	permit	debug	zone
4.	permit	exec	fcping

The following examples displays the role session status.

```
switch# show role session status
Last Action          : None
Last Action Result   : None
Last Action Failure Reason : None
```

Related Commands

Command	Description
role abort	Enables authorization role CFS distribution.
role commit	Enables authorization role CFS distribution.
role distribute	Enables authorization role CFS distribution.
role name	Configures authorization roles.

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show rscn

To display Registered State Change Notification (RSCN) information, use the **show rscn** command.

```
show rscn {event-tov vsan vsan-id | pending vsan vsan-id | pending-diff vsan vsan-id | scr-table
[vsan vsan-id] | statistics [vsan vsan-id]}
```

Syntax Description

event-tov	Displays the event timeout value.
vsan <i>vsan-id</i>	Specifies a VSAN ID. The range is 1 to 4093.
pending	Displays the pending configuration.
pending-diff	Displays the difference between the active and the pending configuration.
scr-table	Displays the State Change Registration table.
statistics	Displays RSCN statistics.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
3.0(1)	Added the event-tov , pending , and pending-diff options.

Usage Guidelines

The SCR table cannot be configured. It is only populated if one or more Nx ports send SCR frames to register for RSCN information. If the **show rscn scr-table** command does not return any entries, no Nx port is interested in receiving RSCN information.

Examples

The following example displays RSCN information.

```
switch# show rscn scr-table vsan 1
SCR table for VSAN: 1
-----
FC-ID          REGISTERED FOR
-----
0x1b0300      fabric detected rscns

Total number of entries = 1
```

The following example displays RSCN statistics.

```
switch# show rscn statistics vsan 1

Statistics for VSAN: 1
-----

Number of SCR received          = 0
```

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```
Number of SCR ACC sent           = 0
Number of SCR RJT sent           = 0
Number of RSCN received          = 0
Number of RSCN sent              = 0
Number of RSCN ACC received      = 0
Number of RSCN ACC sent          = 0
Number of RSCN RJT received      = 0
Number of RSCN RJT sent          = 0
Number of SW-RSCN received       = 0
Number of SW-RSCN sent           = 0
Number of SW-RSCN ACC received   = 0
Number of SW-RSCN ACC sent       = 0
Number of SW-RSCN RJT received   = 0
Number of SW-RSCN RJT sent       = 0
```

The following example shows the RSCN event timeout value configured on VSAN 1.

```
switch# show rscn event-tov vsan 1
Event TOV : 2000 ms
switch#
```

The following example shows the difference between the active RSCN configuration and the pending RSCN configuration on VSAN 1.

```
switch# show rscn pending-diff vsan 1
- rscn event-tov 2000
+ rscn event-tov 20
switch#
```

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show running-config

To display the running configuration file, use the **show running-config** command

```
show running-config
  [diff |
  interface [cpp | fc | fc slot/port | fc-tunnel tunnel-id | fcip fcip-number | gigabitethernet
  slot/port | iscsi slot/port | mgmt 0 | port-channel | svc | vsan vsan-id] |
  vsan vsan-id]
```



Note

On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs as follows:

```
interface {bay port | ext port}
```

Syntax Description

diff	Displays the difference between the running and startup configurations.
interface	Displays running configuration information for a range of interfaces.
cpp	Displays the virtualization interface.
fc slot/port	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay port ext port	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9124 Fabric Switch, a Cisco Fabric Switch for HP c-Class BladeSystem, and a Cisco Fabric Switch for IBM BladeCenter.
fc-tunnel tunnel-id	Displays description of the specified FC tunnel from 1 to 4095.
fcip fcip-number	Displays the description of the specified FCIP interface from 1 to 255.
gigabitethernet slot/port	Displays the description of the Gigabit Ethernet interface in the specified slot and port.
iscsi slot/port	Displays the description of the iSCSI interface in the specified slot and port.
mgmt 0	Displays the description of the management interface.
port-channel	Displays the description of the PortChannel interface.
sup-fc	Displays the inband interface details.
svc	Displays the virtualization interface specific to the CSM module.
vsan vsan-id	Displays VSAN-specific information. The ID ranges from 1 to 4093.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

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If the running configuration is different from the startup configuration, issue the **show startup-config diff** command to view the differences.

Examples

The following example displays the configuration currently running on the switch.

```
switch# show running-config
Building Configuration ...
interface fc1/1
interface fc1/2
interface fc1/3
interface fc1/4
interface mgmt0
ip address 172.22.95.112 255.255.255.0
no shutdown
vsan database
boot system bootflash:isan-237; sup-1
boot kickstart bootflash:boot-237 sup-1
callhome
ip default-gateway 172.22.95.1
switchname switch
trunk protocol enable
username admin password 5 /AFDAMD4B2xK2 role network-admin
```

The following example displays the difference between the running configuration and the startup configuration.

```
switch# show running-config diff
Building Configuration ...
*** Startup-config
--- Running-config
***** 1,16 ****
fcip enable

ip default-gateway 172.22.91.1

iscsi authentication none
iscsi enable

! iscsi import target fc

iscsi virtual-target name vt
pWWN 21:00:00:04:cf:4c:52:c1
all-initiator-permit

--- 1,20 ----
fcip enable

+ aaa accounting logsize 500
+
+
+

ip default-gateway 172.22.91.1

iscsi authentication none
iscsi enable

! iscsi initiator name junk

iscsi virtual-target name vt
pWWN 21:00:00:04:cf:4c:52:c1
```

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```
all-initiator-permit
```

The following example displays running configuration information for a specified interface—in this case, the management interface.

```
switch# show running-config interface mgmt0

interface mgmt0

    ip address 255.255.255.0 255.255.255.0
```

The following example displays running configuration information for a specified feature—in this case, VSANS.

```
switch# show running-config feature vsan

vsan database
vsan 2 suspend
vsan 3
vsan 4

vsan database
vsan 3 interface fc1/1
```


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show san-ext-tuner

To display SAN extension tuner information, use the **show san-ext-tuner** command.

```
show san-ext-tuner {interface gigabitethernet slot/port [nport pwwn pwwn-id vsan vsan-id
counters] | nports}
```

Syntax Description		
interface		Displays SAN extension tuner information for a specific Gigabit Ethernet interface.
gigabitethernet <i>slot/port</i>		Specifies a Gigabit Ethernet interface.
nport		Specifies an N port.
pwwn <i>pwwn-id</i>		Specifies a pWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number.
vsan <i>vsan-id</i>		Specifies a VSAN ID. The range is 1 to 4093.
counters		Specifies SAN extension tuner counters.
nports		Displays SAN extension tuner information for all nports.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display SAN extension tuner N port information.

```
switch# show san-ext-tuner nports
```

Related Commands	Command	Description
	san-ext-tuner	Enters SAN extension tuner configuration mode.

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show santap module

To display the SANTap configuration on the Storage Services Module (SSM), use the **show santap module** command in EXEC mode.

```
show santap module slot {avt [name | brief] | avtlun | cvt [cvt-id | brief] | dvt [name | brief] | dvtlun | rvt [name | brief] | rvtlun | session [session-id | brief] | tech-support}
```

Syntax Description		
slot		Displays SANTap configuration for a module in the specified slot.
avt		Displays the appliance virtual target (AVT) configuration.
avtlun		Displays the appliance AVT LUN configuration.
cvt		Displays the control virtual target (CVT) configuration.
<i>cvt-id</i>		Specifies a user configured CVT ID. The range is 1 to 65536.
dvt		Displays the data virtual target (DVT) configuration.
dvtlun		Displays the DVT LUN configuration.
rvt		Displays the remote virtual target (AVT) configuration.
rvtlun		Displays the RVT LUN configuration.
session		Displays the SANTap session information.
<i>session-id</i>		Specifies a user configured session ID. The range is 1 to 65536.
<i>name</i>		Specifies the user name.
brief		Displays a brief format version of the display.
tech-support		Displays information for technical support.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.1(1a)	This command was introduced.
	3.1(2)	Added the tech-support option.

Usage Guidelines None.

Examples The following example displays the SANTap AVT configuration.

```
switch# show santap module 2 avt

AVT Information :
  avt pwn       = 2a:4b:00:05:30:00:22:25
  avt nwn       = 2a:60:00:05:30:00:22:25
  avt id        = 12
```

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```

avt vsan      = 4
avt if_index  = 0x1080000
hi pwwn      = 21:00:00:e0:8b:07:61:aa
tgt pwwn     = 22:00:00:20:37:88:20:ef
tgt vsan     = 1

```

The following example displays the SANTap AVT LUN configuration.

```

switch# show santap module 2 avtlun

AVT LUN Information :
  avt pwwn      = 2a:4b:00:05:30:00:22:25
  avt lun       = 0x0
  xmap id       = 16
  avt id        = 12
  tgt lun       = 0x0

```

The following example displays the SANTap CVT configuration.

```

switch# show santap module 2 cvt

CVT Information :
  cvt pwwn      = 25:3c:00:05:30:00:22:25
  cvt nwwn      = 25:3d:00:05:30:00:22:25
  cvt id        = 1
  cvt xmap_id   = 2
  cvt vsan     = 10

```

The following example displays the SANTap DVT configuration.

```

switch# show santap module 2 dvt

DVT Information :
  dvt pwwn      = 22:00:00:20:37:88:20:ef
  dvt nwwn      = 20:00:00:20:37:88:20:ef
  dvt id        = 3
  dvt mode      = 3
  dvt vsan     = 3
  dvt fp_port   = 0
  dvt if_index  = 0x1080000
  dvt name      = MYDVT

```

The following example displays the SANTap DVTLUN configuration.

```

switch# show santap module 2 dvtlun

DVT LUN Information :
  dvt pwwn      = 22:00:00:20:37:88:20:ef
  dvt lun       = 0x0
  xmap id       = 8
  dvt id        = 3
  dvt mode      = 0
  dvt vsan     = 3
  tgt pwwn     = 22:00:00:20:37:88:20:ef
  tgt lun       = 0x0
  tgt vsan     = 1

```

The following example displays the SANTap configuration session.

```

switch# show santap module 2 session

Session Information :
  session id    = 1
  host pwwn     = 21:00:00:e0:8b:07:61:aa
  dvt pwwn     = 22:00:00:20:37:88:20:ef

```

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```
dvt lun      = 0x0
tgt pwn     = 00:00:00:00:00:00:00:00
tgt lun     = 0x0
adt pwn     = 77:77:77:77:77:77:77:77
adt lun     = 0x0
num ranges  = 0
dvt id      = 0
vdisk id    = 0
session state = 0
mrl requested = 1
pwl requested = 1
iol requested = 0
```

The following example displays the SANTap RVT configuration.

```
switch# show santap module 2 rvt

RVT Information :
  rvt pwn     = 2a:61:00:05:30:00:22:25
  rvt nwn     = 2a:62:00:05:30:00:22:25
  rvt id      = 17
  rvt vsan    = 4
  rvt if_index = 0x1080000
```

The following example displays the SANTap RVTLUN configuration.

```
switch# show santap module 2 rvtlun

RVT LUN Information :
  rvt pwn     = 2a:61:00:05:30:00:22:25
  rvt lun     = 0x0
  xmap id     = 22
  rvt id      = 17
  app pwn     = 22:00:00:20:37:39:b1:00
  app lun     = 0x0
  app vsan    = 1
```

The following example displays information for technical support.

```
switch# show santap module 4 tech-support

DVT Information :
  dvt pwn     = 22:00:00:20:37:39:b1:00
  dvt nwn     = 20:00:00:20:37:39:b1:00
  dvt id      = 0x83fe924
  dvt mode    = 3
  dvt vsan    = 1
  dvt if_index = 0x1180000
  dvt fp_port = 1
  dvt name    = MYDVT3
  dvt tgt-vsan = 2
  dvt io timeout      = 10 secs
  dvt lun size handling = 1
  dvt app iofail behaviour = 0
  dvt quiesce behavior = 0
  dvt tgt iofail behavior = 0
  dvt appio failover time = 0 secs
  dvt inq data behavior = 0

DVT Information :
  dvt pwn     = 22:00:00:20:37:88:20:ef
  dvt nwn     = 20:00:00:20:37:88:20:ef
  dvt id      = 0x8405bbc
  dvt mode    = 3
  dvt vsan    = 1
```

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```
dvt if_index = 0x1186000
dvt fp_port  = 7
dvt name     = MYDVT3
dvt tgt-vsan = 2
dvt io timeout      = 10 secs
dvt lun size handling = 1
dvt app iofail behaviour = 0
dvt quiesce behavior = 0
dvt tgt iofail behavior = 0
dvt appio failover time = 0 secs
dvt inq data behavior = 0
```

DVT Information :

```
dvt pwwn      = 22:00:00:20:37:39:87:70
dvt nwwn      = 20:00:00:20:37:39:87:70
dvt id        = 0x8405b2c
dvt mode      = 3
dvt vsan      = 3
dvt if_index  = 0x118c000
dvt fp_port   = 13
dvt name      = MYDVT3
dvt tgt-vsan  = 2
dvt io timeout      = 10 secs
dvt lun size handling = 1
dvt app iofail behaviour = 0
dvt quiesce behavior = 0
dvt tgt iofail behavior = 0
dvt appio failover time = 0 secs
dvt inq data behavior = 0
```

CVT Information :

```
cvt pwwn      = 29:5d:33:33:33:33:33:36
cvt nwwn      = 29:5e:33:33:33:33:33:36
cvt id        = 0x83b11e4
cvt xmap_id   = 0x83b1204
cvt vsan      = 2
cvt name      =
```

```
-----
VSAN                USAGE COUNT
-----
2                    4
switch#
```

Table 22-8 describes the significant fields shown in the previous displays.

Table 22-8 *show santap Field Descriptions*

Field	Description
app lun	Displays the appliance LUN.
app pwwn	Displays the appliance port world wide name.
app vsan	Displays the appliance VSAN number.
avt id	Displays the AVT ID number.
avt if_index	Displays the AVT interface index number.
avt lun	Displays the AVT LUN.
avt nwwn	Displays the AVT Node port world wide name.
avt pwwn	Displays the AVT port world wide name

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Table 22-8 *show santap Field Descriptions (continued)*

Field	Description
avt vsan	Displays the AVT VSAN number.
cvt id	Displays the CVT ID number.
cvt nwwn	Displays the CVT Node port world wide name.
cvt pwwn	Displays the CVT port world wide name
cvt vsan	Displays the CVT VSAN number.
cvt xmap_id	Displays the CVT Xmap ID number.
dvt fp_port	Displays the DVT fabric port number.
dvt id	Displays the DVT
dvt if_index	Displays the DVT interface index number.
dvt lun	Displays the DVT LUN.
dvt mode	Displays the DVT mode.
dvt name	Displays the DVT name.
dvt nwwn	Displays the DVT Node port world wide name.
dvt pwwn	Displays the DVT port world wide name.
dvt vsan	Displays the DVT VSAN number.
host pwwn	Displays the host port world wide name.
num ranges	Displays the number ranges.
rvt id	Displays the RVT ID number.
rvt if_index	Displays the RVT interface index.
rvt lun	Displays the RVT LUN.
rvt nwwn	Displays the RVT Node port world wide name.
rvt pwwn	Displays the RVT port world wide name.
rvt vsan	Displays the RVT VSAN number.
session id	Displays the session ID number.
session state	Displays the session state.
tgt lun	Displays the target LUN.
tgt pwwn	Displays the target port world wide name.
tgt vsan	Displays the target VSAN number.
vdisk id	Displays the virtual disk ID number.
xmap id	Displays the Xmap ID number.

Related Commands

Command	Description
santap module	Configures the mapping between the SSM and the VSAN where the appliance is configured.

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show santap module dvt brief

To display the SANTap Data Virtual Target (DVT) configuration in a brief format on the Storage Service Module (SSM), use the **show santap module dvt brief** command in the EXEC mode.

show santap module dvt brief slot

Syntax Description	slot Displays SANTap configuration for a module in the specified slot.				
Defaults	None.				
Command Modes	EXEC mode.				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>3.2(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	3.2(1)	This command was introduced.
Release	Modification				
3.2(1)	This command was introduced.				
Usage Guidelines	None.				

Examples

The following example displays the SANTap module DVT brief information for slot 13.

