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## CHAPTER **22**

# Show Commands

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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.

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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                               |
|------------------|-------------------------------|---|
|                  | <b>aaa accounting default</b> | Configures the default accounting method. |

---

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## show aaa authentication

To determine whether or not password aging notification is enabled or disabled in the AAA server, use the **show aaa authentication** command.

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

| Syntax Description        |  |
|---------------------------|--|
| <b>login error-enable</b> | (Optional) Displays the authentication login error message enable configuration. |
| <b>login mschap</b>       | (Optional) 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 <b>login error-enable</b> option. |
|                 | 3.0(1)  | Added the <b>login mschap</b> option.       |

**Usage Guidelines** Password aging only works with ascii-authentication method.

**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 mschapv2

To display MS-CHAPv2 authentication for login, use the **show aaa authentication login mschapv2** command.

**show aaa authentication login mschapv2**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(1) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display MS-CHAPv2 authentication for login:

```
switch# show aaa authentication login mschapv2
MSCHAP V2 is disabled
switch#
```

| Related Commands | Command   | Description                                 |
|------------------|---|---|
|                  | <b>aaa authentication login mschapv2 enable</b> | Enables MS-CHAPv2 authentication for login. |

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## show aaa authentication login ascii-authentication

To display configured ascii authentication method, use the **show aaa authentication login ascii-authentication** command.

**show aaa authentication login ascii-authentication**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification   |
|-----------------|---------------|--|
|                 | NX-OS 4.1(3a) | enable the password aging command changed from <b>show aaa authentication login password-aging enable</b> to <b>show aaa authentication login ascii-authentication</b> . |

**Usage Guidelines** Password aging only works with ascii-authentication method.

**Examples** The following example shows how to enable ascii authentication:

```
switch#(config)# aaa authentication login ascii-authentication
switch#(config)#
```

| Related Commands | Command  | Description                              |
|------------------|--|--|
|                  | <b>aaa authentication login ascii-authentication</b> | Enables the ascii authentication method. |

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## show aaa authorization all

To display all authorization information, use the **aaa authorization all** command.

**show aaa authorization all**

---

**Syntax Description** This command has no arguments or keywords.

---

**Defaults** None.

---

**Command Modes** EXEC mode.

---

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(1) | This command was introduced. |

---



---

**Usage Guidelines** None.

---

**Examples** The following example shows how to display all authorization information:

```
switch# show aaa authorization all
AAA command authorization:
  default authorization for config-commands: local
  default authorization for commands: local
```

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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.

---

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 1.3(1)         | This command was introduced. |

---

---

**Usage Guidelines** None.

---

**Examples** This example shows how 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*]

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

| <b>Command</b>              | <b>Description</b>         |
|-----------------------------|----------------------------|
| <b>clear accounting log</b> | 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 example shows how to display 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                         |
|------------------|------------------------|-------------------------------------|
|                  | <b>clear arp-cache</b> | 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   |
|------------------|---|---|
|                  | <b>autonomous-fabric-id (IVR topology database configuration)</b> | Configures an autonomous fabric ID into the Inter-VSAN Routing (IVR) topology database. |

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| <b>Command</b>  | <b>Description</b>   |
|---|--|
| <b>autonomous-fabric-id (IVR service group configuration)</b> | Configures an autonomous fabric ID into the IVR service group. |
| <b>autonomous-fabric-id-database</b>                          | 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                             |
|------------------|--------------------|---|
|                  | <b>banner motd</b> | 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        | (Optional) 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         | (Optional) Displays the upper sup configuration.         |
|                    | sup-2         | (Optional) Displays the lower sup configuration.         |
|                    | variables     | (Optional) 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]**

|                           |   |
|---------------------------|---|
| <b>Syntax Description</b> | <b>list</b> (Optional) Displays the list of files to be auto-copied |
|---------------------------|---|

|                 |       |
|-----------------|-------|
| <b>Defaults</b> | None. |
|-----------------|-------|

|                      |            |
|----------------------|------------|
| <b>Command Modes</b> | EXEC mode. |
|----------------------|------------|

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 1.2(1)         | This command was introduced. |

|                         |       |
|-------------------------|-------|
| <b>Usage Guidelines</b> | 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           |  |
|------------------------------|--|
| <b>destination-profile</b>   | (Optional) Displays the Call Home destination profile information.                       |
| <b>profile</b>               | (Optional) Specifies the destination profile.  |
| <i>profile</i>               | Specifies a user-defined destination profile.  |
| <b>full-txt-destination</b>  | Specifies the full text destination profile.   |
| <b>short-txt-destination</b> | Specifies the short text destination profile.  |
| <b>XML-destination</b>       | Specifies the XML destination profile.   |
| <b>last action status</b>    | (Optional) Displays the status of the last CFS commit or discard operation.              |
| <b>last merge status</b>     | (Optional) Displays the status of the last CFS merge operation.                          |
| <b>pending</b>               | (Optional) Displays the status of pending Call Home configuration.                       |
| <b>pending-diff</b>          | (Optional) Displays the difference between running and pending Call Home configurations. |
| <b>transport-email</b>       | (Optional) Displays the Call Home e-mail transport information.                          |
| <b>user-def-cmds</b>         | (Optional) 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 <b>last action status</b> , <b>pending</b> , and <b>pending-diff</b> options. |
|                 | 3.0(1)  | Added the <b>user-def-cmds</b> 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**

| <b>Command</b>       | <b>Description</b>   |
|----------------------|--|
| <b>alert-group</b>   | Customizes a Call Home alert group with user-defined <b>show</b> commands. |
| <b>callhome</b>      | Configures Call Home.  |
| <b>callhome test</b> | 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                      |  |  |
|---|--|--|
| <b>all</b>                              |  | Displays all enabled CDP interfaces.   |
| <b>entry</b>                            |  | Displays CDP database entries.   |
| <b>all</b>                              |  | (Optional) Displays all CDP entries in the database  |
| <b>name <i>cdp-name</i></b>             |  | (Optional) Displays CDP entries that match a specified name. Maximum length is 256 characters.                   |
| <b>global</b>                           |  | Displays global CDP parameters.  |
| <b>interface</b>                        |  | Displays CDP information for neighbors on a specified interface.   |
| <b>gigabitethernet <i>slot/port</i></b> |  | (Optional) Specifies the Gigabit Ethernet interface at the slot number and port number separated by a slash (/). |
| <b>mgmt 0</b>                           |  | (Optional) Specifies the Ethernet management interface.  |
| <b>neighbors</b>                        |  | Displays all CDP neighbors.  |
| <b>detail</b>                           |  | (Optional) Displays detailed information for all CDP neighbors   |
| <b>interface</b>                        |  | Displays CDP information for neighbors on a specified interface.   |
| <b>traffic</b>                          |  | 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
```

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```

    Holdtime is 180 seconds
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: 209.165.200.226
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

```

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```
GigabitEthernet4/1 is up
  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: 209.165.200.226
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
```

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```
CDP v2 Packets: 0
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          |  |  |
|-----------------------------|--|--|
| <b>application</b>          |  | Displays locally registered applications.  |
| <b>name</b> <i>app-name</i> |  | (Optional) Specifies a local application information by name. Maximum length is 64 characters. |
| <b>lock</b>                 |  | Displays the state of application logical or physical locks.                                   |
| <b>merge status</b>         |  | (Optional) Displays CFS merge information.   |
| <b>peers</b>                |  | Displays logical or physical CFS peers.  |
| <b>status</b>               |  | 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"> <li>Added <b>status</b> keyword.</li> <li>Replaced <code>vsan</code> with <code>fc timer</code> for the <code>fc timer</code> application in the Application field in the command output.</li> </ul> |
|                 | 3.0(1)  | Modified the <b>show cfs application</b> 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  209.165.200.226 [Local]
20:00:00:0d:ec:08:66:c0  209.165.200.226
20:00:00:05:30:00:f1:e2  209.165.200.226
20:00:00:05:30:00:eb:46  209.165.200.226
```



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```
20:00:00:05:30:00:cb:56 209.165.200.227
20:00:00:05:30:00:5b:5e 209.165.200.228
20:00:00:05:30:00:34:9e 209.165.200.229
```

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 209.165.200.226 [Merge Master]
20:00:00:05:30:00:5b:5e 209.165.200.227
20:00:00:05:30:00:61:de 209.165.200.228
20:00:00:05:30:00:cb:56 209.165.200.229
20:00:00:05:30:00:eb:46 209.165.200.230
20:00:00:05:30:00:f1:e2 209.165.200.231
```

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               |            |  |
|----------------------------------|------------|--|
| <b>brief</b> <i>region-id</i>    | (Optional) | Displays all configured regions and applications without peers.    |
| <b>name</b> <i>name app-name</i> | (Optional) | Displays all peers and region information for a given application. |
| <b>region</b> <i>region-id</i>   | (Optional) | 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 209.165.200.226 [Local]
                        switch-
20:00:00:0d:ec:04:99:c1 209.165.200.226
                        switch-2.cisco.com
20:00:00:0d:ec:04:99:c2 209.165.200.226
                        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 209.165.200.226 [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 209.165.200.226 [Local]
                        switch 1
Total number of entries = 1
```

### Related Commands

| Command            | Description   |
|--------------------|---|
| <b>cfs regions</b> | 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                 |
|-----------------|---------|------------------------------|
|                 | 4.1(1b) | 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                 |
|-----------------|---------|------------------------------|
|                 | 4.1(1b) | 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                                   |
|------------------|-------------------------|---|
|                  | <b>cfs static peers</b> | Displays configured static peers with status. |

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## show cimserver

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

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

| Syntax Description | Parameter              | Description   |
|--------------------|------------------------|---|
|                    | <b>certificateName</b> | (Optional) Displays the installed Secure Socket Layer (SSL) certificate.        |
|                    | <b>HttpsStatus</b>     | (Optional) Displays the HTTP (non secure) protocol settings for the CIM server. |
|                    | <b>HttpStatus</b>      | (Optional) Displays the HTTPS (secure) protocol for the CIM server.             |
|                    | <b>status</b>          | (Optional) 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                         |
|------------------|---------------------------|-------------------------------------|
|                  | <b>cimserver loglevel</b> | Enters cimserver log level 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           |
|------------------|-------------------------|-----------------------|
|                  | <b>cimserver enable</b> | Starts the 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 name | (Optional) 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 <b>show cli alias</b> command shows the default alias and other user-defined aliases. The default alias is <b>alias</b> , which means <b>show cli alias</b> . |
|------------------|---|
|------------------|---|

| 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                   |
|------------------|-----------------------|-------------------------------|
|                  | <b>cli alias name</b> | 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 NX-OS. For more information about the **TIMESTAMP** variable, refer to the *Cisco MDS 9000 Family CLI Configuration Guide*.

| Related Commands | Command                             | Description                        |
|------------------|-------------------------------------|------------------------------------|
|                  | <b>cli var name</b>                 | Defines a CLI session variable.    |
|                  | <b>cli var name (configuration)</b> | 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.

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 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:

```
switch# 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                         |            |  |
|--|------------|--|
| <b>all</b>                                 | (Optional) | Displays all clouds and cloud members.   |
| <b>interface</b>                           | (Optional) | Displays all members of a cloud containing a specified interface.                    |
| <b>gigabitethernet</b><br><i>slot/port</i> |            | Specifies a Gigabit Ethernet interface by slot and port number. The range is 1 to 6. |
| <b>port-channel</b> <i>number</i>          |            | Specifies a PortChannel interface. The range is 1 to 128.                            |
| <b>unresolved</b>                          | (Optional) | 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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| <b>Related Commands</b> | <b>Command</b>                | <b>Description</b>                            |
|-------------------------|-------------------------------|---|
|                         | <b>cloud discover</b>         | Initiates manual, on-demand cloud discovery.  |
|                         | <b>cloud discovery</b>        | Configures cloud discovery.                   |
|                         | <b>cloud-discovery enable</b> | Enables discovery of cloud memberships.       |
|                         | <b>show cloud discovery</b>   | Displays discovery information about a cloud. |



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## show copyright

To display the NX-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.                     |
|                 | NX-OS 4.1(1b) | Changed the command output from SAN-OS to NX-OS. |

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

**Examples** The following example displays copyright information for NX-OS software:

```
switch# show copyright
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2008, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under
license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNU
Lesser General Public License (LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
switch#
```

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## show cores

To display all the cores presently available for uploading from the active supervisor, 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
```

|                           |                         |   |
|---------------------------|-------------------------|---|
| <b>Syntax Description</b> | <i>trustpoint-label</i> | Specifies the name of the trust point. The maximum size is 64 characters. |
| <b>Defaults</b>           | None.                   |   |
| <b>Command Modes</b>      | EXEC mode.              |   |
| <b>Command History</b>    | <b>Release</b>          | <b>Modification</b>   |
|                           | 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/OU=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                              |
|-------------------------------|--|
| <b>crypto ca authenticate</b> | Authenticates the certificate of the CA. |
| <b>show ca trustpoints</b>    | Displays trust point configurations.     |

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## show crypto ca crl

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

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

|                           |                         |   |
|---------------------------|-------------------------|---|
| <b>Syntax Description</b> | <i>trustpoint-label</i> | Specifies the name of the trust point. The maximum size is 64 characters. |
| <b>Defaults</b>           | None.                   |   |
| <b>Command Modes</b>      | EXEC mode.              |   |
| <b>Command History</b>    | <b>Release</b>          | <b>Modification</b>   |
|                           | 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: 1A751900000000000013
  Revocation Date: Apr  5 10:38:52 2005 GMT
Serial Number: 20F1B000000000000014
  Revocation Date: Apr  5 10:38:38 2005 GMT
Serial Number: 436E43A90000000000023
  Revocation Date: Sep  9 09:01:23 2005 GMT
  CRL entry extensions:
    X509v3 CRL Reason Code:
      Cessation Of Operation
Serial Number: 152D3C5E0000000000047
  Revocation Date: Sep 22 07:12:41 2005 GMT
Serial Number: 1533AD7F0000000000048
  Revocation Date: Sep 22 07:13:11 2005 GMT
Serial Number: 1F9EB8EA000000000006D
  Revocation Date: Jul 19 09:58:45 2005 GMT
  CRL entry extensions:
    X509v3 CRL Reason Code:
      Cessation Of Operation
Serial Number: 1FCA9DC6000000000006E
  Revocation Date: Jul 19 10:17:34 2005 GMT
  CRL entry extensions:
    X509v3 CRL Reason Code:
      Cessation Of Operation
Serial Number: 2F1B5E2E0000000000072
  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:
revocation methods: crl
```

| Related Commands | Command                            | Description  |
|------------------|------------------------------------|--|
|                  | <b>crypto ca authenticate</b>      | Authenticates the certificate of the CA.                                     |
|                  | <b>crypto ca trustpoint</b>        | Declares the trust point certificate authority that the switch should trust. |
|                  | <b>show crypto ca certificates</b> | 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                         |   |
|--|---|
| <b>interface gigabitethernet slot/port</b> | (Optional) Displays crypto IPsec domain information for the specified Gigabit Ethernet interface slot and port. |
| <b>security-association lifetime</b>       | (Optional) 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                 |            |   |
|------------------------------------|------------|---|
| <b>initiator</b>                   | (Optional) | Displays initiator configuration information.                         |
| <b>address</b> <i>ip-address</i>   |            | Specifies the initiator peer IP address.                              |
| <b>keepalive</b>                   | (Optional) | Displays keepalive for the IKE protocol in seconds                    |
| <b>key</b>                         | (Optional) | Displays pre-shared authentication keys.                              |
| <b>policy</b> <i>policy-number</i> |            | Displays IKE configuration policies for IPsec. The range is 1 to 255. |
| <b>sa</b>                          | (Optional) | 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                    |
|------------------|--------------------------------|--------------------------------|
|                  | <b>crypto ike domain ipsec</b> | Enters IKE configuration mode. |
|                  | <b>crypto ike enable</b>       | 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  |
|------------------|------------------------------------|--|
|                  | <b>crypto ca enroll</b>            | Requests certificates for the switch's RSA key pair. |
|                  | <b>crypto key generate<br/>rsa</b> | Generates an RSA key pair.                           |
|                  | <b>rsa keypair</b>                 | Configures 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                         |   |
|--|---|
| <b>interface gigabitethernet slot/port</b> | (Optional) Displays IPsec map information for a specific Gigabit Ethernet interface.                    |
| <b>tag tag-name</b>                        | (Optional) 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 = aclm100
        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                          |
|--------------------------------|--------------------------------------|
| <b>crypto ipsec enable</b>     | Enables IPsec.                       |
| <b>crypto map domain ipsec</b> | 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                         |   |
|--|---|
| <b>interface gigabitethernet slot/port</b> | (Optional) Displays IPsec security association information for a specific Gigabit Ethernet interface. |
| <b>inbound</b>                             | (Optional) Specifies the inbound association.   |
| <b>outbound</b>                            | (Optional) Specifies the outbound association.  |
| <b>sa-index index</b>                      | (Optional) 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**

| <b>Command</b>             | <b>Description</b> |
|----------------------------|--------------------|
| <b>crypto ipsec enable</b> | 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                         |  |
|--|--|
| <b>interface gigabitethernet slot/port</b> | (Optional) Displays SPD information for a specific Gigabit Ethernet interface. |
| <b>policy number</b>                       | (Optional) 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    |
|------------------|----------------------------|----------------|
|                  | <b>crypto ipsec enable</b> | 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]
```

|                           |                 |   |
|---------------------------|-----------------|---|
| <b>Syntax Description</b> | <i>set-name</i> | (Optional) Specifies the transform set name. Maximum length is 63 characters. |
|---------------------------|-----------------|---|

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

**Command Modes** EXEC mode.

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 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 information for all IPsec transform sets:

```
switch# show crypto transform-set domain ipsec
Transform set: ipsec_default_transform_set {esp-aes-256-ctr esp-aes-xcbc-mac}
will negotiate {tunnel}
```

| <b>Related Commands</b> | <b>Command</b>                           | <b>Description</b>                          |
|-------------------------|--|---|
|                         | <b>crypto ipsec enable</b>               | Enables IPsec.                              |
|                         | <b>crypto transform-set domain ipsec</b> | Configures IPsec transform set information. |

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## show debug

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

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

| Syntax Description | Parameter             | Description  |
|--------------------|-----------------------|--|
|                    | <b>cluster</b>        | Displays all the debugging flags.  |
|                    | <b>bypass</b>         | Displays the bypass flags.   |
|                    | <b>sap</b> <i>sap</i> | Displays all debugging flags of SAP. Specifies the SAP in the range from 1 to 65535. |
|                    | <b>sme</b>            | Displays all the debugging flags of Cisco SME.                                       |
|                    | <b>bypass</b>         | Displays all the bypass flags of Cisco SME.  |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                  |
|-----------------|---------------|-------------------------------|
|                 | 3.2(2c)       | This command was introduced.  |
|                 | NX-OS 4.1(1c) | Added the syntax description. |

**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                |
|------------------|------------------|----------------------------|
|                  | <b>debug sme</b> | Debugs Cisco SME features. |

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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 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
```