```
switch# show santap module 13 dvt brief
-----
DVT WWN                DVT ID                MD  DVT VSAN  DVTIFIDX
-----
50:06:0e:80:00:c3:e0:46 139639316            3   30        0x1604000
switch# attach module 13
Attaching to module 13 ...
To exit type 'exit', to abort type '$.'
Bad terminal type: "xterm". Will assume vt100.
```

The following example displays the SANTap vttbl DVT configuration.

```
switch# attach module 2
module-3# show santap vttbl dvt 50:00:1f:e1:50:0c:3b:09
DVT Entry :
  Activated          : FALSE
  Number LUNs       : 16
  Possible Hosts    :
    hi_pwwn = 10:00:00:00:c9:3f:90:21 : 4 LUNs
    hi_pwwn = 10:00:00:00:c9:4c:c0:e5 : 2 LUNs
    hi_pwwn = 21:00:00:e0:8b:0c:7d:21 : 2 LUNs
    hi_pwwn = 10:00:00:00:c9:56:ed:f2 : 2 LUNs
    hi_pwwn = 50:06:0b:00:00:60:2a:a0 : 4 LUNs
    hi_pwwn = 21:00:00:e0:8b:92:62:92 : 2 LUNs
```

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The following example displays the SANTap vttbl DVT host configuration.

```
switch# show santap vttbl dvt 50:00:1f:e1:50:0c:3b:09 host 10:00:00:00:c9:3f:90:21
```

```
HI-LIST Entry  :
  State        : PRLI
  UA Power On  : 1
  FIT Created  : 1
  NVP Index    : 0x10000000c93f9021

HI-LUNS Entry  :
  Number of LUNs : 4
  DVT ID         : 0x83f978c
  HI Index       : 0
  LUNs Installed : TRUE
  Target Lun, DVT Lun pairs :

(0, 0) (1, 1) (2, 2) (3, 3)
```

Related Commands

Command	Description
show santap vttbl	Displays the santap vttbl configuration.

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show scheduler

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

```
show scheduler { config | job [name jobname] | logfile | schedule [name schedulename] }
```

Syntax Description		
config		Displays command scheduler configuration information.
job		Displays job information.
name <i>jobname</i>		Restricts the output to a specific job name. Maximum length is 31 characters.
logfile		Displays the log file.
schedule		Displays schedule information.
name <i>schedulename</i>		Restricts the output to a specific schedule name. Maximum length is 31 characters.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines To use this command, the command scheduler must be enabled using the **scheduler enable** command.

Examples The following example displays the command scheduler configuration information.

```
switch# show scheduler config
config terminal
  scheduler enable
end
```

The following example displays the command scheduler schedule information.

```
switch# show scheduler schedule configureVsan99
Schedule Name : configureVsan99
-----
User Name : admin
Schedule Type : Run once on Tue Aug 10 09:48:00 2004
Last Execution Time: Tue Aug 10 09:48:00 2004
-----
Job Name      Status
-----
addMemVsan99  Success (0)
```

The following example displays the command scheduler logfile information.

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```
switch# show scheduler logfile
Job Name : addMemVsan99 Job Status: Success (0)
Schedule Name : configureVsan99 User Name : admin
Completion time: Tue Aug 10 09:48:00 2004
----- Job Output -----
'config terminal'
'vsan database'
'vsan 99 interface fc1/1'
'vsan 99 interface fc1/2'
'vsan 99 interface fc1/3'
'vsan 99 interface fc1/4'
```

The following example displays the command scheduler configuration information.

```
switch# show scheduler config
config terminal
  scheduler enable
  scheduler logfile size 512
end
config terminal
  scheduler job name addMemVsan99
  config terminal
    vsan database
      vsan 99 interface fc1/1
      vsan 99 interface fc1/2
      vsan 99 interface fc1/3
      vsan 99 interface fc1/4
  end
end
config terminal
  scheduler schedule name configureVsan99
  time start 2004:8:10:9:52
  job name addMemVsan99
end
```

Related Commands

Command	Description
scheduler enable	Enables the command scheduler.
scheduler job name	Configures command scheduler jobs.
scheduler schedule name	Configures command schedules.

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show scsi-flow

To display SCSI flow information, use the **show scsi-flow** command.

```
show scsi-flow [flow-id flow-id]| statistics [flow-id flow-id {lun lun-number}]]
```

Syntax Description	flow-id <i>flow-id</i>	Displays a specific SCSI flow index.
	statistics	Displays the statistics for the SCSI flow.
	lun <i>lun-number</i>	Displays statics for a specific LUN number.

Defaults None

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(2)	This command was introduced.

Examples The following example displays SCSI flow services configuration for all SCSI flow identifiers.

```
switch# show scsi-flow
Flow Id: 3
  Initiator VSAN: 101
  Initiator WWN: 21:00:00:e0:8b:05:76:28
  Target VSAN: 102
  Target WWN: 21:00:00:20:37:38:7f:7d
  Target LUN: ALL LUNS
  Flow Verification Status:
  -----
    Initiator Verification Status:  success
    Target Verification Status:    success
    Initiator Linecard Status:     success
    Target Linecard Status:       success
  Feature Status:
  -----
    Write-Acceleration enabled
    Write-Acceleration Buffers: 1024
    Configuration Status:  success
    Statistics enabled
    Configuration Status:  success

Flow Id: 4
  Initiator VSAN: 101
  Initiator WWN: 21:00:00:e0:8b:05:76:28
  Target VSAN: 102
  Target WWN: 21:00:00:20:37:38:a7:89
  Target LUN: ALL LUNS
  Flow Verification Status:
  -----
    Initiator Verification Status:  success
    Target Verification Status:    success
```

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```

Initiator Linecard Status:      success
Target Linecard Status:        success
Feature Status:
-----
Write-Acceleration enabled
Write-Acceleration Buffers: 1024
Configuration Status: success

```

Table 22-9 describes the significant fields shown in the **show scsi-flow** command output.

Table 22-9 *show scsi-flow Field Descriptions*

Field	Description
Initiator Verification Status	Verifies that the name server, FLOGI server, and zone server information for the initiator on the local switch are correct.
Target Verification Status	Verifies that the names sever and zone server information for the target on the local switch are correct.
Initiator Linecard Status	Verifies that the initiator is connected to an SSM and if DPP provisioning is enabled for the module.
Target Linecard Status	Verifies in the following order: <ol style="list-style-type: none"> 1. The target switch sees the proper name server and zone server information for the initiator. 2. The target switch sees the proper name server, FLOGI server and zone server information for the target. 3. The target is connected to an SSM and if DPP provisioning is enabled for that module.

The following example displays SCSI flow services configuration for a specific SCSI flow identifier.

```

switch# show scsi-flow flow-id 3
Flow Id: 3
Initiator VSAN: 101
Initiator WWN: 21:00:00:e0:8b:05:76:28
Target VSAN: 102
Target WWN: 21:00:00:20:37:38:7f:7d
Target LUN: ALL LUNs
Flow Verification Status:
-----
Initiator Verification Status:      success
Target Verification Status:        success
Initiator Linecard Status:          success
Target Linecard Status:              success
Feature Status:
-----
Write-Acceleration enabled
Write-Acceleration Buffers: 1024
Configuration Status: success
Statistics enabled
Configuration Status: success

```

The following example displays SCSI flow services statistics for all SCSI flow identifiers.

```

switch# show scsi-flow statistics

Stats for flow-id 4 LUN=0x0000
-----
Read Stats
I/O Total count=2

```

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```

I/O Timeout count=0
I/O Total block count=4
I/O Max block count=2
I/O Min response time=5247 usec
I/O Max response time=10160 usec
I/O Active Count=0

Write Stats
I/O Total count=199935
I/O Timeout count=0
I/O Total block count=12795840
I/O Max block count=64
I/O Min response time=492 usec
I/O Max response time=10056529 usec
I/O Active Count=16

Non Read-Write Stats
Test Unit Ready=4
Report LUN=38
Inquiry=50
Read Capacity=3
Mode Sense=0
Request Sense=0

Total Stats
Rx Frame Count=3792063
Rx Frame Byte Count=6549984752
Tx Frame Count=3792063
Tx Frame Byte Count=6549984752

Error Stats
SCSI Status Busy=0
SCSI Status Reservation Conflict=0
SCSI Status Task Set Full=0
SCSI Status ACA Active=0
Sense Key Not Ready=0
Sense Key Medium Error=0
Sense Key Hardware Error=0
Sense Key Illegal Request=0
Sense Key Unit Attention=28
Sense Key Data Protect=0
Sense Key Blank Check=0
Sense Key Copy Aborted=0
Sense Key Aborted Command=0
Sense Key Volume Overflow=0
Sense Key Miscompare=0

```

The following example displays SCSI flow services statistics for a specific SCSI flow identifier.

```
switch# show scsi-flow statistics flow-id 4
```

```

Stats for flow-id 4 LUN=0x0000
-----
Read Stats
I/O Total count=2
I/O Timeout count=0
I/O Total block count=4
I/O Max block count=2
I/O Min response time=5247 usec
I/O Max response time=10160 usec
I/O Active Count=0

Write Stats
I/O Total count=199935

```

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```
I/O Timeout count=0
I/O Total block count=12795840
I/O Max block count=64
I/O Min response time=492 usec
I/O Max response time=10056529 usec
I/O Active Count=16
```

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show scsi-target

To display information about existing SCSI target configurations, use the **show scsi-target** command.

```
show scsi-target { auto-poll | custom-list | devices [vsan vsan-id] [fcid fcid-id] | disk [vsan
vsan-id] [fcid fcid-id] | lun [vsan vsan-id] [fcid fcid-id] [os [aix | all | hpux | linux | solaris |
windows] | pwwn | status | tape [vsan vsan-id] [fcid fcid-id]
```

Syntax	Description
auto-poll	Displays SCSI target auto polling information.
custom-list	Displays customized discovered targets.
devices	Displays discovered scsi-target devices information
disk	Displays discovered disk information.
lun	Displays discovered SCSI target LUN information.
os	Discovers the specified operating system.
aix	Specifies the AIX operating system.
all	Specifies all operating systems.
hpux	Specifies the HPUX operating system.
linux	Specifies the Linux operating system.
solaris	Specifies the Solaris operating system.
windows	Specifies the Windows operating system.
vsan <i>vsan-range</i>	Specifies the VSAN ID or VSAN range. The ID range is 1 to 4093.
fcid <i>fcid-id</i>	Specifies the FCID of the SCSI target to display.
status	Displays SCSI target discovery status.
tape	Displays discovered tape information.
pwwn	Displays discover pWWN information for each OS.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(4)	This command was introduced.

Usage Guidelines Use the **show scsi-target auto-poll** command to verify automatic discovery of online SCSI targets.

Examples The following example displays the status of a SCSI discovery.

```
switch# show scsi-target status
discovery completed
```

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The following example displays a customized discovered targets:

```
switch# show scsi-target custom-list
-----
VSAN DOMAIN
-----
1          56
```

The following example displays discovered disk information.

```
switch# show scsi-target disk
-----
VSAN      FCID      PWWN      VENDOR     MODEL      REV
-----
1         0x9c03d6  21:00:00:20:37:46:78:97  Company 4  ST318203FC  0004
1         0x9c03d9  21:00:00:20:37:5b:cf:b9  Company 4  ST318203FC  0004
1         0x9c03da  21:00:00:20:37:18:6f:90  Company 4  ST318203FC  0004
1         0x9c03dc  21:00:00:20:37:5a:5b:27  Company 4  ST318203FC  0004
1         0x9c03e0  21:00:00:20:37:36:0b:4d  Company 4  ST318203FC  0004
1         0x9c03e1  21:00:00:20:37:39:90:6a  Company 4  ST318203 CLAR18  3844
1         0x9c03e2  21:00:00:20:37:18:d2:45  Company 4  ST318203 CLAR18  3844
1         0x9c03e4  21:00:00:20:37:6b:d7:18  Company 4  ST318203 CLAR18  3844
1         0x9c03e8  21:00:00:20:37:38:a7:c1  Company 4  ST318203FC  0004
1         0x9c03ef  21:00:00:20:37:18:17:d2  Company 4  ST318203FC  0004
```

The following example displays the discovered LUNs for all OSs.

```
switch# show scsi-target lun os all

ST336607FC from SEAGATE (Rev 0006)
FCID is 0xed0001 in VSAN 7, PWWN is 21:00:00:04:cf:fb:42:f8
-----
OS  LUN    Capacity Status  Serial Number  Device-Id
   (MB)
-----
WIN 0x0   36704   Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
AIX 0x0   36704   Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
SOL 0x0   36704   Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
LIN 0x0   36704   Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
HP  0x0   36704   Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
```

The following example displays the discovered LUNs for the Solaris OS.

```
switch# show scsi-target lun os solaris

ST336607FC from SEAGATE (Rev 0006)
FCID is 0xed0001 in VSAN 7, PWWN is 21:00:00:04:cf:fb:42:f8
-----
OS  LUN    Capacity Status  Serial Number  Device-Id
   (MB)
-----
SOL 0x0   36704   Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
```

The following example displays auto-polling information. Each user is indicated by the internal UUID number, which indicates that a CSM or an IPS module is in the chassis.

```
switch# show scsi-target auto-poll
auto-polling is enabled, poll_start:0 poll_count:1 poll_type:0
USERS OF AUTO POLLING
-----
uuid:54
```

The following example displays the port WWN that is assigned to each OS (Windows, AIX, Solaris, Linux, or HPUX).

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```
switch# show scsi-target pwwn
-----
OS      PWWN
-----
WIN     24:91:00:05:30:00:2a:1e
AIX     24:92:00:05:30:00:2a:1e
SOL     24:93:00:05:30:00:2a:1e
LIN     24:94:00:05:30:00:2a:1e
HP      24:95:00:05:30:00:2a:1e
```

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show sdv

To display information about SAN device virtualization, use the **show sdv** command in EXEC mode.

```
show sdv {database [pending vsan vsan-id | vsan vsan-id] | merge status vsan vsan-id |
pending-diff vsan vsan-id | session status vsan vsan-id | statistics vsan vsan-id |
virtual-device name device-name vsan vsan-id | zone [active vsan vsan-id | vsan vsan-id]}
```

Syntax	Description
database	Displays the SDV database.
pending	Displays the pending SDV database.
vsan <i>vsan-id</i>	Specifies the number of the VSAN. The range is 1 to 4093.
merge status	Displays SDV merge status.
pending-diff	Displays SDV pending differences.
session	Displays SDV session status.
statistics	Displays SDV statistics.
virtual-device	Displays SDV virtual devices.
name <i>device-name</i>	Specifies the name of the virtual target. The maximum size is 32.
zone	Specifies the zone.
active	Specifies the active VSAN.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.1(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays SDV database information.

```
switch# show sdv database vsan 2
virtual-device name vdev1 vsan 2
[ WWN:50:00:53:00:00:d2:e0:01 FCID:0x960001 Real-FCID:0x9f0201 ]
virtual-fcid 0x960001
pwwn 21:00:00:04:cf:cf:45:40 primary
pwwn 21:00:00:04:cf:cf:38:d6
```

The following example displays merge status.

```
switch# show sdv merge status vsan 1
Merge Status for VSAN      : 1
-----
Last Merge Time Stamp     : None
```

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```
Last Merge State      : None
Last Merge Result    : SUCCESS
Last Merge Failure Reason: None [cfs_status: 0]
```

Related Commands

Command	Description
sdv enable	Enables the SAN device virtualization feature.
sdv virtual-device	Specifies the virtual target.

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show sme cluster

To display the information about the Cisco SME cluster, use the **show sme cluster** command.