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

**Related Commands**

| <b>Command</b>   | <b>Description</b>                    |
|------------------|---------------------------------------|
| <b>debug npv</b> | 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 |  |  |
|--------------------|--|--|
| <b>cluster</b>     |  | Displays all the debugging flags.  |
| <b>bypass</b>      |  | Displays the bypass flags.   |
| <b>sap sap</b>     |  | Displays all debugging flags of SAP. Specifies the SAP in the range from 1 to 65535. |
| <b>sme</b>         |  | Displays all the debugging flags of Cisco SME.                                       |
| <b>bypass</b>      |  | 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                |
|------------------|------------------|----------------------------|
|                  | <b>debug sme</b> | 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

|                                |   |
|--------------------------------|---|
| <b>database</b>                | Displays the entire device name database.   |
| <b>pending</b>                 | (Optional) Displays the pending device name database information.   |
| <b>pending-diff</b>            | (Optional) Displays pending differences in the device name database information.  |
| <b>name <i>device-name</i></b> | Displays device name database information for a specific device name.   |
| <b>pwwn <i>pwwn-id</i></b>     | 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. |
| <b>statistics</b>              | Displays device name database statistics.   |
| <b>status</b>                  | 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:

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```

switch# show device-alias statistics
      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**

| <b>Command</b>                 | <b>Description</b>                     |
|--------------------------------|--|
| <b>device-alias name</b>       | Configures device alias names.         |
| <b>device-alias database</b>   | Configures device alias information.   |
| <b>device-alias distribute</b> | Enables device alias CFS distribution. |

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## show device-alias status

To view the current device alias mode setting, use the **device-alias status** command.

```
show device-alias status
```

|                           |  |
|---------------------------|--|
| <b>Syntax Description</b> | This command has no arguments or keywords. |
|---------------------------|--|

|                 |             |
|-----------------|-------------|
| <b>Defaults</b> | Basic mode. |
|-----------------|-------------|

|                      |            |
|----------------------|------------|
| <b>Command Modes</b> | EXEC mode. |
|----------------------|------------|

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 3.1(1)         | This command was introduced. |

|                         |       |
|-------------------------|-------|
| <b>Usage Guidelines</b> | None. |
|-------------------------|-------|

|                 |   |
|-----------------|---|
| <b>Examples</b> | The following example shows how to display the device alias status: |
|-----------------|---|

```
switch# show device-alias status
Fabric Distribution: Enabled
Database:- Device Aliases 0 Mode: Basic
Locked By:- User "admin" SWWN 20:00:00:0d:ec:30:90:40
Pending Database:- Device Aliases 0 Mode: Basic
```

| <b>Related Commands</b>      | <b>Command</b>                                      | <b>Description</b>                                   |
|------------------------------|---|--|
|                              | <b>device-alias commit</b>                          | Commits changes to the active device alias database. |
| <b>device-alias database</b> | Configures and activates the device alias database. |  |



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## show dmm discovery-log

To display SCSI device discovery logs, use the **show dmm discovery-log** command in EXEC mode.

```
show dmm discovery-log {all | error}
```

| Syntax Description | all   | Displays all entries in the device discovery SCSI log.   |
|--------------------|-------|--|
|                    | error | Displays error entries in the device discovery SCSI log. |

**Defaults** None.

**Command Modes** EXEC mode.

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

**Usage Guidelines** You must connect to an SSM on your switch to execute DMM **show** commands. Use the **show module** command to determine the slot number of an SSM on your switch. Use the **attach module** command to connect to the SSM.

**Examples** The following example displays error entries:

```
switch# attach module 3
Attaching to module 3 ...
To exit type 'exit', to abort type '$.'
Bad terminal type: "ansi". Will assume vt100.
module-3# show dmm discovery-log error
005 State: 3
CDB: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Sts:0x02 SnsKey:0x02 AscAscq:0x0403
Time:    5 (ms)

LogIndex:26 HostPWWN:2c:fc:00:05:30:01:9e:88 TargetPWWN:50:06:01:62:30:60:36:64
OPC: 0x00 Lun:0x0000000000000006 State: 3
CDB: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Sts:0x02 SnsKey:0x02 AscAscq:0x0403
Time:    4 (ms)
```

| Related Commands | Command                | Description                            |
|------------------|------------------------|--|
|                  | dmm module             | Enables DMM configuration on a module. |
|                  | show dmm srvr-vt-login | Enables the DMM feature.               |

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## show dmm fp-port

To display front panel ports on a line card, use the **show dmm fp-port** command in EXEC mode.

```
show dmm fp-port
```

**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. |

**Usage Guidelines** You must connect to an SSM on your switch to execute DMM **show** commands. Use the **show module** command to determine the slot number of an SSM on your switch. Use the **attach module slot** command to connect to the SSM.

**Examples** The following example displays front panel ports:

```
switch# attach module 3
Attaching to module 3 ...
To exit type 'exit', to abort type '$.'
Bad terminal type: "ansi". Will assume vt100.
module-3# show dmm fp-port
Cisco DMM Front Panel Port Map
```

| Port | Index | Mirage Id | DPP Id |
|------|-------|-----------|--------|
| 1    | 0     | 1         | 2      |
| 2    | 1     | 1         | 2      |
| 3    | 2     | 1         | 2      |
| 4    | 3     | 1         | 2      |
| 5    | 4     | 2         | 3      |
| 6    | 5     | 2         | 3      |
| 7    | 6     | 2         | 3      |
| 8    | 7     | 2         | 3      |
| 9    | 8     | 3         | 6      |
| 10   | 9     | 3         | 6      |
| 11   | 10    | 3         | 6      |
| 12   | 11    | 3         | 6      |
| 13   | 12    | 4         | 7      |
| 14   | 13    | 4         | 7      |
| 15   | 14    | 4         | 7      |
| 16   | 15    | 4         | 7      |
| 17   | 16    | 1         | 1      |
| 18   | 17    | 1         | 1      |

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|    |    |   |   |
|----|----|---|---|
| 19 | 18 | 1 | 1 |
| 20 | 19 | 1 | 1 |
| 21 | 20 | 2 | 4 |
| 22 | 21 | 2 | 4 |
| 23 | 22 | 2 | 4 |
| 24 | 23 | 2 | 4 |
| 25 | 24 | 3 | 5 |
| 26 | 25 | 3 | 5 |
| 27 | 26 | 3 | 5 |
| 28 | 27 | 3 | 5 |
| 29 | 28 | 4 | 8 |
| 30 | 29 | 4 | 8 |
| 31 | 30 | 4 | 8 |
| 32 | 31 | 4 | 8 |

#### Related Commands

| Command                       | Description                            |
|-------------------------------|--|
| <b>dmm module</b>             | Enables DMM configuration on a module. |
| <b>show dmm srvr-vt-login</b> | Enables the DMM feature.               |

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## show dmm ip-peer

To display information about the IP peers the DMM interface is connected to, use the **show dmm ip-peer** command in EXEC mode.

**show dmm ip-peer**

**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. |

**Usage Guidelines** You must connect to an SSM on your switch to execute DMM **show** commands. Use the **show module** command to determine the slot number of an SSM on your switch. Use the **attach module slot** command to connect to the SSM.

**Examples** The following example displays DMM IP peer information:

```
switch# attach module 3
Attaching to module 3 ...
To exit type 'exit', to abort type '$.'
Bad terminal type: "ansi". Will assume vt100.
module-3# show dmm ip-peer
```

```

                                Cisco DMM IP Peer Table
-----
No      Type                SD   IP Address      TCP State
-----
  1     CONFIG_STATION      23   10.100.2.1      DOWN
  2     PEER_SSM             22   10.100.1.20     UP
  3     CONFIG_STATION      19   10.100.2.1      DOWN
```

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## show dmm job

To display DMM job information, use the **show dmm job** command in EXEC mode.

```
show dmm job job-id { detail | job-fsm-eventlog | job-infra-fsm-eventlog | lun_tokens token
tok-pwwn | session [session_id sess-id] [session-event-log] | storage [tgt-pwwn tgt-pwwn]
{ vi-pwwn vi-pwwn } [lun-event-log lun-id | tgt-event-log] }
```

| Syntax Description                 |  |
|------------------------------------|--|
| <b>job-id</b>                      | Specifies the job ID. The range is 0 to 18446744073709551615.  |
| <b>detail</b>                      | Displays detailed job information.   |
| <b>job-fsm-eventlog</b>            | Displays the Job FSM Event Log.  |
| <b>job-infra-fsm-eventlog</b>      | Displays the Job Infra FSM Event Log.  |
| <b>lun_tokens</b>                  | Displays a list of job LUN tokens.   |
| <b>token</b> <i>tok-pwwn</i>       | Specifies the storage port world-wide name.  |
| <b>session</b>                     | Displays job session information.  |
| <b>session_id</b> <i>sess-id</i>   | (Optional) Specifies the job session. The range is 0 to 255.   |
| <b>session-event-log</b>           | (Optional) Displays the Session FSM Event Log.   |
| <b>storage</b>                     | Displays the storage ports discovered by DMM.  |
| <b>tgt-pwwn</b> <i>tgt-pwwn</i>    | (Optional) Specifies the storage port world-wide name. The format is hh:hh:hh:hh:hh:hh:hh:hh, where h is a hexadecimal number.           |
| <b>vi-pwwn</b> <i>vi-pwwn</i>      | (Optional) Specifies the Virtual Initiator port world-wide name. The format is hh:hh:hh:hh:hh:hh:hh:hh, where h is a hexadecimal number. |
| <b>lun-event-log</b> <i>lun-id</i> | (Optional) Displays the Virtual Initiator and Target LUN FSM event log and specifies the LUN ID.   |
| <b>tgt-event-log</b>               | (Optional) Displays the Virtual Initiator and Target FSM Event Log.  |

**Defaults** None.

**Command Modes** EXEC mode.

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

**Usage Guidelines** You must connect to an SSM on your switch to execute DMM **show** commands. Use the **show module** command to determine the slot number of an SSM on your switch. Use the **attach module slot** command to connect to the SSM.