```
show sme {cluster {cluster name {detail | interface {node {{A.B.C.D | X:X::X | DNS name}
sme slot/port }| sme slot/port | summary}| it-nexus | key database {detail | guid guid name
{detail | summary } | summary}| node {{A.B.C.D | X:X::X | DNS name} | summary}|
recovery officer {index | detail index | summary index} | summary | tape {detail | summary}|
tape-bkgrp tape group name volgrp volume group name} |
detail |
summary}
```

Syntax	Description
cluster <i>cluster name</i>	Displays Cisco SME cluster information. The maximum length is 32 characters.
detail	Displays Cisco SME cluster details.
interface	Displays information about Cisco SME cluster interface.
node	Display information about Cisco SME cluster remote interface.
<i>A.B.C.D</i>	Specifies the IP address of the remote switch in IPv4 format.
<i>X:X::X</i>	Specifies the IP address of the remote switch in IPv6 format.
<i>DNS name</i>	Specifies the name of the remote database
sme	Specifies the Cisco SME interface
<i>slot</i>	Identifies the MPS-18/4 module slot
<i>port</i>	Identifies the Cisco SME port
interface summary	Displays Cisco SME cluster interface summary.
it-nexus	Displays the initiator to target connections (IT-nexus) in the Cisco SME cluster
key database	Shows the Cisco SME cluster key database
detail	Shows the Cisco SME cluster key database details
guid <i>guid name</i>	Displays Cisco SME cluster key database guid. The maximum length is 64.
summary	Displays Cisco SME cluster key database summary.
node summary	Displays Cisco SME cluster node summary.
recovery officer detail	Displays Cisco SME cluster recovery officer detail.
recovery officer summary	Displays Cisco SME cluster recovery officer summary
<i>index</i>	Specifies recovery officer index. The range is 1-8.
detail <i>index</i>	Specifies recovery officer detail index. The range is 1-8.
summary <i>index</i>	Specifies recovery officer summary index. The range is 1-8.
tape detail	Displays Cisco SME tape detail
tape summary	Displays the tape summary
tape-bkgrp <i>tape group name</i>	Displays the crypto tape backup group name. The maximum length is 32 characters.
volgrp <i>volume group name</i>	Displays tape volume group name. The maximum length is 32 characters.

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detail	Displays Cisco SME cluster details.
summary	Shows Cisco SME cluster summary.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.2(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the configuration details about a cluster:

```
switch# show sme cluster c1
Cluster ID is 0x2b2a0005300035e1
Cluster status is online
Security mode is advanced
Total Nodes are 1
Recovery Scheme is 2 out of 5
Fabric[0] is Fabric_name-excal10
KMC server 10.21.113.117:8800 is provisioned, connection state is initializing

Master Key GUID is 10af119cfd79c17f-ee568878c049f94d, Version: 0
Shared Key Mode is Not Enabled
Auto Vol Group is Not Enabled
Tape Compression is Not Enabled
Tape Key Recycle Policy is Not Enabled
Key On Tape is Not Enabled
Cluster Infra Status : Operational
Cluster is Administratively Up
Cluster Config Version : 24
```

The following example displays the cluster interface information:

```
switch# show sme cluster clusternam1 interface it-nexus
-----
      Host WWN                VSAN    Status    Switch    Interface
      Target WWN
-----
10:00:00:00:c9:4e:19:ed,
2f:ff:00:06:2b:10:c2:e2      4093    online    switch    sme4/1
```

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The following example displays the specific recovery officer of a cluster:

```
switch# show sme cluster clustername1 recovery officer
Recovery Officer 1 is set
  Master Key Version is 0
  Recovery Share Version is 0
  Recovery Share Index is 1
  Recovery Scheme is 1 out of 1
  Recovery Officer Label is
  Recovery share protected by a password

Key Type is master key share
  Cluster is clustername1, Master Key Version is 0
  Recovery Share Version is 0, Share Index is 1
```

Related Commands

Command	Description
show sme cluster	Displays information about Cisco SME cluster.
clear sme	Clears Cisco SME configuration.

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show sme transport

To display the Cisco SME cluster transport information, use the **show sme transport** command.

show sme transport cluster *cluster name*

Syntax Description	cluster <i>cluster name</i> Displays the Cisco SME cluster. The maximum length is 32.
---------------------------	--

Defaults	None.
-----------------	-------

Command Modes	EXEC mode.
----------------------	------------

Command History	Release	Modification
	3.2(2)	This command was introduced.

Usage Guidelines	None.
-------------------------	-------

Examples	The following example displays the internal cluster errors:
-----------------	---

```
switch# show sme transport cluster c1
```

```
SME Cluster is c1
Cluster ID is
```

Related Commands	Command	Description
	show sme cluster	Displays all information of Cisco SME cluster.
	clear sme	Clears Cisco SME configuration.

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show snmp

To display SNMP status and setting information, use the **show snmp** command.

```
show snmp [community | engineID | group | host | sessions | trap | user [user-name]
           [engineID engine-id]]
```

Syntax Description

community	Displays SNMP community strings.
engineID	Displays SNMP engine IDs.
group	Displays SNMP groups.
host	Displays SNMP hosts.
sessions	Displays SNMP sessions.
trap	Displays SNMP traps.
user	Displays SNMPv3 users.
<i>user-name</i>	Specifies the user name. The maximum is 32.
engineID	Displays the engine ID.
<i>engine-id</i>	Specifies the engine ID. The maximum is 128.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
2.0(x)	Added the engineid , group , and sessions keywords.
3.1(2)	Added the trap keyword.

Usage Guidelines

None.

Examples

The following example displays SNMP information.

```
switch# show snmp
sys contact:
sys location:

1631 SNMP packets input
   0 Bad SNMP versions
   0 Unknown community name
   0 Illegal operation for community name supplied
   0 Encoding errors
 64294 Number of requested variables
   1 Number of altered variables
```


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```

1628 Get-request PDUs
0 Get-next PDUs
1 Set-request PDUs
152725 SNMP packets output
0 Too big errors
1 No such name errors
0 Bad values errors
0 General errors

```

Community	Access	User	Group	Auth	Priv
public	rw	admin	network-admin	md5	no

The following example displays SNMP user details.

```

switch# show snmp user
User          Group          Auth  Priv
-----
steve         network-admin  md5   des
sadmin        network-admin  md5   des
stever        network-operator md5   des

```

The following example displays SNMP community information.

```

switch# show snmp community
Community     Access
-----
private       rw
public        ro
v93RACqPNH   ro

```

The following example displays SNMP host information.

```

switch# show snmp host
Host          Port  Version  Level  Type  SecName
-----
171.16.126.34 2162  v2c      noauth trap public
171.16.75.106 2162  v2c      noauth trap public
171.31.124.81 2162  v2c      noauth trap public
171.31.157.193 2162  v2c      noauth trap public
171.31.157.98 2162  v2c      noauth trap public
171.31.49.25 2162  v2c      noauth trap public
171.31.49.32 2188  v2c      noauth trap public
171.31.49.49 2162  v2c      noauth trap public
171.31.49.49 3514  v2c      noauth trap public
171.31.49.54 2162  v2c      noauth trap public
171.31.58.54 2162  v2c      noauth trap public
171.31.58.81 2162  v2c      noauth trap public
171.31.58.97 1635  v2c      noauth trap public
171.31.58.97 2162  v2c      auth   trap public
171.31.58.97 3545  v2c      auth   trap public
172.22.00.43 2162  v2c      noauth trap public
172.22.00.65 2162  v2c      noauth trap public
172.22.05.234 2162  v2c      noauth trap public
172.22.05.98 1050  v2c      noauth trap public

```

The following example displays SNMP engine ID information.

```

switch# show snmp engineID
Local SNMP engineID: 80000090300053000A79E

```

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The following example displays SNMP group information.

```
switch# show snmp group
groupname: network-admin
security model: any
security level: noAuthNoPriv
readview: network-admin-rd
writeview: network-admin-wr
notifyview: network-admin-rd
storage-type: permanent
row status: active

groupname: network-admin
security model: any
security level: authNoPriv
readview: network-admin-rd
writeview: network-admin-wr
notifyview: network-admin-rd
storage-type: permanent
row status: active

groupname: network-operator
security model: any
security level: noAuthNoPriv
readview: network-operator-rd
writeview: network-operator-wr
notifyview: network-operator-rd
storage-type: permanent
row status: active

groupname: network-operator
security model: any
security level: authNoPriv
readview: network-operator-rd
writeview: network-operator-wr
notifyview: network-operator-rd
storage-type: permanent
row status: active
```

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show span drop-counters

To display the SPAN drop-counters, use the **show span drop-counters** command.

show span drop-counters

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines This command is supported only on a ISOLA platform.

Examples The following example shows how to configure the SPAN drop-counters.

```
switch#config
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# span drop-counters
SPAN Drop-Counters for module 3 is: 0x0
SPAN Drop-Counters for module 7 is: 0x0
```

Related Commands	Command	Description
	show span max-queued-packets	Displays the SPAN max-queued-packets.

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show span max-queued-packets

To display the SPAN max-queued-packets, use the **show span max-queued-packets** command.

```
show span max-queued-packets
```

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines This command is supported only on a ISOLA platform.

Examples The following example displays the SPAN max-queued-packets.

```
switch# show span max-queued-packets
max-queued-packets for SPAN sessions: 1
```

Related Commands	Command	Description
	span max-queued-packets	Configures the SPAN max-queued-packets.

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show span session

To display specific information about a SPAN session, use the **show span session** command.

```
show span session [session-id [brief] | brief]
```

Syntax Description		
<i>session-id</i>		Specifies the SPAN session ID. The range is 1 to 16.
brief		Displays the SPAN session configuration in a brief format.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	1.2(1)	This command was introduced.
	3.3(1a)	Added support for SPAN traffic in both ingress and egress directions.

Usage Guidelines None.

Examples The following example displays SPAN sessions in a brief format.

```
switch# show span session brief
-----
Session Admin      Oper      Destination
         State      State      Interface
-----
 7       no suspend  active    fc2/7
```

The following example displays specific SPAN session details.

```
switch# show span session 7
Session 7 (active)
  Destination is fc2/7
  No session filters configured
Ingress (rx) sources are
  fc1/5,
Egress (tx) sources are
  fc1/5,

switch# show span session 7
Session 7 (active)
  Destination is fc-tunnel 100
  No session filters configured
Ingress (rx) sources are
  fc1/5,
Egress (tx) sources are
  fc1/5,
```

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The following example displays all SPAN sessions.

```
switch# show span session
Session 1 (inactive as no destination)
Destination is not specified
  Session filter vsans are 1
Ingress (rx) sources are
  fc1/5,
Egress (tx) sources are
  fc1/5,
```

The following example displays a SPAN session mapped to an FC tunnel interface.

```
switch# show span session
Session 2 (active)
  Destination is fc-tunnel 100
  No session filters configured
  Ingress (rx) sources are
  fc1/5,
Egress (tx) sources are
  fc1/5,
```

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show sprom

Command	Description
span session source interface	Configures the SPAN traffic in both ingress (rx) and egress (tx) directions.

To display vendor ID, product component attributes, serial number information that can be used to track field replaceable units, use the **show sprom** command.

```
show sprom {backplane backplane-index |
clock clock-module-index |
fan |
mgmt-module |
module module-number sprom-index |
powersupply powersupply-index |
sup}
```

Syntax Description		
backplane <i>backplane-index</i>	Displays attributes that can be used to uniquely identify a switch. The range is 1 to 2.	
clock <i>clock-module-index</i>	Displays attributes of the clock module. There are two clock modules in a switch. This module is absent in MDS9216 type switch. The range is 1 to 2.	
fan	Displays attributes that uniquely identified fan.	
mgmt-module	Displays attributes of management module. This module is only present in MDS9216 type switch.	
module <i>module-number</i> <i>sprom-index</i>	Displays Vendor ID, product's component attributes for the given switching module. There can be up to 4 sub-components in a module. Each of them will have a SPROM associated with it.	
powersupply <i>powersupply-index</i>	Displays attributes of the first or the second power-supply. This contains information about the powersupply capacity in watts when it is used in 110Volts and 220Volts respectively. This information is used for power-budget allocation. The range is 1 to 2.	
sup	Displays Vendor ID, product's component attributes for the current supervisor module	

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

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Usage Guidelines

Use the **show sprom** command to get unique information about a specific module, supervisor module, switch, power-supply module, or a fan module. If the customer needs to report a problem with a module, supervisor module, switch, power-supply module, or a fan module and does not have access to management station, then he can extract serial number information from **show sprom**.

Examples

The following example displays management module information. This module and command are specific to the Cisco MDS 9216 switch.

```
switch# show sprom mgmt-module
DISPLAY SAM sprom contents:
Common block:
Block Signature :0xabab
Block Version   :2
Block Length    :156
Block Checksum  :0x1295
EEPROM Size     :0
Block Count     :2
FRU Major Type  :0x0
FRU Minor Type  :0x0
OEM String      :Cisco Systems Inc
Product Number  :SAM SMITH
Serial Number   :12345678901
Part Number     :SAM-SMITH-06
Part Revision   :A0
Mfg Deviation   :
H/W Version     :1.0
Mfg Bits        :1
Engineer Use    :0
snmpOID         :0.0.0.0.0.0.0.0
Power Consump   :~-200
RMA Code        :0-0-0-0
Linecard Module specific block:
Block Signature :0x6003
Block Version   :2
Block Length    :103
Block Checksum  :0x3c7
Feature Bits    :0x0
HW Changes Bits :0x0
Card Index      :9009
MAC Addresses   :00-12-34-56-78-90
Number of MACs  :4
Number of EOBC links :4
Number of EPLD :0
Port Type-Num   :200-16
SRAM size       :0
Sensor #1       :0,0
Sensor #2       :0,0
Sensor #3       :0,0
Sensor #4       :0,0
Sensor #5       :0,0
Sensor #6       :0,0
Sensor #7       :0,0
Sensor #8       :0,0
```

The following command displays supervisor module information.

```
switch# show sprom sup
DISPLAY supervisor sprom contents:
Common block:
Block Signature : 0xabab
Block Version   : 2
```


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```

Block Length      : 156
Block Checksum    : 0x10a8
EEPROM Size       : 512
Block Count       : 2
FRU Major Type    : 0x6002
FRU Minor Type    : 0x7d0
OEM String        : Cisco Systems
Product Number    : DS-X9530-SF1-K9
Serial Number     : abcdefgh
Part Number       : 73-7523-06
Part Revision     : 0.0
Mfg Deviation     : 0.0
H/W Version       : 0.0
Mfg Bits          : 0
Engineer Use      : 0
snmpOID           : 9.5.1.3.1.1.2.2000
Power Consump     : -524
RMA Code          : 0-0-0-0
Supervisor Module specific block:
Block Signature   : 0x6002
Block Version     : 2
Block Length      : 103
Block Checksum    : 0x927
Feature Bits      : 0x0
HW Changes Bits   : 0x0
Card Index        : 9003
MAC Addresses     : 00-05-30-00-18-be
Number of MACs    : 4
Number of EPLD    : 1
EPLD A            : 0x0
Sensor #1         : 75,60
Sensor #2         : 60,55
Sensor #3         : -127,-127
Sensor #4         : -127,-127
Sensor #5         : -128,-128
Sensor #6         : -128,-128
Sensor #7         : -128,-128
Sensor #8         : -128,-128

```

Related Commands

Command	Description
show hardware	Displays brief information about the list of field replacable units in the switch.

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show ssh

To display Secure Shell information (SSH), use the **show ssh** command.

```
show ssh {key [dsa | rsa | rsa1] | server}
```

Syntax Description	key	Displays SSH keys.
	server	Displays the SSH server status.
	dsa	Displays DSA SSH keys.
	rsa	Displays RSA SSH keys.
	rsa1	Displays RSA1 SSH keys.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines To display the host key pair details for the specified key or for all keys, if no key is specified, use the **show ssh key** command. To display the status of the SSH protocol (enabled or disabled) and the versions that are enabled for that switch, use the **show ssh server** command.

Examples The following example displays SSH server status.

```
switch# show ssh server
ssh is enabled
version 1 enabled
version 2 enabled
```

The following example displays Host Key Pair details.