**Examples** The following example shows how to display a summary of all the jobs:

```
switch# show dmm job job-id 1205450497 detail
```

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```

=====
                        Data Mobility Manager Job Details
=====
Job Identifier   : 1205450497
Job Name        : admin_2008/03/13-16:21
Job Type        : SERVER
Job Rate        : Default, no rate limiting
Job Mode        : ONLINE
Job Method      : METHOD-2
Job DPP         : 7
Peer SSM IP    : NOT_APPLICABLE
DMM GUI IP     : 10.1.0.25
Job FSM        : READY
Job Infra FSM  : DONE
-----
                        Job Schedule Information
-----
Date            : 0/ 0/0 [Month/Day/Year]
Time           : 0:0      [Hour:Min]
-----
                        Server Port List (Num Ports :1)
-----
Num  VSAN  Server pWWN                Virtual Initiator pWWN
-----
  1   100   21:01:00:e0:8b:28:5e:3e     20:40:00:0d:ec:0e:f4:03
-----
                        Storage Port List (Num Ports :2)
-----
Num  VSAN  Storage pWWN                Type  Virtual Target pWWN
-----
  1   100   50:06:0e:80:04:2c:5c:54     NS    20:44:00:0d:ec:0e:f4:03
  2   100   50:06:0e:80:04:2c:5c:74     ES    20:42:00:0d:ec:0e:f4:03
-----
                        DMM GUI PDU History
-----
Num  PDU Opcode                GUI IP  Rx                               Tx
-----
  1   DM_JOB_CREATE_REQ        10.1.0.25 Thu Mar 13 23:21:39 2008 Thu Mar 13 23:21:39
2008
  2   DM_JOB_INFRA_CREATE_REQ  10.1.0.25 Thu Mar 13 23:21:40 2008 Thu Mar 13 23:21:44
2008
  3   DM_JOB_LUNMAP_REQ        10.1.0.25 Thu Mar 13 23:21:45 2008 Thu Mar 13 23:21:45
2008
  4   DM_JOB_SESSION_ADD_REQ   10.1.0.25 Thu Mar 13 23:21:52 2008 Thu Mar 13 23:21:52
2008
  5   DM_JOB_SESSION_ADD_REQ   10.1.0.25 Thu Mar 13 23:21:53 2008 Thu Mar 13 23:21:53
2008
  6   DM_JOB_SESSION_ADD_REQ   10.1.0.25 Thu Mar 13 23:21:54 2008 Thu Mar 13 23:21:54
2008
  7   DM_JOB_SESSION_ADD_REQ   10.1.0.25 Thu Mar 13 23:21:55 2008 Thu Mar 13 23:21:55
2008
  8   DM_JOB_QUERY_REQ         10.1.0.25 Thu Mar 13 23:21:59 2008 Thu Mar 13 23:21:59
2008
-----
                        Job Timing Information [since the last start operation]
-----
Create Time      :Thu Mar 13 23:21:39 2008
Scheduled Time   :Not Applicable
Start Time      :Not Applicable

```

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```

Finish-request Time      :Not Applicable
Completed Time          :Not Applicable
Failed Time             :Not Applicable
Stopped Time            :Not Applicable
Verify Start Time       :Not Applicable
Verify Completed Time   :Not Applicable
Verify Failed Time      :Not Applicable
Attaching to module 3 ...

```

**Related Commands**

| <b>Command</b>                | <b>Description</b>                     |
|-------------------------------|--|
| <b>dmm module</b>             | Enables DMM configuration on a module. |
| <b>show dmm srvr-vt-login</b> | Enables the DMM feature.               |

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## show dmm module

To display DMM module information use the **show dmm module** command.

**show dmm module** *module-id* **vi-list**

| Syntax Description |                  |  |
|--------------------|------------------|--|
|                    | <i>module-id</i> | Specifies the module ID. The range is 1 to 13. |
|                    | <b>vi-list</b>   | Displays the VI list.                          |

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

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

| Command History | Release       | Modification   |
|-----------------|---------------|--|
|                 | NX-OS 4.1(1b) | Added the <b>vi-list</b> to syntax description and the command output. |
|                 | 3.2(1)        | This command was introduced.   |

**Usage Guidelines** The **show dmm module** command displays the list of VIs assigned to each data movement engine. A storage based data migration job uses one of these VIs. Use the command to choose the VI and then use the **dmm module job set-vi** command to specify the VI.

**Examples** The following example shows how to display a summary of all the jobs:

```
switch# show dmm module 4 vi-list
=====
DPP-Id   VI-pWWN                               VI-nWWN                               Outstanding jobs
=====
1        24:53:00:05:30:00:64:22  24:52:00:05:30:00:64:22  0
2        20:0d:00:05:30:00:64:22  2c:c4:00:05:30:00:64:21  0
3        20:0f:00:05:30:00:64:22  20:0e:00:05:30:00:64:22  0
4        24:55:00:05:30:00:64:22  24:54:00:05:30:00:64:22  0
5        24:57:00:05:30:00:64:22  24:56:00:05:30:00:64:22  0
6        20:11:00:05:30:00:64:22  20:10:00:05:30:00:64:22  0
7        24:51:00:05:30:00:64:22  24:50:00:05:30:00:64:22  0
8        24:59:00:05:30:00:64:22  24:58:00:05:30:00:64:22  0
```

| Related Commands | Command                       | Description                                 |
|------------------|-------------------------------|---|
|                  | <b>dmm module</b>             | Enables DMM configuration on a module.      |
|                  | <b>dmm module job set-vi</b>  | Specifies the VI for the storage based job. |
|                  | <b>show dmm srvr-vt-login</b> | Enables the DMM feature.                    |



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## show dmm srvr-vt-login

To display server virtual target login information, use the **show dmm srvr-vt-login** command in EXEC mode.

```
show dmm srvr-vt-login [job-id job-id] server-pwwn srvr-pwwn vt-pwwn vt-pwwn
{fc_rdrft-fsm-eventlog | login-fsm-eventlog}
```

| Syntax Description                     |   |  |
|--|---|--|
| <b>job-id</b> <i>job-id</i>            | (Optional) Specifies the job ID. The range is 0 to 18446744073709551615.  |  |
| <b>server-pwwn</b><br><i>srvr-pwwn</i> | Specifies the server port world-wide name. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number. |  |
| <b>vt-pwwn</b> <i>vt-pwwn</i>          | Specifies the VT port worldwide name. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number.      |  |
| <b>fc_rdrft-fsm-eventlog</b>           | Displays the server VT FC-Redirect FSM event log.   |  |
| <b>login-fsm-eventlog</b>              | Displays the server VT FSM event log.   |  |

**Defaults** None.

**Command Modes** EXEC mode.

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

**Usage Guidelines** You must connect to an SSM on your switch to execute DMM **show** commands. Use the **show module** command to determine the slot number of an SSM on your switch. Use the **attach module** command to connect to the SSM.

**Examples** The following example shows how to display the server VT login summary:

```
switch# show dmm srvr-vt-login
=====
Data Mobility Manager Server VT Login Information
=====
  Id Job Id VSAN Srvr pWWN Srvr FCID VT pWWN VT FCID
State (FC Redirect/Login)
=====
  1 1187978941 1 21:32:00:0d:ec:02:2d:82 0x660000 21:36:00:0d:ec:02:2d:82
0x660003 (READY/WAITING_PLOGI)
  2 1187978941 1 21:32:00:0d:ec:02:2d:82 0x660000 21:34:00:0d:ec:02:2d:82
0x66000a (READY/WAITING_PLOGI)

Number of Logins :2
```

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The following example shows how to display the event log for a specified VT:

```
switch# show dmm srvr-vt-login job-id 1187978941 server-pwvwn 21:32:00:0d:ec:02:2d:82
vt-pwvwn 21:36:00:0d:ec:02:2d:82 login-fsm-e
=====
Server/VT Login FSM Event Log -> Job Id : 1187978941 Server : 21:32:00:0d:ec:02:2d:82 VT
: 21:36:00:0d:ec:02:2d:82
=====

Log Entry: 1 time: Fri Aug 24 11:09:19 2007
Curr state: DMM_SRVR_VT_LOGIN_S_NULL
Triggered event: DMM_SRVR_VT_LOGIN_E_START_ACTION

Log Entry: 2 time: Fri Aug 24 11:09:19 2007
Curr state: DMM_SRVR_VT_LOGIN_S_WAITING_PLOGI
Triggered event: DMM_SRVR_VT_LOGIN_E_LOGIN_DONE_OK
```

#### Related Commands

| Command                       | Description                            |
|-------------------------------|--|
| <b>dmm module</b>             | Enables DMM configuration on a module. |
| <b>show dmm srvr-vt-login</b> | Displays the DMM feature.              |

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## show dmm vt

To display virtual target information, use the **show dmm vt** command in EXEC mode.

```
show dmm vt vt-job-id job-id pwwn vt-pwwn vt-fsm-eventlog
```

| Syntax Description | vt-job-id job-id | Specifies the virtual target job ID. The range is 0 to 18446744073709551615.  |
|--------------------|------------------|---|
|                    | pwwn vt-pwwn     | Specifies the virtual target port worldwide name. The format is hh:hh:hh:hh:hh:hh:hh:hh, where h is a hexadecimal number. |
|                    | vt-fsm-eventlog  | Displays the virtual target (VT) Finite State Machine (FSM) event log.  |

**Defaults** None.

**Command Modes** EXEC mode.

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

**Usage Guidelines** You must connect to an SSM on your switch to execute DMM **show** commands. Use the **show module** command to determine the slot number of an SSM on your switch. Use the **attach module slot** command to connect to the SSM.