```
switch# show ssh key
rsa1 Keys generated:Sun Jan 13 07:16:26 1980

1024 35

fingerprint:
1024 67:76:02:bd:3e:8d:f5:ad:59:5a:1e:c4:5e:44:03:07

could not retrieve rsa key information

dsa Keys generated:Sun Jan 13 07:40:08 1980

ssh-dss AAAAB3NzaC1kc3MAAABBAJTCRQOydNRl2v7uiO6Fix+0Tn8eGdnnDVxw5eJs50cOEXOyjaW
cMMYsEgxc9ada1NElp8Wy7GPMWGOQYj9CU0AAAAMCwWhNN18zFNOIPo7cU3t7d0iEbAAAAQBdQ8UAO
```

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```
i/Cti84qFb3kTqXlS9mEhdQUo0lHcH5bw5PKfj2Y/dLR437zCBKXetPj4p7mhQ6Fq5os8RZtJEyOsNsA  
AABAA0oxZbPyWeR5NHATXiyXdPI7j9i8fgyn9FNipMkOF2Mn75Mi/lqQ4NIq0gQNvQ0x27uCeQlRts/Q  
wI4q68/eaw==
```

```
fingerprint:
```

```
512 f7:cc:90:3d:f5:8a:a9:ca:48:76:9f:f8:6e:71:d4:ae
```

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show ssm provisioning

To display the attributes of the Storage Services Module (SSM) installed, use the **show ssm provisioning** command.

show ssm provisioning

Syntax Description This command has no other arguments or keywords.

Command Default None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(2)	This command was introduced.
	2.1(1a)	Added Provisioning Status column to the display.

Usage Guidelines None.

Examples The following example provisions the SSM installed in the switch.

```
switch# show ssm provisioning
Module  Ports      Application      Provisioning Status
-----
      4      1-32      scsi-flow              success
```

[Table 22-10](#) describes the significant fields shown in the **show ssm provisioning** command output.

Table 22-10 *show ssm provisioning Field Descriptions*

Field	Description
Module	Slot where SSM is installed.
Ports	Ports available on the SSM.
Application	Feature configured on the SSM.
Provisioning Status	Displays the status of the SSM attributes.

Related Commands	Command	Description
	ssm enable feature	Enables the SCSI flow feature on the SSM.

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show startup-config

To display the startup configuration file, use the **show startup-config** command

show startup-config [log]

Syntax Description	log	Displays execution log of last used ASCII startup configuration.
Defaults	None.	
Command Modes	EXEC mode.	
Command History	Release	Modification
	1.0(2)	This command was introduced.
Usage Guidelines	None.	

Examples

The following example displays the switch configuration at startup.

```
switch# show startup-config
vsan database
vsan 2
vsan 3
vsan 4
vsan 5
vsan 31
vsan 32 suspend
vsan 100
vsan 300

interface port-channel 1
switchport mode E
switchport trunk mode off

interface port-channel 2
fspf cost 100 vsan 2
switchport mode E
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093

interface port-channel 3
switchport mode E
switchport trunk mode off

interface port-channel 4
switchport mode E
no switchport trunk allowed vsan all
```

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```

switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093

interface port-channel 5
switchport mode E
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-10
interface port-channel 5
switchport mode E
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-10

interface port-channel 8
switchport mode E

interface vsan1

no shutdown

snmp-server community public rw
snmp-server user admin network-admin auth md5 0xe84b06201ae3bfb726a2eab9f485eb57
  localizedkey
snmp-server host 171.69.126.34 traps version 2c public udp-port 2162
snmp-server host 171.69.75.106 traps version 2c public udp-port 2162
vsan database
vsan 3 interface fc2/9
vsan 3 interface fc2/14
vsan 5 interface fc9/11
vsan 2 interface fc9/12
vsan 3 interface port-channel 3
vsan 3 interface port-channel 4
vsan 100 interface port-channel 8

boot system bootflash:/isan-8b-u sup-1
boot kickstart bootflash:/boot-3b sup-1
boot system bootflash:/isan-8b-u sup-2
boot kickstart bootflash:/boot-3b sup-2

ip default-gateway 172.22.90.1
power redundancy-mode combined force

username admin password 5 HyLyYqb4.q74Y role network-admin
zone name Z1 vsan 1
  member pwnn 10:00:00:00:77:99:60:2c
  member pwnn 21:00:00:20:37:a6:be:14

zone default-zone permit vsan 1
zoneset distribute full vsan 51-58

zoneset name ZS1 vsan 1
  member Z1

zoneset activate name ZS1 vsan 1

interface fc2/1
switchport mode E
switchport trunk mode off
no shutdown

interface fc2/2

interface fc2/3
channel-group 1 force
no shutdown

```

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```
interface fc2/6
channel-group 2 force
no shutdown

interface fc2/7
switchport mode E
no shutdown
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-25

interface fc2/9
switchport mode E
switchport trunk mode off
no shutdown

interface fc2/10
channel-group 3 force
no shutdown

interface fc2/12
channel-group 4 force
no shutdown

interface fc2/14
switchport mode E
no shutdown
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093

interface fc2/15
channel-group 6 force
no shutdown

interface fc2/16
channel-group 6 force
no shutdown
.
.
interface fc9/10
switchport mode F
no shutdown

interface fc9/11
switchport trunk mode off
no shutdown

interface fc9/12
switchport mode E
switchport speed 1000
switchport trunk mode off
no shutdown

interface fc9/15
no shutdown
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093

interface fc9/16
switchport mode FL
no shutdown
```

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```
interface mgmt0
ip address 172.22.90.38 255.255.255.0
no shutdown
```


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show switchname

To display the switch network name, use the **show switchname** command.

show switchname [serialnum]

Syntax Description	serialnum	Displays switch serial number.
--------------------	-----------	--------------------------------

Defaults	None.
----------	-------

Command Modes	EXEC mode.
---------------	------------

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines	None.
------------------	-------

Examples The following example displays the name of the switch.

```
switch# show switchname
switch-123
```

The following example displays the switch name and serial number.

```
switch# show switchname
switch-123
Serial Number #1 : FOX0712S007
Serial Number #2 :
```

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show system

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

```
show system { cores | default { switchport | zone } | directory information | error-id { hex-id | list }
            | exception-info | pss shrink status [details] | redundancy status | reset-reason [module slot]
            | resources | standby manual-boot | uptime }
```

Syntax Description		
cores		Displays core transfer option.
default		Displays system default values.
switchport		Displays default values for switchport attributes.
zone		Displays default values for a zone.
directory information		Directory information of System Manager.
error-id		Displays description about errors.
hex-id		Specifies the error ID in hexadecimal format. The range is 0x0 to 0xffffffff.
list		Specifies all error IDs.
exception-info		Displays last exception log information.
pss shrink status		Displays the last PSS shrink status.
details		Displays detailed information on the last PSS shrink status.
redundancy status		Redundancy status.
reset-reason		Displays the last four reset reason codes.
module slot		Specifies the module number to display the reset-reason codes.
resources		Show the CPU and memory statistics.
standby manual-boot		Displays the standby manual boot option.
uptime		Displays how long the system has been up and running.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.
	3.0(1)	Added the zone option.
	3.0(1)	Added the standby manual-boot keyword.

Usage Guidelines Use the **show system redundancy status** command to ensure that the system is ready to accept a switchover.

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Examples

The following example displays the system redundancy status.

```
switch# show system redundancy status
Redundancy mode
-----
      administrative:  HA
      operational:    None

This supervisor (sup-2)
-----
      Redundancy state:  Active
      Supervisor state:  Active
      Internal state:    Active with no standby

Other supervisor (sup-1)
-----
      Redundancy state:  Not present
```

The following example displays port states after the **system default switchport mode f** command is executed.

```
switch# show system default switchport
System default port state is down
System default trunk mode is on
System default port mode is F
```

The following example displays error information for a specified ID.

```
switch# show system error-id 0x401D0019
Error Facility: module
Error Description: Failed to stop Linecard Async Notification.
```

The following example displays the system health information.

```
switch# show system health
Current health information for module 2.
```

Test	Frequency	Status	Action
Bootflash	10 Sec	Enabled	Enabled
EOBC	5 Sec	Enabled	Enabled
Loopback	5 Sec	Enabled	Enabled
CF checksum	7 Sec	Enabled	Enabled
CF re-flash	30 Sec	Enabled	Enabled

```
Current health information for module 3.
```

Test	Frequency	Status	Action
Bootflash	10 Sec	Enabled	Enabled
EOBC	5 Sec	Enabled	Enabled
Loopback	5 Sec	Enabled	Enabled

```
Current health information for module 5.
```

Test	Frequency	Status	Action
InBand	5 Sec	Enabled	Enabled
Bootflash	10 Sec	Enabled	Enabled
EOBC	5 Sec	Enabled	Enabled
Management Port	5 Sec	Enabled	Enabled
CF checksum	7 Sec	Halted	Enabled

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```
CF re-flash          30 Sec          Halted          Enabled
-----
```

The following example displays the system reset information.

```
switch# show system reset reason
----- reset reason for module 6 -----
1) At 520267 usecs after Tue Aug  5 16:06:24 1980
   Reason: Reset Requested by CLI command reload
   Service:
   Version: 1.2(0.73a)
2) At 653268 usecs after Tue Aug  5 15:35:24 1980
   Reason: Reset Requested by CLI command reload
   Service:
   Version: 1.2(0.45c)
3) No time
   Reason: Unknown
   Service:
   Version: 1.2(0.45c)
4) At 415855 usecs after Sat Aug  2 22:42:43 1980
   Reason: Power down triggered due to major temperature alarm
   Service:
   Version: 1.2(0.45c)
```

The following example displays system-related CPU and memory statistics.

```
switch# show system resources
Load average:   1 minute: 0.43   5 minutes: 0.17   15 minutes: 0.11
Processes   :   100 total, 2 running
CPU states   :   0.0% user,   0.0% kernel, 100.0% idle
Memory usage: 1027628K total,   313424K used,   714204K free
              3620K buffers,   22278K cache
```

The following example displays the system uptime.

```
switch# show system uptime
Start Time: Sun Oct 13 18:09:23 2030
Up Time:    0 days, 9 hours, 46 minutes, 26 seconds
```

Use the **show system cores** command to display the currently configured scheme for copying cores.

```
switch# show system cores
Transfer of cores is enabled
```

Use the **show system default zone** command to display the default values for a zone.

```
switch# show system default zone
system default zone default-zone permit
system default zone distribute active only
```

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show system default zone

To verify the configured default zone values, use the **show system default zone** command.

show system default zone

Syntax Description	This command has no other arguments or keywords.
---------------------------	--

Defaults	None.
-----------------	-------

Command Modes	EXEC mode.
----------------------	------------

Command History	Release	Modification
	3.0(1)	This command was introduced.
	3.2(1)	Added the basic default zoning mode option.

Usage Guidelines	None.
-------------------------	-------

Examples	<p>The following example shows the default values for default-zone as deny, distribute as active only, and zone mode as basic.</p>
-----------------	--

```
switch# show system default zone
system default zone default-zone deny
system default zone distribute active only
system default zone mode basic
```

The following example shows the default values for default-zone as permit, distribute as full, and zone mode as enhanced.

```
switch# show system default zone
system default zone default-zone permit
system default zone distribute active full
system default zone mode enhanced
```

Related Commands	Command	Description
	system default zone mode enhanced	Configures the default value of zone mode as enhanced.
	no system default zone mode enhanced	Configures the default value of zone mode as basic.
	system default zone distribute full	Configures the default value of distribute as full.

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Command	Description
no system default zone distribute full	Configures the default value of distribute as active only.
system default zone default-zone permit	Configures the default value of default-zone as permit.
no system default zone default-zone permit	Configures the default value of default-zone as deny.

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show system health

To display configured Online Health Management System (OHMS) information, use the **show system health** command.

```
show system health [loopback frame-length | module slot | statistics loopback [interface fc
slot/port | module slot timelog | timelog]]
```



Note

On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs from **interface fc slot/port** as follows:

```
interface {bay port | ext port}
```

Syntax Description

loopback	Displays the OHMS loopback test statistics.
frame-length	Displays the loopback frame length.
module slot	Displays module information.
statistics	Displays OHMS statistics.
interface	Specifies the required interface.
fc slot/port	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay port ext port	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9124 Fabric Switch, a Cisco Fabric Switch for HP c-Class BladeSystem, and a Cisco Fabric Switch for IBM BladeCenter.
iscsi slot/port	Specifies the iSCSI interface at the specified slot and port.
timelog	Displays the loopback round trip times.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(4)	This command was introduced.
3.1(2)	Added the bay port ext port keywords and arguments.

Usage Guidelines

None.

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Examples

The following example displays the current health of all modules in the switch.

```
switch# show system health
```

```
Current health information for module 1.
```

Test	Frequency	Status	Action
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Loopback	5 Sec	Running	Enabled
CF checksum	7 Days	Halted	Enabled
CF re-flash	30 Days	Halted	Enabled

```
Current health information for module 2.
```

Test	Frequency	Status	Action
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Loopback	5 Sec	Running	Enabled

```
Current health information for module 5.
```

Test	Frequency	Status	Action
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Loopback	5 Sec	Running	Enabled

```
Current health information for module 6.
```

Test	Frequency	Status	Action
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Loopback	5 Sec	Running	Enabled
CF checksum	7 Days	Halted	Enabled
CF re-flash	30 Days	Halted	Enabled

```
Current health information for module 7.
```

Test	Frequency	Status	Action
InBand	5 Sec	Running	Enabled
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Management Port	5 Sec	Running	Enabled

```
Current health information for module 8.
```

Test	Frequency	Status	Action
InBand	5 Sec	Running	Enabled
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled

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Current health information for module 10.

Test	Frequency	Status	Action
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Loopback	5 Sec	Running	Enabled

Current health information for module 11.

Test	Frequency	Status	Action
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Loopback	5 Sec	Running	Enabled
CF checksum	7 Days	Halted	Enabled
CF re-flash	30 Days	Halted	Enabled

Current health information for module 12.

Test	Frequency	Status	Action
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Loopback	5 Sec	Running	Enabled

Current health information for module 13.

Test	Frequency	Status	Action
Bootflash	10 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled

The following example displays the health statistics for all modules.

```
switch# show system health statistics
```

Test statistics for module # 1

Test Name	State	Freq(s)	Run	Pass	Fail	CFail	Errs
Bootflash	Running	5s	12900	12900	0	0	0
EOBC	Running	5s	12900	12900	0	0	0
Loopback	Running	5s	12900	12900	0	0	0

Test statistics for module # 3

Test Name	State	Freq(s)	Run	Pass	Fail	CFail	Errs
Bootflash	Running	5s	12890	12890	0	0	0
EOBC	Running	5s	12890	12890	0	0	0
Loopback	Running	5s	12892	12892	0	0	0

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```
Test statistics for module # 5
-----
Test Name          State          Freq(s)   Run    Pass    Fail CFail Errs
-----
InBand             Running        5s        12911 12911    0     0     0
Bootflash          Running        5s        12911 12911    0     0     0
EOBC               Running        5s        12911 12911    0     0     0
Management Port    Running        5s        12911 12911    0     0     0
-----
```

```
Test statistics for module # 6
-----
Test Name          State          Freq(s)   Run    Pass    Fail CFail Errs
-----
InBand             Running        5s        12907 12907    0     0     0
Bootflash          Running        5s        12907 12907    0     0     0
EOBC               Running        5s        12907 12907    0     0     0
-----
```

```
Test statistics for module # 8
-----
Test Name          State          Freq(s)   Run    Pass    Fail CFail Errs
-----
Bootflash          Running        5s        12895 12895    0     0     0
EOBC               Running        5s        12895 12895    0     0     0
Loopback           Running        5s        12896 12896    0     0     0
-----
```

The following example displays the statistics for a module.

```
switch# show system health statistics module 3

Test statistics for module # 3
-----
Test Name          State          Freq(s)   Run    Pass    Fail CFail Errs
-----
Bootflash          Running        5s        12932 12932    0     0     0
EOBC               Running        5s        12932 12932    0     0     0
Loopback           Running        5s        12934 12934    0     0     0
-----
```

The following example displays the loopback test statistics for the entire switch.

```
switch# show system health statistics loopback
-----
Mod Port Status          Run    Pass    Fail    CFail Errs
-----
 1  16 Running        12953 12953    0     0     0
 3  32 Running        12945 12945    0     0     0
 8   8 Running        12949 12949    0     0     0
-----
```

The following example displays the loopback test statistics for a specified interface.

```
switch# show system health statistics loopback interface fc 3/1
-----
Mod Port Status          Run    Pass    Fail    CFail Errs
-----
 3   1 Running           0     0     0     0     0
-----
```

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Table 22-11 describes the status value for each module

Table 22-11 Shows the Status Value for Each Module

Status	Description
Running	OHMS test is running and there are no errors detected.
Failing	OHMS test has started to fail or in the process of failing.
Failed	OHMS test failed.
Stopped	OHMS test stopped. This is a transient state (for example, during upgrades and downgrades).
Exited	OHMS test process or thread exited while running the test.
Not Configured	OHMS test configured to not run on the module.
Int Failed	OHMS test failed because of internal failure.
Diag Failed	OHMS test failed in performing diagnostics.
Suspended	OHMS test suspended because of too many error conditions. OHMS cannot complete the test to determine the hardware status.
Halted	OHMS test is halted because the test is not intended to run on the module. (for example, a specific hardware of which a test is operating is not found on the module).
Enabled	OHMS is disabled by the user but not the test.
Disabled	OHMS test is disabled by the user.



Note Interface-specific counters will remain at zero unless the module-specific loopback test reports errors or failures.

The following example displays the loopback test time log for all modules.

```
switch# show system health statistics loopback timelog
-----
Mod      Samples      Min(usecs)    Max(usecs)    Ave(usecs)
  1         1872           149           364           222
  3         1862           415           743           549
  8         1865           134           455           349
-----
```

The following example displays the loopback test statistics for a specified module.

```
switch# show system health statistics loopback module 8 timelog
-----
Mod      Samples      Min(usecs)    Max(usecs)    Ave(usecs)
  8         1867           134           455           349
-----
```

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The following example displays the loopback test statistics for an interface on a Cisco Fabric Switch for HP c-Class BladeSystem.

```
switch# show system health statistics loopback interface bay1
-----
Mod Port Status                Run    Pass    Fail    CFail Errs
  1  16 Running                    0      0      0      0     0
-----
```

The following example displays the frequency and status of the CRC checksum test and a flash update on a single module.

```
switch# show system health module 5

Current health information for module 5.

Test                Frequency      Status        Action
-----
Bootflash           10 Sec        Running       Enabled
EOBC                 5 Sec         Running       Enabled
Loopback             5 Sec         Running       Enabled
CF checksum          7 Days        Running       Enabled
CF re-flash         30 Days       Running       Enabled
-----
```

The following example displays the CRC checksum test and the flash update statistics on all modules.

```
switch# show system health statistics

Test statistics for module 2
-----
Test Name           State          Frequency  Run    Pass    Fail CFail Errs
-----
Bootflash           Running        10s       1130   1130    0     0     0
EOBC                 Running        5s        2268   2268    0     0     0
Loopback            Running        5s        2279   2279    0     0     0
CF checksum          Failed         20s       11     0       23    12    0
CF re-flash          Suspended      30s       12     0       0     0     12
-----

Test statistics for module 3
-----
Test Name           State          Frequency  Run    Pass    Fail CFail Errs
-----
Bootflash           Running        10s       1295   1295    0     0     0
EOBC                 Running        5s        2591   2591    0     0     0
-----

Test statistics for module 4
-----
Test Name           State          Frequency  Run    Pass    Fail CFail Errs
-----
Bootflash           Running        10s       1299   1299    0     0     0
EOBC                 Running        5s        2598   2598    0     0     0
Loopback            Running        5s        2598   2598    0     0     0
CF checksum          Running        7s        2275   2274    0     0     0
CF re-flash          Running        30s       434    434     0     0     0
-----

Test statistics for module 5
-----
Test Name           State          Frequency  Run    Pass    Fail CFail Errs
-----
InBand              Running        5s        2615   2615    0     0     0
Bootflash           Running        10s       1307   1307    0     0     0
-----
```

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```

EOBC                Running                5s      2615    2615      0      0      0
Management Port    Running                5s      2615    2615      0      0      0
CF checksum        Running                7s      2289    2289      0      0      0
CF re-flash        Running                30s     437     436      0      0      0
-----

```

Related Commands

Command	Description
system health module	Configures Online Health Management System (OHMS) features.

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show tacacs+

To display the TACACS+ Cisco Fabric Services (CFS) distribution status and other details, use the **show tacacs+** command.

```
show tacacs+ {distribution status | pending | pending-diff}
```

Syntax Description		
	distribution status	Displays the status of the TACACS+ CFS distribution.
	pending	Displays the pending configuration that is not yet applied.
	pending-diff	Displays the difference between the active configuration and the pending configuration.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines To use this command, TACACS+ must be enabled using the **tacacs+ enable** command.

Examples The following example shows how to display the TACACS+ distribution status.

```
switch# show tacacs+ distribution status
session ongoing: no
session db: does not exist
merge protocol status: merge activation done

last operation: none
last operation status: none
```

Related Commands	Command	Description
	tacacs+ enable	Enables TACACS+.
	tacacs+ distribute	Initiates TACACS+ configuration distribution.

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show tacacs-server

To display all configured TACACS+ server parameters, use the **show tacacs-server** command.

```
show tacacs-server [server-name | ipv4-address | ipv6-address]
[directed-request | groups | sorted | statistics]
```

Syntax Description		
<i>server-name</i>		Specifies the TACACS+ server DNS name. The maximum is 256.
<i>ipv4-address</i>		Specifies the TACACS+ server IP address in the format <i>A.B.C.D</i> .
<i>ipv6-address</i>		Specifies the TACACS+ server IP address in the format <i>X:X::X</i> .
directed-request		Displays an enabled directed request TACACS+ server configuration.
groups		Displays configured TACACS+ server group information.
sorted		Displays TACACS+ server information sorted by name.
statistics		Displays TACACS+ statistics for the specified TACACS+ server.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.3(1)	This command was introduced.
	3.0(1)	<ul style="list-style-type: none"> Added the <i>server-name</i>, <i>ipv4-address</i>, and <i>ipv6-address</i> arguments. Added the directed-request and statistics options.

Usage Guidelines None.

Examples The following command displays the configured TACACS+ server information.

```
switch# show tacacs-server
Global TACACS+ shared secret:tacacsPword
timeout value:30
total number of servers:3

following TACACS+ servers are configured:
 171.71.58.91:
   available on port:2
 cisco.com:
   available on port:49
 171.71.22.95:
   available on port:49
   TACACS+ shared secret:MyKey
```

The following command displays the configured TACACS+ server groups.

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```
switch# show tacacs-server groups
total number of groups:1

following TACACS+ server groups are configured:
  group TacServer:
    server 171.71.58.91 on port 2
```


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show tech-support

To display information useful to technical support when reporting a problem, use the **show tech-support** command in EXEC mode.

```
show tech-support [acl |
    bootvar |
    brief |
    cfs [name application-name] |
    details |
    device-alias
    fcdomain |
    fcip |
    ficon |
    fspf |
    fta |
    interface {fc slot/port | gigabitethernet slot/port} vsan vsan-id |
    ip |
    iscsi [detail] |
    islb [detail] |
    license |
    module module number |
    port |
    port-channel |
    prepath |
    qos |
    snmp |
    sysmgr |
    vrrp |
    vsan vsan-id |
    zone vsan-id]
```



Note

On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs from **interface fc slot/port** as follows:

```
interface {bay port | ext port}
```

Syntax Description

acl	Displays information for ACL troubleshooting.
bootvar	Displays information for bootvar troubleshooting.
brief	Displays a summary of the current running state of the switch.
cfs	Displays information for CFS troubleshooting.
name <i>application-name</i>	Specifies an application that uses the CFS infrastructure. Maximum length is 64 characters.
details	Displays detailed information for each show command.
device-alias	Displays device alias information.
fcdomain	Displays information for fcdomain troubleshooting.
fcip	Displays information for FCIP troubleshooting.

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ficon	Displays information for FICON troubleshooting.
fspf	Displays information for FSPF troubleshooting.
fta	Displays information for FTA troubleshooting.
interface	Displays information for interface troubleshooting.
fc slot/port	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay port ext port	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9124 Fabric Switch, a Cisco Fabric Switch for HP c-Class BladeSystem, and a Cisco Fabric Switch for IBM BladeCenter.
gigabitethernet slot/port	Specifies the Gigabit Ethernet interface at the specified slot and port.
ip	Displays information for IP troubleshooting.
iscsi	Displays information for iSCSI troubleshooting.
islb	Displays information for iSLB troubleshooting.
license	Displays information for license troubleshooting.
logging	Displays information for logging troubleshooting.
module	Displays information for module status troubleshooting.
port	Displays information for Port Manager troubleshooting.
port-channel	Displays information for PortChannel troubleshooting.
prefpath	Displays information for preferred path troubleshooting.
qos	Displays information for QoS troubleshooting.
snmp	Displays information for SNMP troubleshooting.
sysmgr	Displays information for system management troubleshooting.
vrrp	Displays information for VRRP troubleshooting.
vsan vsan-id	Displays information for VSAN troubleshooting. Specifies a VSAN ID. The range is 1 to 4093.
zone vsan-id	Displays information for zone server troubleshooting. Specifies a VSAN ID. The range is 1 to 4093.

Defaults

The default output of the **show tech-support** command includes the output of the following **show** commands:

- show version
- show environment
- show module
- show hardware
- show running-config
- show interface
- show accounting log
- show process
- show process log
- show processes log details
- show flash

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Command Modes EXEC mode.

Command History	Release	Modification
	1.3(4)	This command was introduced.
	3.0(1)	Added the fcdomain , port-channel , and zone options.
	3.0(3)	Added the cfs , fcip , fspf , fta , ip , license , prefpath , and vrp options.
	3.1(1)	Added the device-alias keyword.
	3.1(2)	Added the bay port ext port keywords and arguments.

Usage Guidelines The **show tech-support** command is useful when collecting a large amount of information about your switch for troubleshooting purposes. The output of this command can be provided to technical support representatives when reporting a problem.

The **show tech-support** command displays the output of several **show** commands at once. The output from this command varies depending on your configuration. Use the **show tech-support** command in EXEC mode to display general information about the switch when reporting a problem.

You can choose to have detailed information for each command or even specify the output for a particular interface, module, or VSAN.

Examples The following example displays technical support information for a specific module.

```
switch# show tech-support module 1

'terminal length 0'

'show module '
Mod  Ports  Module-Type                Model                Status
---  ---
1    16     1/2 Gbps FC/Supervisor     DS-X9216-K9-SUP     active *
2    32     1/2 Gbps FC Module         DS-X9032             ok

Mod  Sw          Hw          World-Wide-Name(s) (WWN)
---  ---
1    1.0(0.271)  0.0        20:01:00:05:30:00:21:9e to 20:10:00:05:30:00:21:9e
2    1.0(0.271)  0.0        20:41:00:05:30:00:21:9e to 20:60:00:05:30:00:21:9e

Mod  MAC-Address(es)                Serial-Num
---  ---
1    00-05-30-00-40-b6 to 00-05-30-00-40-ba
2    00-05-30-00-11-22 to 00-05-30-00-11-26

* this terminal session

'show environment'
Clock:
-----
Clock          Model                Hw          Status
-----
A              Clock Module         --          ok/active
B              Clock Module         --          ok/standby

Fan:
-----
```

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Fan	Model	Hw	Status
Chassis	DS-2SLOT-FAN	0.0	ok
PS-1	--	--	ok
PS-2	--	--	absent

Temperature:

Module	Sensor	MajorThresh (Celsius)	MinorThres (Celsius)	CurTemp (Celsius)	Status
1	1	75	60	30	ok
1	2	65	50	28	ok
1	3	-127	-127	40	ok
1	4	-127	-127	36	ok
2	1	75	60	32	ok
2	2	65	50	26	ok
2	3	-127	-127	41	ok
2	4	-127	-127	31	ok

The **show tech-support brief** command provides a summary of the current running state of the switch.

```
switch# show tech-support brief
Switch Name           : vegas01
Switch Type           : DS-X9216-K9-SUP
Kickstart Image       : 1.3(2a) bootflash:///m9200-ek9-kickstart-mz.1.3.1.10.bin
System Image          : 1.3(2a) bootflash:///m9200-ek9-mz.1.3.1.10.bin
IP Address/Mask       : 10.76.100.164/24
Switch WWN            : 20:00:00:05:30:00:84:9e
No of VSANs           : 9
Configured VSANs     : 1-6,4091-4093

VSAN 1:  name:VSAN0001, state:active, interop mode:default
         domain id:0x6d(109), WWN:20:01:00:05:30:00:84:9f [Principal]
         active-zone:VR, default-zone:deny

VSAN 2:  name:VSAN0002, state:active, interop mode:default
         domain id:0x7d(125), WWN:20:02:00:05:30:00:84:9f [Principal]
         active-zone:<NONE>, default-zone:deny

VSAN 3:  name:VSAN0003, state:active, interop mode:default
         domain id:0xbe(190), WWN:20:03:00:05:30:00:84:9f [Principal]
         active-zone:<NONE>, default-zone:deny

VSAN 4:  name:VSAN0004, state:active, interop mode:default
         domain id:0x5a(90), WWN:20:04:00:05:30:00:84:9f [Principal]
         active-zone:<NONE>, default-zone:deny

VSAN 5:  name:VSAN0005, state:active, interop mode:default
         domain id:0x13(19), WWN:20:05:00:05:30:00:84:9f [Principal]
         active-zone:<NONE>, default-zone:deny

VSAN 6:  name:VSAN0006, state:active, interop mode:default
         domain id:0x1f(31), WWN:20:06:00:05:30:00:84:9f [Principal]
         active-zone:<NONE>, default-zone:deny

VSAN 4091: name:VSAN4091, state:active, interop mode:default
          domain id:0x08(8), WWN:2f:fb:00:05:30:00:84:9f [Principal]
          active-zone:<NONE>, default-zone:deny

VSAN 4092: name:VSAN4092, state:active, interop mode:default
          domain id:0x78(120), WWN:2f:fc:00:05:30:00:84:9f [Principal]
          active-zone:<NONE>, default-zone:deny
```

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```

VSAN 4093:   name:VSAN4093, state:active, interop mode:default
             domain id:0x77(119), WWN:2f:fd:00:05:30:00:84:9f [Principal]
             active-zone:<NONE>, default-zone:deny

```

```

-----
Interface  Vsan    Admin  Admin  Status          FCOT  Oper  Oper  Port
          Mode   Trunk  Mode
          Mode
-----
fc1/1     1       auto   on     fcotAbsent      --   --   --   --
fc1/2     1       auto   on     fcotAbsent      --   --   --   --
fc1/3     1       auto   on     fcotAbsent      --   --   --   --
fc1/4     1       auto   on     fcotAbsent      --   --   --   --
fc1/5     1       auto   on     notConnected    sw1  --   --   --
fc1/6     1       auto   on     fcotAbsent      --   --   --   --
fc1/7     1       auto   on     fcotAbsent      --   --   --   --
fc1/8     1       auto   on     fcotAbsent      --   --   --   --
fc1/9     1       auto   on     fcotAbsent      --   --   --   --
fc1/10    1       auto   on     fcotAbsent      --   --   --   --
fc1/11    1       auto   on     fcotAbsent      --   --   --   --
fc1/12    1       auto   on     fcotAbsent      --   --   --   --
fc1/13    1       auto   on     fcotAbsent      --   --   --   --
fc1/14    1       auto   on     fcotAbsent      --   --   --   --
fc1/15    1       auto   on     fcotAbsent      --   --   --   --
fc1/16    1       auto   on     fcotAbsent      --   --   --   --

```

```

-----
Interface          Status          Speed
                  (Gbps)
-----
sup-fc0            up              1

```

```

-----
Interface          Status          IP Address          Speed          MTU
-----
mgmt0              up              10.76.100.164/24   100 Mbps      1500

```

Power Supply:

```

-----
PS  Model          Power          Power          Status
    (Watts)        (Amp @42V)
-----
1   WS-CAC-950W     919.38         21.89          ok
2   --              --             --             absent

```

```

-----
Mod Model          Power          Power          Power          Power          Status
    Requested     Requested     Allocated     Allocated
    (Watts)        (Amp @42V)   (Watts)       (Amp @42V)
-----
1   DS-X9216-K9-SUP 220.08         5.24           220.08         5.24           powered-up
2   DS-X9032         199.92         4.76           199.92         4.76           powered-up

```

Power Usage Summary:

```

-----
Power Supply redundancy mode:          redundant

Total Power Capacity                   919.38   W

Power reserved for Supervisor(s) [-]   220.08   W
Power reserved for Fan Module(s) [-]   47.88    W
Power currently used by Modules [-]    199.92   W

```

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```
-----
Total Power Available          451.50
```

The following example displays zone server information for VSAN 1.