**Examples** The following example shows how to display the virtual target information:

```
switch# attach module 3
Attaching to module 3 ...
To exit type 'exit', to abort type '$.'
Bad terminal type: "ansi". Will assume vt100.
module-3# show dmm vt
=====
Data Mobility Manager VT Information
=====
  Id Job Id      VT pWWN                VSAN FCID      IF-IDX      PORT      STATE
-----
  1  1177009472  2f:00:00:05:30:01:9e:88    3    0xee00a0    0x1110000    0x10      VT_UP
  2  1177009472  2c:fe:00:05:30:01:9e:88    3    0xee00a1    0x1110000    0x10      VT_UP
Number of VTs :2
```

| Related Commands | Command                | Description                            |
|------------------|------------------------|--|
|                  | dmm module             | Enables DMM configuration on a module. |
|                  | show dmm srvr-vt-login | Displays the DMM feature.              |

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## ssm enable feature dmm

To enable DMM, use the **ssm enable feature dmm** command in configuration mode. To disable DMM, use the **no** form of the command.

```
ssm enable feature dmm {force {interface fc slot/port | module slot} | interface fc slot/port |
module slot}
```

```
no ssm enable feature dmm {force {interface fc slot/port | module slot} | interface fc slot/port |
module slot}
```

### Syntax Description

|                     |  |
|---------------------|--|
| <b>force</b>        | Forces a switching module reload.                  |
| <b>interface</b>    | Specifies the interface.                           |
| <b>fc slot/port</b> | Specifies the Fiber Channel slot and port numbers. |
| <b>module slot</b>  | Specifies the SSM module slot number.              |

### Defaults

Disabled.

### Command Modes

Configuration mode.

### Command History

| Release | Modification                 |
|---------|------------------------------|
| 3.2(1)  | This command was introduced. |

### Usage Guidelines

Starting with NX-OS 4.1(1b), DMM must be enabled using the **ssm enable feature dmm** command before using the SLD tool.

### Examples

The following example shows how to enable DMM on a module:

```
switch# config t
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# ssm enable feature dmm module 1
```

The following example shows how to enable DMM on an interface:

```
switch# config t
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# ssm enable feature dmm interface fc 1/1 - 4
```

The following example shows how to force a reload on some of the ports on a module:

```
switch# config t
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# ssm enable feature dmm force interface fc 1/1 - 8, fc 1/13 - 16
```

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| Related Commands | Command                      | Description   |
|------------------|------------------------------|---|
|                  | <b>show dmm ip-peer</b>      | Displays DMM job information.                               |
|                  | <b>show ssm provisioning</b> | Displays information about features provisioned on the SSM. |

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## storage (DMM job configuration submode)

To add a storage port to a DMM job, use the **storage** command in DMM job configuration submode.

```
storage vsan vsan-id pwwn port-wwn {existing | new}
```

| Syntax Description | vsan <i>vsan-id</i>         | Specifies the VSAN ID. The range is 1 to 4093.  |
|--------------------|-----------------------------|---|
|                    | <b>pwwn</b> <i>port-wwn</i> | Specifies the world-wide name of the storage port. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number. |
|                    | <b>existing</b>             | Specifies a port on the existing storage.   |
|                    | <b>new</b>                  | Specifies a port on the new storage.  |

**Defaults** None.

**Command Modes** DMM job configuration submode.

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

**Usage Guidelines** None.

**Examples** The following example shows how to add storage information to a DMM job:

```
switch# config t
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# dmm module 3 job 1 create
Started New DMM Job Configuration.
Do not exit sub-mode until configuration is complete and committed
switch(config-dmm-job)# storage vsan 3 pwwn 1d:22:3a:21:3c:44:3b:51 existing
switch(config-dmm-job)#
```

| Related Commands | Command                       | Description               |
|------------------|-------------------------------|---------------------------|
|                  | <b>show dmm ip-peer</b>       | Displays job information. |
|                  | <b>show dmm srvr-vt-login</b> | Enables DMM.              |

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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 | Parameter           | Description  |
|--------------------|---------------------|--|
|                    | <b>database</b>     | Displays both the configured and active DPVM databases.                                |
|                    | <b>active</b>       | Displays only the active DPVM database.  |
|                    | <b>pending</b>      | Displays pending DPVM operations.  |
|                    | <b>pending-diff</b> | Displays differences between the pending DPVM operations and the active DPVM database. |
|                    | <b>ports</b>        | Displays DPVM information for the ports.   |
|                    | <b>vsan vsan-id</b> | Specifies a VSAN ID. The range is from 0 to 4093.                                      |
|                    | <b>status</b>       | 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                   |
|------------------|----------------------|-------------------------------|
|                  | <b>dpvm database</b> | Configures the DPVM database. |

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## show dpvm merge statistics

To display the DPVM merge statistics, use the **show dpvm merge statistics** command.

**show dpvm merge statistics**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.1(1b) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display the DPVM merge statistics:

```
switch# show dpvm merge statistics
DPVM merge statistics:
=====
Merge request received      : 0
Merge response sent        : 0
Merge response received    : 0
Activate request sent      : 0
Activate response received : 0
Application response sent  : 0
Merge success received     : 0
Merge failure received     : 0
switch#
```

| Related Commands | Command                            | Description                       |
|------------------|------------------------------------|-----------------------------------|
|                  | <b>clear dpvm merge statistics</b> | Clears the DPVM merge statistics. |



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## show dpvm merge status

To display the DPVM merge status, use the **dpvm merge status** command.

**show dpvm merge status**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.1(1b) | Enhanced the command output. |

**Usage Guidelines** None.

**Examples** The following example shows how to display the conflict in DPVM database:

```
switch# show dpvm merge status
Last Merge Time Stamp      : Fri Aug  8 15:46:36 2008
Last Merge State          : Fail
Last Merge Result         : Fail
Last Merge Failure Reason : DPVM DB conflict found during merge [cfs_status: 76] Last
Merge Failure Details     : DPVM merge failed due to database conflict
Local Switch WWN          : 20:00:00:0d:ec:24:e5:00
Remote Switch WWN        : 20:00:00:0d:ec:09:d5:c0

-----
              Conflicting DPVM member(s)                Loc VSAN   Rem VSAN
-----
dev-alias dpvm_dev_alias_1 [21:00:00:04:cf:cf:45:ba]    1313       1414
dev-alias dpvm_dev_alias_2 [21:00:00:04:cf:cf:45:bb]    1313       1414
dev-alias dpvm_dev_alias_3 [21:00:00:04:cf:cf:45:bc]    1313       1414
[Total 3 conflict(s)]
switch#
```

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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 |   |
|--------------------|---|
| <b>clock</b>       | (Optional) Displays status of chassis clock modules.  |
| <b>fan</b>         | (Optional) Displays status of chassis fan modules.  |
| <b>power</b>       | (Optional) Displays status of power supply modules, power supply redundancy mode and power usage summary. |
| <b>temperature</b> | (Optional) 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                                   |
|----------------------|---|
| <b>show hardware</b> | Displays all hardware components on a system. |

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## show event manager environment

To display the name and value of Embedded Event Manager (EEM) environment variables, use the **show event manager environment** command.

```
show event manager environment {variable-name | all}
```

### Syntax Description

|                      |  |
|----------------------|--|
| <i>variable-name</i> | Displays information about the specified environment variable. |
| <b>all</b>           | Displays information about all environment variables.          |

### Defaults

None.

### Command Modes

EXEC mode.

### Command History

| Release      | Modification                 |
|--------------|------------------------------|
| NX-OS 4.1(3) | This command was introduced. |

### Usage Guidelines

None.

### Examples

The following example shows all the EEM environment variables:

```
switch# show event manager environment all
switch#
```

### Related Commands

| Command                          | Description                           |
|----------------------------------|---------------------------------------|
| <b>event manager environment</b> | Displays an EEM environment variable. |

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## show event manager policy

To display the registered Embedded Event Manager (EEM) policies, use the **show event manager policy** command.

**show event manager policy** [**detail**] [*policy-name* | **inactive**]

| Syntax Description | detail             | (Optional) Displays details of all policies.               |
|--------------------|--------------------|--|
|                    | <i>policy-name</i> | (Optional) Specifies a policy-name policy to display.      |
|                    | <b>inactive</b>    | (Optional) Displays only those policies that are inactive. |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.1(3) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display the EEM policies:

```
switch# show event manager policy
switch
```

| Related Commands | Command                     | Description  |
|------------------|-----------------------------|--|
|                  | <b>event manager applet</b> | Displays an applet with the Emedded Event manager. |