```
switch# show tech-support zone vsan 1
`show zone status vsan 1`
VSAN: 1 default-zone: permit distribute: active only Interop: default
      mode: basic merge-control: allow session: none
      hard-zoning: enabled
Default zone:
      qos: disabled broadcast: disabled ronly: disabled
Full Zoning Database :
      Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
      Name: vhost-zone Zonesets:1 Zones:9
Status: Activation failed [Error: Unknown error Dom 21]:
      at 23:36:44 UTC Dec 19 2005
```

The following example displays a partial listing of output from the **show tech-support device-alias** command.

```
switch# show tech-support device-alias
`show device-alias database`
device-alias name dev2 pwwn 10:00:00:00:c9:2e:31:37
device-alias name sdv1 pwwn 50:00:53:00:00:85:c0:01
device-alias name svc1 pwwn 20:0f:00:05:30:00:eb:48
device-alias name sdv-1 pwwn 50:00:53:00:00:e9:7f:a1
device-alias name sdv-2 pwwn 50:00:53:00:01:4e:af:a1
device-alias name sdv-3 pwwn 50:00:53:00:01:da:2f:a1
device-alias name sdv-4 pwwn 50:00:53:00:01:cb:af:a1
device-alias name qloGics pwwn 21:00:00:e0:8b:06:61:d4
device-alias name sdv-501 pwwn 50:00:53:00:00:85:c1:f5
device-alias name sym-hba1 pwwn 50:06:04:82:ca:e1:26:83
device-alias name fred-hba1 pwwn 22:00:00:20:37:d2:03:ed
device-alias name fred-hba2 pwwn 22:00:00:20:37:d2:10:f9
device-alias name sdv1-4001 pwwn 50:00:53:00:01:0f:0f:a1
device-alias name sdv2-4001 pwwn 50:00:53:00:00:66:4f:a1
device-alias name HDS33074-C pwwn 50:06:0e:80:03:81:32:06
device-alias name clarion2345 pwwn 50:06:01:61:10:60:14:f5
device-alias name iscsi-alias pwwn 27:09:00:08:00:ad:00:03
device-alias name seaGate0306 pwwn 22:00:00:20:37:d2:03:d6

Total number of entries = 18
```

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show tech-support sme

To display the information for SME technical support, use the **show tech-support sme** command.

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the information for SME technical support.

```
switch# show tech-support sme
'show startup-config'
version 3.3(1a)
fcdomain fcid database
  vsan 1 wwn 24:74:00:05:30:00:07:23 fcid 0xef0000 dynamic
  vsan 1 wwn 24:75:00:05:30:00:07:23 fcid 0xef0001 dynamic
  vsan 1 wwn 24:76:00:05:30:00:07:23 fcid 0xef0002 dynamic
  vsan 1 wwn 24:77:00:05:30:00:07:23 fcid 0xef0003 dynamic
  vsan 1 wwn 24:78:00:05:30:00:07:23 fcid 0xef0004 dynamic
  vsan 1 wwn 24:79:00:05:30:00:07:23 fcid 0xef0005 dynamic
  vsan 1 wwn 24:7a:00:05:30:00:07:23 fcid 0xef0006 dynamic
  vsan 1 wwn 24:7b:00:05:30:00:07:23 fcid 0xef0007 dynamic
  vsan 1 wwn 24:7c:00:05:30:00:07:23 fcid 0xef0008 dynamic
  vsan 1 wwn 24:7d:00:05:30:00:07:23 fcid 0xef0009 dynamic
  vsan 1 wwn 24:40:00:05:30:00:07:23 fcid 0xef000a dynamic
  vsan 1 wwn 24:41:00:05:30:00:07:23 fcid 0xef000b dynamic
  vsan 1 wwn 24:7e:00:05:30:00:07:23 fcid 0xef000c dynamic
  vsan 1 wwn 24:7f:00:05:30:00:07:23 fcid 0xef000d dynamic
  vsan 1 wwn 24:80:00:05:30:00:07:23 fcid 0xef000e dynamic
  vsan 1 wwn 24:81:00:05:30:00:07:23 fcid 0xef000f dynamic
  vsan 1 wwn 24:92:00:05:30:00:07:23 fcid 0xef0010 dynamic
  vsan 1 wwn 24:93:00:05:30:00:07:23 fcid 0xef0011 dynamic
  vsan 1 wwn 24:94:00:05:30:00:07:23 fcid 0xef0012 dynamic
```

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show telnet server

To display the state of the Telnet access configuration, use the **show telnet server** command.

show telnet server

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the status of the Telnet server.

```
switch# show telnet server
telnet service enabled
```


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show terminal

To display the terminal information, use the **show terminal** command

```
show terminal
```

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays terminal information.

```
switch# show terminal  
TTY: Type: "vt100"  
Length: 25 lines, Width: 80 columns  
Session Timeout: 30 minutes
```

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show tlport

To display configured TL port information, use the **show tlport** command

```
show tlport { alpa-cache | discapp fcid fcid-id [vsan vsan-id] [verbose] | interface fc slot/port { all
| private | proxied | topology | unsupported } | list [vsan vsan-id] }
```

Syntax Description

alpa-cache	Displays the contents of the ALPA cache.
discapp	Displays private N port parameters.
fcid <i>fcid-id</i>	Specifies the FCID of the N port.
verbose	Specifies the verbose mode.
vsan <i>vsan-id</i>	Specifies the N port VSAN ID. The range is 1 to 4093.
interface	Displays TL ports in the selected interface.
fc <i>slot/port</i>	Specifies the Fiber Channel interface at the specified slot and port.
all	Displays all proxied & private devices on this TL Port.
private	Displays all private devices on this TL Port.
proxied	Displays all proxied devices on this TL Port.
topology	Displays loop topology for this TL Port.
unsupported	Displays all unsupported devices on this TL Port.
list	Displays TL ports in all VSANs.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

The **show tlport** command displays the TL port interface configurations. This command provides a list of all TL ports configured on a box and displays the associated VSAN, the FCID for the port (only domain and area are valid), and the current operational state of the TL port (up or initializing).

Examples

The following example displays the TL ports in all VSANs.

```
switch# show tlport list
-----
Interface Vsan FC-ID    State
-----
fc1/16    1    0x420000 Init
fc2/26    1    0x150000 Up
```

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The following example displays the detailed information for a specific TL port.

```
switch# show tlport interface fc1/16 all
fc1/16 is up, vsan 1, FCID 0x420000
-----
alpa pWWN                                nWWN                                SCSI Type Device  FC-ID
-----
0x01 20:10:00:05:30:00:4a:de 20:00:00:05:30:00:4a:de Initiator Proxied 0xffffc42
0x73 22:00:00:20:37:39:ae:54 20:00:00:20:37:39:ae:54 Target    Private 0x420073
0xef 20:10:00:05:30:00:4a:de 20:00:00:05:30:00:4a:de Initiator Switch 0x0000ef
```

The following example displays TL port information for private devices.

```
switch# show tlport int fc1/16 pri
fc1/16 is up, vsan 1, FCID 0x420000
-----
alpa pWWN                                nWWN                                SCSI Type FC-ID
-----
0x73 22:00:00:20:37:39:ae:54 20:00:00:20:37:39:ae:54 Target    0x420073
0x74 22:00:00:20:37:38:d3:de 20:00:00:20:37:38:d3:de Target    0x420074
```

The following example displays TL port information for proxied devices.

```
switch# show tlport int fc1/16 prox
fc1/16 is up, vsan 1, FCID 0x420000
-----
alpa pWWN                                nWWN                                SCSI Type FC-ID
-----
0x01 20:10:00:05:30:00:4a:de 20:00:00:05:30:00:4a:de Initiator 0xffffc42
0x02 21:00:00:e0:8b:01:95:e7 20:00:00:e0:8b:01:95:e7 Initiator 0x420100
```

The following example displays the contents of the alpa-cache.

```
switch# show tlport alpa-cache
-----
alpa                pWWN                Interface
-----
0x02 22:00:00:20:37:46:09:bd    fc1/2
0x04 23:00:00:20:37:46:09:bd    fc1/2
```

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show topology

To display topology information for connected switches, use the **show topology** command.

show topology [**vsan** *vsan-id*]

Syntax	Description
vsan <i>vsan-id</i>	Displays information for a VSAN. The range is 1 to 4093.

Defaults	None.
----------	-------

Command Modes	EXEC mode.
---------------	------------

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines	None.
------------------	-------

Examples The following example displays topology information.

```
switch# show topology
```

```
FC Topology for VSAN 1 :
```

Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/1	0xef (239)	fc2/15	172.22.46.220
fc1/5	0xe6 (230)	fc1/5	172.22.46.222
fc1/6	0xe6 (230)	fc1/6	172.22.46.222
fc1/7	0xe6 (230)	fc1/7	172.22.46.222
fc1/8	0xe3 (227)	fc1/1	172.22.46.233
fc1/10	0xe6 (230)	fc1/10	172.22.46.222
fc1/11	0xe6 (230)	fc1/11	172.22.46.222
fc1/12	0xe6 (230)	fc1/12	172.22.46.222
fc1/13	0xe6 (230)	fc1/13	172.22.46.222
fc1/14	0xe6 (230)	fc1/14	172.22.46.222
fc1/15	0xe6 (230)	fc1/15	172.22.46.222
fc1/16	0xe6 (230)	fc1/16	172.22.46.222
fcip2	0xef (239)	fcip2	172.22.46.220

```
FC Topology for VSAN 73 :
```

Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/1	0x65 (101)	fc2/15	172.22.46.220
fcip2	0x65 (101)	fcip2	172.22.46.220

```
FC Topology for VSAN 4001 :
```

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Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/1	0xef(239)	fc2/15	172.22.46.220
fc1/5	0xeb(235)	fc1/5	172.22.46.222
fc1/6	0xeb(235)	fc1/6	172.22.46.222
fc1/7	0xeb(235)	fc1/7	172.22.46.222
fc1/8	0xed(237)	fc1/1	172.22.46.233
fc1/10	0xeb(235)	fc1/10	172.22.46.222
fc1/11	0xeb(235)	fc1/11	172.22.46.222
fc1/12	0xeb(235)	fc1/12	172.22.46.222
fc1/13	0xeb(235)	fc1/13	172.22.46.222
fc1/14	0xeb(235)	fc1/14	172.22.46.222
fc1/15	0xeb(235)	fc1/15	172.22.46.222
fc1/16	0xeb(235)	fc1/16	172.22.46.222
fcip2	0xef(239)	fcip2	172.22.46.220

FC Topology for VSAN 4002 :

Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/1	0xeb(235)	fc2/15	172.22.46.220
fc1/5	0xe9(233)	fc1/5	172.22.46.222
fc1/6	0xe9(233)	fc1/6	172.22.46.222
fc1/7	0xe9(233)	fc1/7	172.22.46.222
fc1/8	0x1c(28)	fc1/1	172.22.46.233
fc1/10	0xe9(233)	fc1/10	172.22.46.222
fc1/11	0xe9(233)	fc1/11	172.22.46.222
fc1/12	0xe9(233)	fc1/12	172.22.46.222
fc1/13	0xe9(233)	fc1/13	172.22.46.222
fc1/14	0xe9(233)	fc1/14	172.22.46.222
fc1/15	0xe9(233)	fc1/15	172.22.46.222
fc1/16	0xe9(233)	fc1/16	172.22.46.222
fcip2	0xeb(235)	fcip2	172.22.46.220

FC Topology for VSAN 4003 :

Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/1	0xdd(221)	fc2/15	172.22.46.220
fc1/5	0xdb(219)	fc1/5	172.22.46.222
fc1/6	0xdb(219)	fc1/6	172.22.46.222
fc1/7	0xdb(219)	fc1/7	172.22.46.222
fc1/8	0x60(96)	fc1/1	172.22.46.233
fc1/10	0xdb(219)	fc1/10	172.22.46.222
fc1/11	0xdb(219)	fc1/11	172.22.46.222
fc1/12	0xdb(219)	fc1/12	172.22.46.222
fc1/13	0xdb(219)	fc1/13	172.22.46.222
fc1/14	0xdb(219)	fc1/14	172.22.46.222
fc1/15	0xdb(219)	fc1/15	172.22.46.222
fc1/16	0xdb(219)	fc1/16	172.22.46.222
fcip2	0xdd(221)	fcip2	172.22.46.220

FC Topology for VSAN 4004 :

Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/9	0x01(1)	Port 1	172.22.46.226

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show trunk protocol

To display trunk protocol status, use the **show trunk protocol** command.

```
show trunk protocol
```

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays trunk protocol status.

```
switch# show trunk protocol
Trunk protocol is enabled
```

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show user-account

To display configured information about user accounts, use the **show user-account** command.

```
show user-account [user-name | iscsi]
```

Syntax Description		
	user-name	Specifies the user name.
	iscsi	Displays the iSCSI user account information.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays information for a specified user.

```
switch# show user-account user1
user:user1
    this user account has no expiry date
    roles:network-operator
no password set. Local login not allowed
Remote login through RADIUS is possible
```

The following example displays information for all users.

```
switch# show user-account
show user-account
user:admin
    this user account has no expiry date
    roles:network-admin

user:usam
    expires on Sat May 31 00:00:00 2003
    roles:network-admin network-operator

user:msam
    this user account has no expiry date
    roles:network-operator

user:user1
    this user account has no expiry date
    roles:network-operator
no password set. local login not allowed
Remote login through RADIUS is possible
```

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show users

To display all users currently accessing the switch, use the **show users** command.

show users

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays all users.

```
switch# show users
admin pts/7 Jan 12 20:56 (10.77.202.149)
admin pts/9 Jan 12 23:29 (modena.cisco.com)
admin pts/10 Jan 13 03:05 (dhcp-171-71-58-120.cisco.com)
admin pts/11 Jan 13 01:53 (dhcp-171-71-49-49.cisco.com)
```


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show version

To display the version of system software that is currently running on the switch, use the **show version** command.

```
show version [clock-module epld | epld url | image { bootflash: | slot0: | volatile: } image-filename
             | module slot [epld]]
```

Syntax Description		
clock-module		Displays all current EPLD versions on the clock module.
epld		Displays all current versions of EPLDs on a specified module.
epld url		Displays all EPLD versions that are available at the specified URL (bootflash:, ftp:, scp:, sftp:, slot0:, tftp:, or volatile:)
image		Displays the software version of a given image.
bootflash:		Specifies internal bootflash memory.
slot0:		Specifies CompactFlash memory or PCMCIA card.
volatile:		Specifies the volatile directory.
image-filename		Specifies the name of the system or kickstart image.
module slot		Displays the software version of a module in the specified slot.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.
	1.0(3)	Command was modified.
	3.0(1)	Added the clock-module option.

Usage Guidelines Use the **show version image** command to verify the integrity of the image before loading the images. This command can be used for both the system and kickstart images.

Use the **show version** command to verify the version on the active and standby supervisor modules before and after an upgrade.

Examples

The following examples display the versions of the system, kickstart, and failed images.

```
switch(boot)# show version image bootflash:system_image <-----system image
image name: m9500-sflek9-mz.1.0.3.bin
system:      version 1.0(3)
compiled:    10/25/2010 12:00:00
```

```
switch(boot)# show version image bootflash:kickstart_image <-----kickstart image
```

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```
image name: m9500-sflek9-kickstart-mz.1.0.3.upg.bin
kickstart:  version 1.0(3)
loader:     version 1.0(3)
compiled:   10/25/2010 12:00:00
```

```
switch# show version image bootflash:bad_image <-----failure case
Md5 Verification Failed
Image integrity check failed
```

The following example displays current EPLD versions for a specified module.

```
switch# show version module 2 epld
Module Number          2
EPLD Device            Version
-----
Power Manager          0x06
XBUS IO                0x07
UD chip Fix            0x05
Sahara                 0x05
```

The following example displays available EPLD versions.

```
switch# show version epld bootflash:m9000-epld-2.0.1b.img
MDS series EPLD image, built on Mon Sep 20 16:39:36 2004
Module Type            EPLD Device            Version
-----
MDS 9500 Supervisor 1  XBUS 1 IO              0x09
                      XBUS 2 IO              0x0c
                      UD Flow Control        0x05
                      PCI ASIC I/F          0x04
1/2 Gbps FC Module (16 Port)  XBUS IO                0x07
                      UD Flow Control        0x05
                      PCI ASIC I/F          0x05
1/2 Gbps FC Module (32 Port)  XBUS IO                0x07
                      UD Flow Control        0x05
                      PCI ASIC I/F          0x05
Advanced Services Module  XBUS IO                0x07
                      UD Flow Control        0x05
                      PCI ASIC I/F          0x05
                      PCI Bridge            0x05
IP Storage Services Module (8 Port)  Power Manager          0x07
                      XBUS IO                0x03
                      UD Flow Control        0x05
                      PCI ASIC I/F          0x05
                      Service Module I/F      0x0a
                      IPS DB I/F            0x1a
IP Storage Services Module (4 Port)  Power Manager          0x07
                      XBUS IO                0x03
                      UD Flow Control        0x05
                      PCI ASIC I/F          0x05
                      Service Module I/F      0x1a
Caching Services Module Power  Manager                0x08
                      XBUS IO                0x03
                      UD Flow Control        0x05
                      PCI ASIC I/F          0x05
                      Service Module I/F      0x72
                      Memory Decoder 0      0x02
                      Memory Decoder 1      0x02
MDS 9100 Series Fabric Switch  XBUS IO                0x03
                      PCI ASIC I/F          0x40000003
2x1GE IPS, 14x1/2Gbps FC Module  Power Manager          0x07
                      XBUS IO                0x05
                      UD Flow Control        0x05
                      PCI ASIC I/F          0x07
```

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IPS DB I/F

0x1a

The following example displays the entire output for the show version command.

```
switch# show version
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2006, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
Some parts of this software may be covered under the GNU Public
License or the GNU Lesser General Public License. A copy of
each such license is available at
http://www.gnu.org/licenses/gpl.html and
http://www.gnu.org/licenses/lgpl.html

Software
  BIOS:          version 1.1.0
  loader:        version 1.2(2)
  kickstart:     version 3.0(3) [gdb]
  system:        version 3.0(3) [gdb]

  BIOS compile time:      10/24/03
  kickstart image file is: bootflash:///boot-3.0.3
  kickstart compile time: 9/15/2006 10:00:00 [10/02/2006 06:26:25]
  system image file is:   bootflash:///isan-3.0.3
  system compile time:    9/15/2006 10:00:00 [10/02/2006 06:45:25]

Hardware
  cisco MDS 9509 ("Supervisor/Fabric-1")
  Intel(R) Pentium(R) III CPU with 1028604 kB of memory.

  bootflash: 251904 kB
  slot0:      251904 kB

172.22.31.238 kernel uptime is 0 days 0 hour 2 minute(s) 2 second(s)

Last reset at 744021 usecs after Tue Oct 21 14:55:11 1980
Reason: Reset Requested by CLI command reload
System version: 4.0(0.432)
Service:
```

The following examples display a before and after comparison scenario after the loader version is updated.

```
switch# show version
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
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License or the GNU Lesser General Public License. A copy of
each such license is available at
http://www.gnu.org/licenses/gpl.html and
http://www.gnu.org/licenses/lgpl.html

Software
  BIOS:          version 1.1.0
  loader:        version 1.2(1) <-----existing version
  kickstart:     version 3.0(3) [gdb]
  system:        version 3.0(3) [gdb]
```

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```

BIOS compile time:      10/24/03
kickstart image file is: bootflash:///boot-3.0.3
kickstart compile time: 9/15/2006 10:00:00 [10/02/2006 06:26:25]
system image file is:   bootflash:///isan-3.0.3
system compile time:    9/15/2006 10:00:00 [10/02/2006 06:45:25]

```

```
switch# show version
```

```

Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
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http://www.gnu.org/licenses/gpl.html and
http://www.gnu.org/licenses/lgpl.html

```

```
Software
```

```

  BIOS:      version 1.1.0
  loader:    version 1.2(2) <-----new version
  .....

```

The following example displays the version details for a specified module.

```
switch# show ver mod 4
```

Mod No	Mod Type	SW Version	SW Interim Version
4	LC	1.0(3)	1.0(3)

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show vrrp

To display the VRRP configuration information, use the **show vrrp** command.

```
show vrrp [ipv6 vr group-id [interface {gigabitethernet slot/port {configuration | statistics |
status} | mgmt 0 {configuration | statistics | status} | port-channel port-channel
{configuration | statistics | status} | vsan vsan-id {configuration | statistics | status}}]] |
statistics |
vr group-id [interface {gigabitethernet slot/port {configuration | statistics | status} | mgmt
0 {configuration | statistics | status} | port-channel port-channel {configuration | statistics
| status} | vsan vsan-id {configuration | or statistics | status}}]]
```

Syntax Description		
ipv6		Displays IPv6 virtual router information.
vr		Displays the virtual router information.
group-id		Specifies the group ID. The range is 1 to 255.
interface		Displays the interface type.
gigabitethernet		Displays the Gigabit Ethernet interface.
slot/port		Specifies the slot and port.
configuration		Displays the VRRP configuration.
statistics		Displays cumulative VRRP statistics.
status		Displays VRRP operational status.
mgmt 0		Displays the mgmt0 interface.
port-channel		Displays the Port Channel interface.
port-channel		Specifies the Port Channel.
vsan		Displays the VSAN interface.
vsan-id		Specifies the VSAN ID.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.
	3.0(1)	Added the IPv6 option.

Usage Guidelines None.

Examples The following example displays VRRP configured information.

```
switch# show vrrp vr 7 interface vsan 2 configuration
```

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```
vr id 7 configuration
admin state down
priority 100
no authentication
advertisement-Interval 1
preempt yes
tracking interface vsan1 priority 2
protocol IP
```

The following example displays VRRP status information.

```
switch# show vrrp vr 7 interface vsan 2 status
vr id 7 status
MAC address 00:00:5e:00:01:07
Operational state: init
```

The following example displays VRRP statistics.

```
switch# show vrrp vr 7 interface vsan 2 statistics
vr id 7 statistics
Become master 0
Advertisement 0
Advertisement Interval Error 0
Authentication Failure 0
TTL Error 0
Priority 0 Received 0
Priority 0 Sent 0
Invalid Type 0
Mismatch Address List 0
Invalid Authentication Type 0
Mismatch Authentication 0
Invalid Packet Length 0
```

The following example displays VRRP cumulative statistics.

```
switch# show vrrp statistics
Invalid checksum 0
Invalid version 0
Invalid VR ID 0
```

The following example displays VRRP IPv6 configuration information.

```
switch# show vrrp ipv6 vr 1 interface gigabitethernet 4/8 configuration
IPv6 vr id 1 configuration
admin state up
priority 100
associated ip: 2550:1::3:408:1 accept
advertisement-interval 100
preempt no
protocol IPv6
```

The following example displays VRRP IPv6 statistics information.

```
switch# show vrrp ipv6 vr 1 interface gigabitethernet 4/8 statistics
IPv6 vr id 1 statistics
Become master 1
Advertisement 0
Advertisement Interval Error 0
TTL Error 0
Priority 0 Received 0
Priority 0 Sent 0
Invalid Type 0
Mismatch Address List 0
Invalid Packet Length 0
```

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The following example displays VRRP IPv6 status information.

```
switch# show vrrp ipv6 vr 1 interface gigabitethernet 4/8 status
IPv6 vr id 1 status
MAC address 00:00:5e:00:02:01
Operational state: master
Up time 17 hour(s), 21 min, 43 sec
Master IP address: fe80::20c:30ff:fe0c:f6c7
```

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show vsan

To display information about configured VSAN, use the **show vsan** command.

```
show vsan [vsan-id [membership] | membership interface {fc slot/port | fcip fcip-id |
fv slot/dpp-number/fv-port | iscsi slot/port |
portchannel portchannel-number.subinterface-number}] | usage]
```



Note

On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs as follows:

```
interface {bay port | ext port}
```

Syntax Description

<i>vsan vsan-id</i>	Displays information for the specified VSAN ID. The range is 1 to 4093.
<i>membership</i>	Displays membership information.
<i>interface</i>	Specifies the interface type.
<i>fc slot/port</i>	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay ext port	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9124 Fabric Switch, a Cisco Fabric Switch for HP c-Class BladeSystem, and a Cisco Fabric Switch for IBM BladeCenter.
<i>fcip fcip-id</i>	Specifies a FC IP interface ID. The range is 1 to 255.
<i>fv slot/dpp-number/fv-port</i>	Specifies a virtual F port (FV port) interface in the specified slot along with the data path processor (DPP) number and the FV port number.
<i>iscsi slot/port</i>	Specifies the iSCSI interface in the specified slot/port on a Cisco MDS 9000 Family switch.
<i>port-channel portchannel-number.subinterface-number</i>	Specifies a PortChannel interface specified by the PortChannel number followed by a dot (.) indicator and the subinterface number.
<i>usage</i>	Displays VSAN usage in the system.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.2(2)	This command was modified.
3.1(2)	Added the bay ext interface.

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Usage Guidelines

For the **show vsan membership interface** command, interface information is not displayed if interfaces are not configured on this VSAN.

The interface range must be in ascending order and non-overlapping. You can specify a range using a hyphen and several interfaces using commas:

- The interface range format for an FC interface range is **fcslot/port - port , fcslot/port , fcslot/port**
(For example, **show int fc1/1 - 3 , fc1/5 , fc2/5**)
- The interface range format for an FV interface range is **fvslot/dppl/fvport - fvport , fvslot/dppl/port , fvslot/dppl/port**
(For example, **show int fv2/1/1 - 3 , fv2/1/5 , fv2/2/5**)
- The format for a PortChannel is **port-channel portchannel-number.subinterface-number**
(For example, **show int port-channel 5.1**)

Examples

The following examples displays configured VSAN information.

```
switch# show vsan 1
vsan 1 information
    name:VSAN0001 state:active
    interoperability mode:yes & verify mode
    loadbalancing:src-id/dst-id/oxid
    operational state:up

switch# show vsan usage
4 vsan configured
configured vsans:1-4
vsans available for configuration:5-4093

switch # show vsan 1 membership
vsan 1 interfaces:
    fc1/1  fc1/2  fc1/3  fc1/4  fc1/5  fc1/6  fc1/7  fc1/9
    fc1/10 fc1/11 fc1/12 fc1/13 fc1/14 fc1/15 fc1/16 port-channel 99
```

The following example displays membership information for all VSANs.

```
switch # show vsan membership
vsan 1 interfaces:
    fc2/16 fc2/15 fc2/14 fc2/13 fc2/12 fc2/11 fc2/10 fc2/9
    fc2/8  fc2/7  fc2/6  fc2/5  fc2/4  fc2/3  fc2/2  fc2/1
    fc1/16 fc1/15 fc1/14 fc1/13 fc1/12 fc1/11 fc1/10 fc1/9
    fc1/7  fc1/6  fc1/5  fc1/4  fc1/3  fc1/2  fc1/1

vsan 2 interfaces:
vsan 7 interfaces:
    fc1/8

vsan 100 interfaces:
vsan 4094(isolated vsan) interfaces:
```

The following example displays membership information for a specified interface.

```
switch # show vsan membership interface fc1/1
fc1/1
    vsan:1
    allowed list:1-4093

switch# show vsan
vsan 1 information
    name:VSAN0001 state:active
    interoperability mode:default
```

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```

        loadbalancing:src-id/dst-id/oxid
        operational state:up

vsan 2 information
    name:VmVSAN state:active
    interoperability mode:default
    loadbalancing:src-id/dst-id/oxid
    operational state:up

vsan 3 information
    name:Disk_A state:active
    interoperability mode:default
    loadbalancing:src-id/dst-id/oxid
    operational state:up

vsan 4 information
    name:Host_B state:active
    interoperability mode:default
    loadbalancing:src-id/dst-id/oxid
    operational state:up

vsan 4094:isolated_vsan

switch# show vsan membership interface fv 2/1/3 , fv2/1/5 - 7
fv2/1/3
    vsan:2
    allowed list:1-4093
fv2/1/5
    vsan:3
    allowed list:1-4093
fv2/1/6
    vsan:4
    allowed list:1-4093
fv2/1/7
    vsan:4
    allowed list:1-409

switch# sh vsan membership interface bay 12
bay12
    vsan:1
    allowed list:1-4093

```

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show wwn

To display the status of the WWN configuration, use the **show wwn** command.

```
show wwn {status block-id number | switch | vsan-wwn}
```

Syntax Description	
status block-id <i>number</i>	Displays WWN usage and alarm status for a block ID. The range is 34 to 1793.
switch	Displays switch WWN.
vsan-wwn	Displays all user-configured VSAN WWNs.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.
	3.0(1)	Added the vsan-wwn keyword.

Usage Guidelines None.

Examples The following example displays the WWN of the switch.

```
switch# show wwn switch
Switch WWN is 20:01:ac:16:5e:52:00:01
```

The following example displays a user-configured VSAN WWN.

```
switch# show wwn vsan-wwn
vsan wwn configured by user
-----
100 20:64:08:00:88:0d:5f:81
```

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show zone

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

```
show zone
  [active [vsan vsan-id] |
  ess [vsan vsan-id] |
  member {fcalias alias-name | fcid fcid-id [lun lun-id] | pwwn wwn [lun lun-id]} [active | vsan
  vsan-id] |
  name string [active] [vsan vsan-id] |
  statistics [lun-zoning [vsan vsan-id] | read-only-zoning [vsan vsan-id] | vsan vsan-id] |
  status [vsan vsan-range]
  vsan [vsan vsan-id]]
```

Syntax Description

active	Displays zones which are part of active zone set.
ess	Displays ESS information.
member	Displays all zones in which the given member is part of.
name	Displays members of a specified zone.
statistics	Displays zone server statistics.
status	Displays zone server current status.
vsan vsan-id	Displays zones belonging to the specified VSAN ID. The range is 1 to 4093.
lun lun-id	Specifies a LUN ID.
lun-zoning	Displays LUN zoning related statistics
read-only-zoning	Displays read-only zoning related statistics

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(4)	This command was introduced.
2.1(1a)	Modified the show zone status display.

Usage Guidelines

None.

Examples

The following example displays configured zone information.