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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     |  |   |
|------------------------|--|---|
| <b>database</b>        |  | Displays configured database information.                               |
| <b>active</b>          |  | Displays the active database configuration information.                 |
| <b>vsan vsan-id</b>    |  | (Optional) Specifies the FICON-enabled VSAN ID. The range is 1 to 4093. |
| <b>efmd statistics</b> |  | Displays Exchange Fabric Membership Data (EFMD) statistics.             |
| <b>statistics</b>      |  | Displays fabric binding statistics.                                     |
| <b>status</b>          |  | Displays fabric binding status.   |
| <b>violations</b>      |  | Displays violations in the fabric binding configuration.                |
| <b>last number</b>     |  | (Optional) 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   |
|--------------------|----------------------|---|
|                    | <b>explicit-path</b> | (Optional) Displays all configured explicit paths.                                |
|                    | <i>name</i>          | (Optional) Specifies the explicit path name. The maximum length is 16 characters. |
|                    | <b>tunnel-id-map</b> | (Optional) 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 |  |   |
|--------------------|--|---|
| <b>bind</b>        |  | Displays FC2 socket bindings.                                       |
| <b>classf</b>      |  | Displays FC2 classf sessions.                                       |
| <b>exchange</b>    |  | Displays FC2 active exchanges.                                      |
| <b>exchresp</b>    |  | Displays FC2 active responder exchanges.                            |
| <b>flogi</b>       |  | Displays FC2 FLOGI table.   |
| <b>nport</b>       |  | Displays FC2 local N ports.   |
| <b>plogi</b>       |  | Displays FC2 PLOGI sessions.  |
| <b>plogi_pwwn</b>  |  | Displays FC2 PLOGI pWWN entries.                                    |
| <b>port brief</b>  |  | Displays FC2 physical port table.                                   |
| <b>socket</b>      |  | Displays FC2 active sockets.  |
| <b>sockexch</b>    |  | Displays FC2 active exchanges for each socket.                      |
| <b>socknotify</b>  |  | Displays FC2 local N port PLOGI/LOGO notifications for each socket. |
| <b>socknport</b>   |  | Displays FC2 local N ports per each socket.                         |
| <b>vsan</b>        |  | 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 SINDEXT 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 fffffd ffffff 22 03:01:00 14:15:16:00:00:00:00:00
b294b180 7 ffffffff 65535 fffffd 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 fffffd 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 ffffff 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 ffffff 3 0 ffffffff c800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
1 65535 fffffc ffffff 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 10000 2000
8000 0000 2112 0001 0001 8000 0256 8000 0256
1 D 1 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 10000 2000
8000 0000 2112 0001 0001 8000 0256 8000 0256
3 D 1 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 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

|                                 |  |
|---------------------------------|--|
| <b>name</b> <i>fcalias-name</i> | (Optional) Displays fcalias information for a specific name. The maximum length is 64. |
| <b>pending</b>                  | (Optional) Displays pending fcalias information.                                       |
| <b>vsan</b> <i>vsan-id</i>      | (Optional) 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 <b>pending</b> 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               |
|---------------------|---------------------------|
| <b>fcalias name</b> | 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.

---

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 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  |
|-----------------------------|--|
| <b>statistics interface</b> | (optional) Displays FCC statistics for a specified interface.  |
| <b>fc slot/port</b>         | (optional) Specifies a Fibre Channel interface.                |
| <b>fcip fcip-id</b>         | (optional) Specifies an FCIP interface. The range is 1 to 255. |
| <b>iscsi slot/port</b>      | (optional) 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

|                            |  |
|----------------------------|--|
| <b>address-allocation</b>  | (Optional) Displays statistics for the FC ID allocation.   |
| <b>cache</b>               | (Optional) 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. |
| <b>allowed</b>             | Displays a list of allowed domain IDs.   |
| <b>domain-list</b>         | Displays a list of domain IDs granted by the principal switch.   |
| <b>fcid persistent</b>     | Displays persistent FC IDs (across reboot).  |
| <b>unused pending</b>      | Displays the pending configuration.  |
| <b>vsan vsan-id</b>        | Specifies a VSAN ID. The range is 1 to 4093.   |
| <b>pending-diff</b>        | Displays the difference between the running configuration and the pending configuration.   |
| <b>session-status</b>      | Displays the last action performed by FC domain.   |
| <b>statistics</b>          | Displays the statistics of FC domain.  |
| <b>interface</b>           | Specifies an interface.  |
| <b>fc slot/port</b>        | Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.   |
| <b>bay port   ext port</b> | (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.   |
| <b>fcip fcip-id</b>        | Specifies an FCIP interface. The range is 1 to 255.  |
| <b>iscsi slot/port</b>     | Specifies an iSCSI interface.  |
| <b>port-channel</b>        | Specifies a PortChannel interface. The range is 1 to 128.  |
| <b>status</b>              | Displays all VSAN-independent information in FC domain.  |

### Defaults

None.

### Command Modes

EXEC mode.

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### Command History

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

### Usage Guidelines

Entering 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)]
```

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

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**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 <b>show fcdomain domain-list</b> 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
Result: Success
```

■ show fcdomain

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---

**Related Commands**

| <b>Command</b>  | <b>Description</b>                           |
|-----------------|--|
| <b>fcdomain</b> | 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 | (Optional) Network latency in milliseconds. |
|--------------------|---------|---|
|                    | switch  | (Optional) 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      |            |  |
|-------------------------|------------|--|
| <b>aggregated</b>       | (optional) | Displays aggregated fcflow statistics.                         |
| <b>usage</b>            | (optional) | Displays flow index usage.                                     |
| <b>module slot</b>      |            | Displays fcflow statistics for a module in the specified slot. |
| <b>index flow-index</b> | (optional) | 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       |            |  |
|--------------------------|------------|--|
| <b>idxmap</b>            |            | Displays the FC forward index tables.                  |
| <b>interface-to-port</b> | (Optional) | Displays the interface index to port index table.      |
| <b>port-to-interface</b> | (Optional) | Displays the port index to interface index table.      |
| <b>statistics</b>        | (Optional) | Displays index table statistics.                       |
| <b>pemap</b>             |            | Displays the FC forward PortChannel table.             |
| <b>interface</b>         | (Optional) | Displays PortChannel tables for an interface.          |
| <b>sfib</b>              |            | Displays software forwarding tables.                   |
| <b>multicast</b>         | (Optional) | Displays multicast software forwarding tables.         |
| <b>statistics</b>        | (Optional) | Displays software forwarding statistics.               |
| <b>unicast</b>           | (Optional) | Displays unicast software forwarding tables.           |
| <b>spanmap</b>           |            | Displays SPAN map tables.                              |
| <b>rx</b>                | (Optional) | Displays SPAN map tables in the ingress -rx direction. |
| <b>tx</b>                | (Optional) | 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.  |
|--------------------|-------------------|---|
|                    | <b>company-id</b> | Selects company ID list.  |
|                    | <i>company-id</i> | (Optional) Selects the individual company ID (also known 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** The following example displays the current configuration mode on a switch :

```
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
```

| Related Commands | Command                                | Description                                     |
|------------------|--|---|
|                  | <b>show fc-redirect active-configs</b> | 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 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
=====
App1 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
=====
App1 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**

| <b>Command</b>                     | <b>Description</b>                                    |
|------------------------------------|---|
| <b>clear fc-redirect config vt</b> | 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 lists the output for the **show fc-redirect peer-switches** command 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.     |

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**Table 22-3 Show FC-Redirect Peer Switch States**

| State   | Description   |
|---------|---|
| Syncing | The local switch is synchronizing its configuration with the peer switch. |
| Error   | Connection with peer switch is not available.                             |

#### 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

|                                       |   |
|---------------------------------------|---|
| <b>host-map</b> <i>fcip-id</i>        | Displays the information for a specified map. The range is 1 to 255.                              |
| <b>profile</b>                        | Displays the information for a profile.   |
| <i>profile-id</i>                     | (Optional) Specifies the profile ID. The range is 1 to 255.                                       |
| <b>all</b>                            | (Optional) Specifies all profile IDs.   |
| <b>summary</b>                        | Displays summary information.   |
| <b>tape-session</b>                   | Displays tape session information.  |
| <b>tunnel</b> <i>tunnel-id</i>        | Displays information for a specified FCIP tunnel ID. The range is 1 to 255.                       |
| <b>host-end</b>                       | Displays information for the host end.  |
| <b>target-end</b>                     | Displays information for the target end.  |
| <b>target-map</b> <i>fcip-id</i>      | Displays information for a specified target map. The range is 1 to 255.                           |
| <b>wa-login-list</b> <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 <b>host-map</b> , <b>summary</b> , and <b>target-map</b> keywords.   |
| 3.0(1)  | Added the <b>tape-session</b> , <b>tunnel</b> , <b>host-end</b> , <b>target-end</b> , and <b>wa-login-list</b> 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] | vsan vsan-id }
```

| Syntax Description | detail                         | Displays all objects in each entry.  |
|--------------------|--------------------------------|--|
|                    | <b>vsan</b> <i>vsan-id</i>     | (Optional) Displays entries for a specified VSAN ID. The range is 1 to 4093. |
|                    | <b>domain</b> <i>domain-id</i> | Displays entries in a domain.  |
|                    | <b>vsan</b> <i>vsan-range</i>  | Displays the VSAN range. The range is 1 to 4093.                             |
|                    | <b>fcid</b> <i>fcid-id</i>     | Displays entry for the given port.   |
|                    | <b>local</b>                   | Displays local entries.  |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification  |
|-----------------|--------------|---|
|                 | NX-OS 4.2(1) | Changed the command output for <b>show fcns database</b> and <b>show fcns database detail</b> . ( Two attributes are added to the command output <b>Connected Interface :fc3/4</b><br><b>Switch Name (IP address) :rbadri-vegas11 (10.64.66.50)</b> ) |
|                 | NX-OS 4.1(3) | Changed the command output for <b>show fcns database detail</b> .   |
|                 | 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
-----
0x460100      N     10:00:00:00:c9:32:89:e6 (Emulex)          scsi-fcp:init
0x460200      N     21:00:00:e0:8b:09:4e:d3 (Qlogic)          scsi-fcp:init
0x460300      N     21:01:00:e0:8b:29:4e:d3 (Qlogic)          scsi-fcp:init
```

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```
0x460423    NL    21:00:00:04:cf:cf:45:ba (Seagate)    scsi-fcp

Total number of entries = 4

VSAN 2:
-----
FCID        TYPE  PWWN                                (VENDOR)        FC4-TYPE:FEATURE
-----
0x8e0000    N     21:01:00:e0:8b:2e:85:8a (Qlogic)        scsi-fcp:init
0x9509b5    N     50:00:53:00:00:6b:30:02 (Cisco)         scsi-fcp:init sdv

Total number of entries = 2
```

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

```
switch# show fcns database detail
-----
VSAN:1      FCID:0x460100
-----
port-wwn (vendor)           :10:00:00:00:c9:32:89:e6 (Emulex)
node-wwn                    :20:00:00:00:c9:32:89:e6
class                        :2,3
node-ip-addr                 :0.0.0.0
ipa                          :ff ff ff ff ff ff ff ff
fc4-types:fc4_features      :scsi-fcp:init
symbolic-port-name          :
symbolic-node-name          :Emulex LP9002 FV3.90A7 DV8.0.16.34
port-type                    :N
port-ip-addr                 :0.0.0.0
fabric-port-wwn             :20:85:00:05:30:00:4a:de
hard-addr                    :0x000000
permanent-port-wwn (vendor) :10:00:00:00:c9:32:89:e6 (Emulex)
Connected Interface       :fc3/5
Switch Name (IP address) :rbadri-vegas11 (10.64.66.50)
-----
VSAN:1      FCID:0x460200
-----
port-wwn (vendor)           :21:00:00:e0:8b:09:4e:d3 (Qlogic)
node-wwn                    :20:00:00:e0:8b:09:4e:d3
class                        :3
node-ip-addr                 :0.0.0.0
ipa                          :ff ff ff ff ff ff ff ff
fc4-types:fc4_features      :scsi-fcp:init
symbolic-port-name          :
symbolic-node-name          :
port-type                    :N
port-ip-addr                 :0.0.0.0
fabric-port-wwn             :20:84:00:05:30:00:4a:de
hard-addr                    :0x000000
permanent-port-wwn (vendor) :21:00:00:e0:8b:09:4e:d3 (Qlogic)
Connected Interface       :fc3/4
Switch Name (IP address) :rbadri-vegas11 (10.64.66.50)
-----
VSAN:1      FCID:0x460300
-----
port-wwn (vendor)           :21:01:00:e0:8b:29:4e:d3 (Qlogic)
node-wwn                    :20:01:00:e0:8b:29:4e:d3
class                        :3
node-ip-addr                 :0.0.0.0
ipa                          :ff ff ff ff ff ff ff ff
fc4-types:fc4_features      :scsi-fcp:init
symbolic-port-name          :
symbolic-node-name          :
port-type                    :N
```

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```

port-ip-addr                :0.0.0.0
fabric-port-wwn             :20:8d:00:05:30:00:4a:de
hard-addr                   :0x000000
permanent-port-wwn (vendor) :21:01:00:e0:8b:29:4e:d3 (Qlogic)
Connected Interface      :fc3/13
Switch Name (IP address) :rbadri-vegas11 (10.64.66.50)
-----
VSAN:1      FCID:0x460423
-----
port-wwn (vendor)           :21:00:00:04:cf:cf:45:ba (Seagate)
node-wwn                   :20:00:00:04:cf:cf:45:ba
class                      :3
node-ip-addr               :0.0.0.0
ipa                        :ff ff ff ff ff ff ff ff
fc4-types:fc4_features     :scsi-fcp
symbolic-port-name         :
symbolic-node-name         :
port-type                  :NL
port-ip-addr               :0.0.0.0
fabric-port-wwn            :20:81:00:05:30:00:4a:de
hard-addr                  :0x000000
permanent-port-wwn (vendor) :00:00:00:00:00:00:00:00
Connected Interface      :fc3/1
Switch Name (IP address) :rbadri-vegas11 (10.64.66.50)

Total number of entries = 4
=====

```

The following example shows how to display the output for the virtual devices.

```

-----
VSAN:2      FCID:0x9509b5
-----
port-wwn (vendor)           :50:00:53:00:00:6b:30:02 (Cisco)
node-wwn                   :50:00:53:00:00:6b:30:02
class                      :-
node-ip-addr               :0.0.0.0
ipa                        :ff ff ff ff ff ff ff ff
fc4-types:fc4_features     :scsi-fcp:init sdv
symbolic-port-name         :
symbolic-node-name         :
port-type                  :N
port-ip-addr               :0.0.0.0
fabric-port-wwn            :20:0e:00:0d:ec:25:ef:00
hard-addr                  :0x000000
permanent-port-wwn (vendor) :00:00:00:00:00:00:00:00
Connected Interface      :Virtual Device
Switch Name (IP address) :Not Available

Total number of entries = 2

```

The following example shows how to display the output for a non-cisco switches:

```

switch# show fcns database detail
-----
VSAN:1      FCID:0x6600e2
-----
port-wwn (vendor)           :21:00:00:0c:50:02:c6:f7 (Seagate)
node-wwn                   :20:00:00:0c:50:02:c6:f7
class                      :3
node-ip-addr               :0.0.0.0
ipa                        :ff ff ff ff ff ff ff ff
fc4-types:fc4_features     :scsi-fcp

```

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```

symbolic-port-name          :
symbolic-node-name         :
port-type                  :NL
port-ip-addr               :0.0.0.0
fabric-port-wwn           :20:02:00:0d:ec:11:d4:82
hard-addr                  :0x000000
permanent-port-wwn (vendor) :00:00:00:00:00:00:00:00
Connected to                :fc1/2
Switch Name (IP address)   :rbadri-paradise1 (10.64.66.58)
-----
VSAN:1      FCID:0x6b0f23
-----
port-wwn (vendor)          :21:00:00:04:cf:cf:45:50 (Seagate)
node-wwn                   :20:00:00:04:cf:cf:45:50
class                      :3
node-ip-addr               :0.0.0.0
ipa                        :ff ff ff ff ff ff ff ff
fc4-types:fc4_features     :scsi-fcp
symbolic-port-name         :SEAGATE ST336753FC      0005
symbolic-node-name         :
port-type                  :NL
port-ip-addr               :0.0.0.0
fabric-port-wwn           :20:0f:00:60:69:80:62:4a
hard-addr                  :0x000000
permanent-port-wwn (vendor) :00:00:00:00:00:00:00:00
Connected to                :Non-Cisco Switch
Switch Name (IP address)   :bs11 (10.64.66.57)

```

#### Related Commands

| Command              | Description   |
|----------------------|---|
| <b>asm mgmt-vsan</b> | 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       | (Optional) Displays detailed statistics.  |
|--------------------|--------------|---|
|                    | vsan vsan-id | (Optional) 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

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

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

**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:

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

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```

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
      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

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

```
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         |  |  |
|----------------------------|--|--|
| <b>database</b>            |  | Displays local database of FCS.  |
| <b>vsan</b> <i>vsan-id</i> |  | Specifies a VSAN ID. The range is 1 to 4093.                                       |
| <b>ie</b>                  |  | Displays Interconnect Element objects information.                                 |
| <b>nwwn</b> <i>wwn</i>     |  | (Optional) Specifies a node WWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> . |
| <b>vsan</b> <i>vsan-id</i> |  | (Optional) Specifies a VSAN ID. The range is 1 to 4093.                            |
| <b>platform</b>            |  | Displays Platform Objects Information.   |
| <b>name</b> <i>string</i>  |  | (Optional) Specifies a platform name. Maximum length is 255 characters.            |
| <b>port</b>                |  | Displays Port Objects Information.   |
| <b>pwwn</b> <i>wwn</i>     |  | (Optional) Specifies a port WWN id. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> . |
| <b>statistics</b>          |  | Displays statistics for FCS packets.   |
| <b>vsan</b>                |  | 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
```

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Switch Ports:

```
-----
Interface  pWWN                               Type      Attached-pWWNs
-----
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:
```

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1.1.1.1

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
```

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FCS Statistics for VSAN: 30

```
-----  
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** command.

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

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

**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:
```

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```
FC-SP Authentication Succeeded:5
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 asciiwn 30:11:bb:cc:dd:33:11:22
Ascii representation of WWN to be used with AAA servers:0x_3011bbccdd331122
```

### Related Commands

| Command            | Description                                |
|--------------------|--|
| <b>fcsp enable</b> | Enables the FC-SP feature for this switch. |

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## show fcsp interface

To display the FC-SP- related information for a specific interface, use the **show fcsp interface** command.

```
show fcsp interface {fc slot/port | fcip slot/port}
```

| Syntax Description |                       |   |
|--------------------|-----------------------|---|
|                    | <b>fc slot/port</b>   | Specifies FC slot number and port number.   |
|                    | <b>fcip slot/port</b> | Specifies FCIP slot number and port number. |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(1) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display the FC-SP related information for a specific interface:

```
switch# show fcsp interface fc7/41
fc7/41:
fcsp authentication mode:SEC_MODE_OFF
ESP is enabled
configured mode is: GCM
programmed ingress SA: 300, 303
programmed egress SA: 300
Status:FC-SP protocol in progress
```

| Related Commands | Command            | Description    |
|------------------|--------------------|----------------|
|                  | <b>fcsp enable</b> | Enables FC-SP. |

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

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release | Modification  |
|-----------------|---------|---|
|                 | 1.3(1)  | This command was introduced.  |
|                 | 2.0(x)  | Added the <b>distribution status</b> , <b>last action status</b> , <b>pending</b> , <b>pending-diff</b> , and <b>session-status</b> 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
-----:
```



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5000 ms    5000 ms    2000 ms    10000 ms