```
switch# show zone
zone name Zone3 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:9c:48:e5
zone name Zone2 vsan 2
```

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```

fwwn 20:41:00:05:30:00:2a:1e
fwwn 20:42:00:05:30:00:2a:1e
fwwn 20:43:00:05:30:00:2a:1e
zone name Zone1 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:a6:be:2f
  pwwn 21:00:00:20:37:9c:48:e5
  fcalias Alias1
zone name Techdocs vsan 3
  ip-address 10.15.0.0 255.255.255.0

```

The following example displays zone information for a specific VSAN.

```

switch# show zone vsan 1
zone name Zone3 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:9c:48:e5
zone name Zone2 vsan 1
  fwwn 20:41:00:05:30:00:2a:1e
  fwwn 20:42:00:05:30:00:2a:1e
  fwwn 20:43:00:05:30:00:2a:1e
  fwwn 20:44:00:05:30:00:2a:1e
  fwwn 20:45:00:05:30:00:2a:1e
  fwwn 20:46:00:05:30:00:2a:1e
  fwwn 20:47:00:05:30:00:2a:1e
  fwwn 20:48:00:05:30:00:2a:1e
  fwwn 20:49:00:05:30:00:2a:1e
  fwwn 20:4a:00:05:30:00:2a:1e
  fwwn 20:4b:00:05:30:00:2a:1e
  fwwn 20:4c:00:05:30:00:2a:1e
  fwwn 20:4d:00:05:30:00:2a:1e
  fwwn 20:4e:00:05:30:00:2a:1e
  fwwn 20:4f:00:05:30:00:2a:1e
  fwwn 20:50:00:05:30:00:2a:1e
  fwwn 20:51:00:05:30:00:2a:1e
  fwwn 20:52:00:05:30:00:2a:1e
  fwwn 20:53:00:05:30:00:2a:1e
  fwwn 20:54:00:05:30:00:2a:1e
  fwwn 20:55:00:05:30:00:2a:1e
  fwwn 20:56:00:05:30:00:2a:1e
  fwwn 20:57:00:05:30:00:2a:1e
  fwwn 20:58:00:05:30:00:2a:1e
  fwwn 20:59:00:05:30:00:2a:1e
  fwwn 20:5a:00:05:30:00:2a:1e
  fwwn 20:5b:00:05:30:00:2a:1e
  fwwn 20:5c:00:05:30:00:2a:1e
  fwwn 20:5d:00:05:30:00:2a:1e
  fwwn 20:5e:00:05:30:00:2a:1e
  fwwn 20:5f:00:05:30:00:2a:1e
  fwwn 20:60:00:05:30:00:2a:1e
zone name Zone1 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:a6:be:2f
  pwwn 21:00:00:20:37:9c:48:e5
  fcalias Alias1

```

The following example displays members of a specific zone.

```

switch# show zone name Zone1
zone name Zone1 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:a6:be:2f
  pwwn 21:00:00:20:37:9c:48:e5
  fcalias Alias1

```

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The following example displays all zones to which a member belongs using the FCID.

```
switch# show zone member pwwn 21:00:00:20:37:9c:48:e5
      VSAN: 1
zone Zone3
zone Zone1
fcalias Alias1
```

The following example displays the number of control frames exchanged with other switches.

```
switch# show zone statistics
Statistics For VSAN: 1
*****
Number of Merge Requests Sent: 24
Number of Merge Requests Recvd: 25
Number of Merge Accepts Sent: 25
Number of Merge Accepts Recvd: 25
Number of Merge Rejects Sent: 0
Number of Merge Rejects Recvd: 0
Number of Change Requests Sent: 0
Number of Change Requests Recvd: 0
Number of Change Rejects Sent: 0
Number of Change Rejects Recvd: 0
Number of GS Requests Recvd: 0
Number of GS Requests Rejected: 0
Statistics For VSAN: 2
*****
Number of Merge Requests Sent: 4
...
Number of GS Requests Rejected: 0
```

The following example displays LUN-zoning details.

```
switch# show zone statistics lun-zoning
LUN zoning statistics for VSAN: 1
*****
S-ID: 0x123456, D-ID: 0x22222, LUN: 00:00:00:00:00:00:00:00
-----
Number of Inquiry commands received:      10
Number of Inquiry data No LU sent:        5
Number of Report LUNs commands received:  10
Number of Request Sense commands received: 1
Number of Other commands received:        0
Number of Illegal Request Check Condition sent: 0

S-ID: 0x123456, D-ID: 0x22222, LUN: 00:00:00:00:00:00:00:01
-----
Number of Inquiry commands received:      1
Number of Inquiry data No LU sent:        1
Number of Request Sense commands received: 1
Number of Other commands received:        0
Number of Illegal Request Check Condition sent: 0
```

The following example displays read-only zone details.

```
switch# show zone statistics read-only-zoning
Read-only zoning statistics for VSAN: 2
*****
S-ID: 0x33333, D-ID: 0x11111, LUN: 00:00:00:00:00:00:00:64
-----
Number of Data Protect Check Condition Sent: 12
```

The following example displays the status of the configured zones.

```
switch# show zone status
```

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```

VSAN: 1 default-zone: deny distribute: active only Interop: default
      mode: basic merge-control: allow session: none
      hard-zoning: enabled
Default zone:
      qos: low broadcast: disabled ronly: disabled
Full Zoning Database :
      Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
      Database Not Available
Status:
.....
VSAN: 3 default-zone: deny distribute: active only Interop: default
      mode: basic merge-control: allow session: none
      hard-zoning: enabled
Default zone:
      qos: low broadcast: disabled ronly: disabled
Full Zoning Database :
      Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
      Database Not Available
Status:

```

The following example checks the status of the **zoneset distribute vsan** command and displays the default zone attributes of a specific VSAN or all active VSANs.

```

switch# show zone status vsan 1
VSAN:1 default-zone:deny distribute:active only Interop:default
      mode:basic merge-control:allow session:none
      hard-zoning:enabled
Default zone:
      qos:low broadcast:disabled ronly:disabled
Full Zoning Database :
      Zonesets:0 Zones:0 Aliases:0
Active Zoning Database :
      Database Not Available
Status:

```

Table 22-12 describes the significant fields shown in the **show zone status vsan** display.

Table 22-12 *show zone status Field Descriptions*

Field	Description
VSAN:	VSAN number displayed
default-zone:	Default-zone policy either permit or deny.
Default zone:	The Default zone field displays the attributes for the specified VSAN. The attributes include: Qos level, broadcast zoning enabled/disabled, and read-only zoning enabled/disabled.
distribute:	Distribute full-zone set (full) or active-zone set (active only).
Interop:	Displays interop mode. 100 = default, 1 = standard, 2 and 3 = Non-Cisco Vendors.
mode:	Displays zoning mode either basic or enhanced.
merge control:	Displays merge policy either allow or restrict.
Hard zoning is enabled	If hardware resources (TCAM) becomes full, hard zoning is automatically disabled.

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Table 22-12 *show zone status Field Descriptions (continued)*

Field	Description
Full Zoning Database:	Displays values of zone database. Its zones filed displays the total number of zones present, which include those that does not belongs to any zonesets.
Active Zoning Database:	Displays values of active zone database.
Status:	Displays status of last zone distribution.

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show zone analysis

To display detailed analysis and statistical information about the zoning database, use the **show zone analysis** command.

```
show zone analysis { active vsan vsan-id | vsan vsan-id | zoneset name vsan vsan-id } |
```

Syntax Description		
active		Displays analysis information for the active zone set.
vsan vsan-id		Displays analysis information for the specified VSAN ID. The range is 1 to 4093.
zoneset name		Displays zone set analysis information for the specified zone set.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

Usage Guidelines None.


Examples The following example displays detailed statistics and analysis of the active zoning database.

```
switch# show zone analysis active vsan 1
Zoning database analysis vsan 1
Active zoneset : zs1 [* | -]
  Activated at: 14:36:56 UTC Oct 04 2005
  Activated From: Local [CLI / SNMP / GS / CIM / INTERNAL] or
                  Merge [interface] or
                  Remote [Domain, IP-Address]
                  [Switch name]
Default zone policy: permit/deny
Number of devices zoned in vsan: 8/10 (Unzoned: 2 | Default-zone: #)
Number of zone members resolved: 11/16 (Unresolved: 5)
Num zones: 1
Number of IVR zones: 2
Number of IPS zones: 3
Formatted database size: < 1 Kb / 2000 kb ( < 1% usage)
```

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Table 22-13 describes the fields displayed in the output of a **show zone analysis** command for the active zoning database.

Table 22-13 show zone analysis Field Descriptions for the Active Zoning Database

Field	Description
Active zoneset	Displays the active zone set name. If a zone set has changed in the full zoning database, an asterisk (*) appears after the zone set name. If the active zone set is not present in the full zoning database, a minus sign (-) appears after the zone set name.
Activated at	Displays the time the zone set was activated.
Activated from	<p>Displays the agent that most recently modified the active zoning database. The agent can be one of the following three types:</p> <ul style="list-style-type: none"> • Local: indicates that the active database was last modified locally through a configuration change from one of the following applications: <ul style="list-style-type: none"> – CLI: The active zoning database was modified by the user from the Command Line Interface. – SNMP: The active zoning database was modified by the user through the Simple Network Management Protocol (SNMP). – GS: The active zoning database was modified from the Generic Services (GS) client. – CIM: The active zoning database was modified by the applications using the Common Information Model (CIM). – INTERNAL: The active zoning database was modified as a result of an internal activation either from Inter-VSAN Routing (IVR) or from the IP Storage services manager. • Merge: indicates that the active database was last modified by the Merge protocol. The interface on which the merge occurred is also displayed. • Remote: indicates that the active database was last modified by the Change protocol, initiated by a remote switch. The domain, IP address, and switch name of the switch initiating the change are also displayed. <p> Note The switch name is displayed on the next line, aligned with the domain, only if the switch name is set. The default switch name <i>switch</i> and the <i>ip-address</i> are not displayed.</p>
Default zoning policy: permit/deny	Displays the status of the default zoning policy for this VSAN.

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Table 22-13 *show zone analysis Field Descriptions for the Active Zoning Database*

Field	Description
Number of devices zoned in vsan: a/b (Unzoned: c Default-zone: d)	<p>Displays the number of devices that are present in the zoning configuration.</p> <ul style="list-style-type: none"> • a = The number of unique resolved members in the active database. • b = The number of devices logged in, which is the same as the number of entries in the Fibre Channel name server (FCNS) database. • c = The number of devices logged in, but not zoned in the zoning configuration. • d = The number of devices in the default zone. d is displayed only if the default zoning policy is permit.
Number of zone members resolved: a/b (Unresolved: c)	<p>Displays the number of members that are resolved in this VSAN in the form: a out of b members in the zone set are resolved.</p> <p>The number of resolved members is not necessarily unique. For example, if a pWWN member and a fWWN member resolve to the same FC ID, then that member is counted as two resolved members out of two members present.</p> <ul style="list-style-type: none"> • a = The number of members resolved. • b = The total number of members present. • c = The total number of members unresolved.
Num zones	Displays the total number of zones that are present in the active zone set.
Number of IVR zones	Displays the number of zones added and activated by IVR.
Number of IPS zones	Displays the number of zones added and activated by the IP Storage services manager (IPS-MGR).
Formatted database size	<p>Displays the total size of the active database when formatted to be sent over the wire.</p> <p>The formatted database size is displayed in kilobytes (KB) in this format: < X KB / Y KB, as in the following example. Formatted database size: < 1 KB/2000 KB</p> <p>In this example, the formatted database size is less than 1 KB out of the maximum size of 2000 KB.</p>

The following example displays detailed statistics and analysis of the full zoning database.

```
switch# sh zone analysis vsan 1
  Zoning database analysis vsan 1
    Full zoning database
      Last updated at: 14:36:56 UTC Oct 04 2005
      Last updated by: Local [CLI / SNMP / GS / CIM / INTERNAL] or
                    Merge [interface] or
                    Remote [Domain, IP-Address]
                    [Switch name]

    Num zonesets: 1
```

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```


Num zones: 1
Num aliases: 0
Num attribute groups: 0
Formatted database size: < 1 Kb / 2000 kb ( < 1% usage)

Unassigned zones:
  zone name z1 vsan 1

```

Table 22-14 describes the fields displayed in the output of a **show zone analysis** command for the full zoning database.

Table 22-14 show zone analysis Field Descriptions for the Full Zoning Database

Field	Description
Last updated at	Displays a time stamp showing when the full zoning database was last updated.
Last Updated by	<p>Displays the agent that most recently modified the full zoning database. The agent can be one of the following three types:</p> <ul style="list-style-type: none"> • Local: indicates that the full database was last modified locally through a configuration change from one of the following applications: <ul style="list-style-type: none"> – CLI: The full zoning database was modified by the user from the Command Line Interface. – SNMP: The full zoning database was modified by the user through the Simple Network Management Protocol (SNMP). – GS: The full zoning database was modified from the Generic Services (GS) client. – CIM: The full zoning database was modified by the applications using the Common Information Model (CIM). – INTERNAL: The full zoning database was modified as a result of an internal activation either from Inter-VSAN Routing (IVR) or from the IP Storage services manager. • Merge: indicates that the full database was last modified by the Merge protocol. In this case, the interface on which the merge occurred is also displayed. • Remote: indicates that the full database was last modified by the Change protocol, initiated by a remote switch, when the full zone set distribution was enabled. The domain, IP address, and switch name of the switch initiating the change are also displayed. <p> Note The switch name is displayed on the next line, aligned with the domain, only if the switch name is set. The default switch name <i>switch</i> and the <i>ip-address</i> are not displayed.</p>
Num zonesets	Displays the total number of zone sets in the database.
Num zones	Displays the total number of zones in the database, including unassigned zones.

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Table 22-14 *show zone analysis Field Descriptions (continued)for the Full Zoning Database*

Field	Description
Num aliases	Displays the total number of aliases in the database, including unassigned FC aliases.
Num attribute groups	Displays the total number of attribute groups in the database. This field applies only when enhanced zoning is used.
Formatted database size	Displays the total size of the full database when formatted to be sent over the wire. The formatted database size is displayed in kilobytes in this format: < X KB / Y KB, as in the following example. Formatted database size: < 1 KB/2000 KB In this example, the formatted database size is less than 1 KB out of the maximum size of 2000 KB.
Unassigned zones	Displays all the unassigned zones in the VSAN. Only the names of the zones are displayed. The details about the members of the zone are not displayed in this section.

The following example displays zone set analysis information. See [Table 22-14](#) for a description of the fields in this example.

```
switch# show zone analysis zoneset zsl vsan 1
Zoning database analysis vsan 1
  Zoneset analysis: zsl
    Num zonesets: 1
    Num zones: 0
    Num aliases: 0
    Num attribute groups: 0
    Formatted size: 20 bytes / 2048 Kb
```

Related Commands

Command	Description
zone compact database	Compacts a zone database in a VSAN.

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show zone-attribute-group

To display the device name information, use the **show zone-attribute-group** command.

```
show zone-attribute-group [name group-name] | [pending] | [vsan vsan-id]
```

Syntax Description		
	name <i>group-name</i>	Displays the entire device name database.
	pending	Displays the pending device name database information.
	vsan <i>vsan-id</i>	Specifies a VSAN ID. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display the contents of pending zone attribute groups.

```
switch# show zone-autoboot-group pending
zone-attribute-group name $default_zone_attr_group$ vsan 4061
zone-attribute-group name admin-group vsan 4061
broadcast
```

Related Commands	Command	Description
	zone-attribute-group name	Configures zone attribute groups.

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show zoneset

To display the configured zone sets, use the **show zoneset** command.

```
show zoneset [[active [vsan vsan-id]] |
              [brief [active [vsan vsan-id] | vsan vsan-id]] |
              [name zoneset-name
               [active vsan vsan-id] |
               [brief [active vsan vsan-id | vsan vsan-id]] |
               [pending [active vsan vsan-id | brief [active vsan vsan-id | vsan vsan-id]] |
               [vsan vsan-id]] |
              [pending
               [active vsan vsan-id] |
               [brief [active vsan vsan-id | vsan vsan-id]] |
               [vsan vsan-id]] |
              [vsan vsan-id]]
```

Syntax Description		
active		Displays only active zone sets.
vsan		Displays the VSAN.
vsan-id		Specifies the ID of the VSAN. The range is 1 to 4093
brief		Displays zone set members in a brief list.
name		Displays members of a specified zone set.
zoneset-name		Specifies the zone set name. The maximum is 64.
pending		Displays zone sets members that are in session.

Defaults None.

Command Modes EXEC mode

Command History	Release	Modification
	1.2(2)	This command was modified.

Usage Guidelines None.

Examples The following example displays configured zone set information.

```
switch# show zoneset vsan 1
zoneset name ZoneSet2 vsan 1
```

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```

zone name Zone2 vsan 1
  fwwn 20:4e:00:05:30:00:2a:1e
  fwwn 20:4f:00:05:30:00:2a:1e
  fwwn 20:50:00:05:30:00:2a:1e
  fwwn 20:51:00:05:30:00:2a:1e
  fwwn 20:52:00:05:30:00:2a:1e
zone name Zone1 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:a6:be:2f
  pwwn 21:00:00:20:37:9c:48:e5
  fcalias Alias1
zoneset name ZoneSet1 vsan 1
zone name Zone1 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:a6:be:2f
  pwwn 21:00:00:20:37:9c:48:e5
  fcalias Alias1

```

The following example displays configured zone set information for a specific VSAN.

```

switch# show zoneset vsan 2-3
zoneset name ZoneSet2 vsan 1
zone name Zone2 vsan 1
  fwwn 20:52:00:05:30:00:2a:1e
  fwwn 20:53:00:05:30:00:2a:1e
  fwwn 20:54:00:05:30:00:2a:1e
  fwwn 20:55:00:05:30:00:2a:1e
  fwwn 20:56:00:05:30:00:2a:1e
zone name Zone1 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:a6:be:2f
  pwwn 21:00:00:20:37:9c:48:e5
  fcalias Alias1
zoneset name ZoneSet1 vsan 1
zone name Zone1 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:a6:be:2f
  pwwn 21:00:00:20:37:9c:48:e5
  fcalias Alias1

```