The following example displays configured TOVs for a specified VSAN:

```
switch# show fctimer vsan 10
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   |
|---------------------|---|
| <b>database</b>     | Displays the FDMI database contents.  |
| <b>detail</b>       | (Optional) Specifies detailed FDMI information.                                       |
| <b>hba-id</b>       | (Optional) Displays detailed information for the specified HBA entry.                 |
| <i>hba-id</i>       | (Optional) Displays detailed information for the specified HBA entry.                 |
| <b>vsan vsan-id</b> | (Optional) 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

|                                       |  |
|---------------------------------------|--|
| <b>control-device sb3</b>             | (Optional) Displays FICON control device information.  |
| <b>vsan</b> <i>vsan-id</i>            | Specifies FICON information for the specified VSAN ranging from 1 to 4093.   |
| <b>first-available port-number</b>    | (Optional) Displays the available port numbers.  |
| <b>port default-state</b>             | (Optional) Displays the default FICON port prohibit state.   |
| <b>port-numbers</b>                   | (Optional) Displays FICON port numbers.  |
| <b>assign</b> <i>slot</i>             | (Optional) Displays the FICON port numbers assigned to the specified slot, 1 through 6.                            |
| <b>logical port</b>                   | (Optional) Displays FICON port numbers assigned to logical interfaces.   |
| <b>slot</b> <i>slot</i>               | (Optional) Displays the FICON port numbers assigned to the specified slot, 1 through 6.                            |
| <b>interface</b>                      | (Optional) Displays FICON information for an interface.  |
| <b>stat</b>                           | (Optional) Displays information about FICONSTAT.   |
| <b>allegiance</b>                     | (Optional) Displays FICON device allegiance information.   |
| <b>directory-history</b>              | (Optional) Displays FICON directory history.   |
| <b>key-counter</b> <i>value</i>       | (Optional) Specifies a key counter.  |
| <b>file</b>                           | (Optional) Displays FICON information for a file.  |
| <b>all</b>                            | (Optional) Specifies all files.  |
| <b>name</b> <i>filename</i>           | (Optional) Specifies the name for a file.  |
| <b>portaddress</b> <i>port</i>        | (Optional) Specifies a port address for a file.  |
| <b>fc</b> <i>slot/port</i>            | Specifies a Fibre Channel interface.   |
| <b>fcip</b> <i>fcip-id</i>            | Specifies an FC IP interface.  |
| <b>port-channel</b> <i>port</i>       | Specifies a PortChannel interface.   |
| <b>counters</b>                       | (Optional) Displays counter information for the port address.  |
| <b>portnumber</b> <i>port-numbers</i> | (Optional) Displays FICON information for a port number in the specified range, 0 through 153 or 0x0 through 0x99. |
| <b>duplicate</b>                      | (Optional) Displays FICON interfaces with duplicate port numbers and port addresses.                               |
| <b>undefined</b>                      | (Optional) Displays FICON interfaces without port numbers and port addresses.                                      |
| <b>brief</b>                          | (Optional) Displays brief FICON information for the port address.  |
| <b>installed</b>                      | (Optional) 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"> <li>Added the <b>port-numbers</b> and <b>stat</b> options.</li> <li>Added the <b>portnumber</b> keyword.</li> </ul> |
|                 | 3.0(2)  | Added the <b>port default-state</b> 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 Address | Port Number | Interface | Admin Blocked | Status       | Oper Mode | FCID     |
|--------------|-------------|-----------|---------------|--------------|-----------|----------|
| 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           | 55          |           | 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 |  |
|--------------------|--|
| <i>filename</i>    | Specifies a filename.                        |
| <b>cksum</b>       | (Optional) Displays CRC checksum for a file. |
| <b>md5sum</b>      | (Optional) 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  |
|------------------|-------------------------|--|
|                  | <b>show flex-attach</b> | Displays the current list of virtual pWWNs on a specified interface. |
|                  | <b>virtual-pwwn</b>     |  |

---

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## 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   |
|---------------------------------------|---|
| <b>show flex-attach</b>               | Displays the FlexAttach distribution status.                        |
| <b>show flex-attach merger status</b> | Displays the FlexAttach merger status.                              |
| <b>show flex-attach virtual-pwwn</b>  | Displays the current list of virtual pWWN on a specified interface. |

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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   |
|------------------|--------------------------------------|---|
|                  | <b>show flex-attach</b>              | Displays the FlexAttach distribution status.                        |
|                  | <b>show flex-attach virtual-pwwn</b> | Displays the current list of virtual pWWN on a specified interface. |

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## 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  |
|---|--|
| <b>flex-attach<br/>virtual-pwwn auto</b>          | Enables the FlexAttach virtual pWWN on a specific interface. |
| <b>flex-attach<br/>virtual-pwwn<br/>interface</b> | 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

|                            |  |
|----------------------------|--|
| <b>auto-area-list</b>      | Displays the list of OUIs that are allocated areas.  |
| <b>database</b>            | Displays information about FLOGI sessions.   |
| <b>fcid fcid-id</b>        | Displays FLOGI database entries based on the FCID allocated. The format is 0xhhhhhh.   |
| <b>interface</b>           | Displays FLOGI database entries based on the logged in interface.  |
| <b>fa slot/port</b>        | Specifies the FA port interface to configure by slot and port number on all switches.  |
| <b>fc slot/port</b>        | (Optional) Specifies the Fibre Channel interface to configure by slot and port number on an MDS 9000 Family switch.  |
| <b>bay port   ext port</b> | (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. |
| <b>fv module-number</b>    | Specifies the Fibre Channel Virtualization interface by module on all switches.  |
| <b>vsan vsan-id</b>        | 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 <b>interface bay   ext</b> option. |

### Usage Guidelines

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

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

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**

| <b>Command</b>            | <b>Description</b>                                     |
|---------------------------|--|
| <b>show fens database</b> | Displays all the local and remote name server entries. |

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## show flogi database interface

To list all the FLOGI sessions through all of the interfaces, use the **show flogi database interface** command.

```
show flogi database interface { fa slot/port | fc slot/port | fv module-number | port-channel
port-channel number details }
```

| Syntax Description             |  |  |
|--------------------------------|--|--|
| <b>fa</b> <i>slot/port</i>     |  | Specifies the FA port interface to configure by slot and port number on all switches.                    |
| <b>fc</b> <i>slot/port</i>     |  | Specifies the Fibre Channel interface to configure by slot and port number on an MDS 9000 Family switch. |
| <b>fv</b> <i>module-number</i> |  | Specifies the Fibre Channel virtualization interface by module on all switches.                          |
| <b>port-channel</b>            |  | Specifies the PortChannel interface.   |
| <i>port-channel number</i>     |  | Specifies the PortChannel number. The range is from 1 to 256.  |
| <b>details</b>                 |  | Specifies FCID allocation details.   |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.1(3) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display the PortChannel FCID allocation details:

```
switch# show flogi database interface port-channel 1 details
No flogi sessions found.
switch#
```

| Related Commands | Command                   | Description  |
|------------------|---------------------------|--|
|                  | <b>show fcns database</b> | 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

|   |  |
|---|--|
| <b>database</b>                                 | (Optional) Displays the FSPF link state database.  |
| <b>vsan</b> <i>vsan-id</i>                      | (Optional) Specifies the VSAN ID. The range is 1 to 4093.  |
| <b>detail</b>                                   | (Optional) Displays detailed FSPF information.   |
| <b>domain</b> <i>domain-id</i>                  | (Optional) Specifies the domain of the database. The range is 0 to 255.  |
| <b>interface</b>                                | (Optional) Specifies the FSPF interface.   |
| <b>fc</b> <i>slot/port</i>                      | (Optional) Specifies the Fibre Channel interface to configure by slot and port number on an MDS 9000 Family switch.  |
| <b>bay</b> <i>port</i>   <b>ext</b> <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. |
| <b>port-channel</b><br><i>port-channel</i>      | (Optional) Specifies the PortChannel 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
```

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```
FSPF routing administrative state is active
Interface cost is 500
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
```

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```
It is an intra-domain router
Autonomous region is 0
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]**

|                           |                           |  |
|---------------------------|---------------------------|--|
| <b>Syntax Description</b> | <b>ipc-channel status</b> | (Optional) Displays the status of the interprocess communication (IPC) channels. |
|---------------------------|---------------------------|--|

|                 |       |
|-----------------|-------|
| <b>Defaults</b> | None. |
|-----------------|-------|

|                      |            |
|----------------------|------------|
| <b>Command Modes</b> | EXEC mode. |
|----------------------|------------|

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>                              |
|------------------------|----------------|--|
|                        | 1.2(1)         | This command was introduced.                     |
|                        | NX-OS 4.1(1b)  | Changed the command output from SAN-OS to NX-OS. |

|                         |       |
|-------------------------|-------|
| <b>Usage Guidelines</b> | None. |
|-------------------------|-------|

### Examples

The following example displays the switch hardware inventory details:

```
switch# show hardware
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2008, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under
license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNU
Lesser General Public License (LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php

Software
  BIOS:          version 3.17.0
  loader:        version N/A
  kickstart:     version 4.0(3) [gdb]
  system:        version 4.0(3) [gdb]
  BIOS compile time:      03/23/08
  kickstart image file is: bootflash:/n7000-s1-kickstart.4.0.3.gbin.S17
  kickstart compile time: 7/24/2008 12:00:00 [07/28/2008 03:28:06]
  system image file is:   bootflash:/n7000-s1-dk9.4.0.3.gbin.S17
  system compile time:   7/24/2008 12:00:00 [07/28/2008 04:10:26]

Hardware
  cisco Nexus7000 C7010 (10 Slot) Chassis ("Supervisor module-1X")
```

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```
Intel(R) Xeon(R) CPU          with 2063436 kB of memory.
Processor Board ID JAB10380101
```

```
Device name: switch
bootflash:    1023120 kB
slot0:        0 kB (expansion flash)
bootflash:    251904 kB
slot0:        251904 kB
```

```
Kernel uptime is 0 day(s), 10 hour(s), 32 minute(s), 43 second
```

```
Last reset at 231551 usecs after Wed Jul 30 00:07:18 2008
```

```
Reason: Reset Requested by CLI command reload
System version: 4.0(3)
Service:
```

```
plugin
Core Plugin, Ethernet Plugin
```

```
CMP (Module 6) no response
```

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

```
Switch is booted up
Switch type is : Nexus7000 C7010 (10 Slot) Chassis
Model number is MOSPORT10P
H/W version is 0.403
Part Number is 73-10900-04
Part Revision is 03
Manufacture Date is Year 11 Week 25
Serial number is TBM11256507
CLEI code is
```

```
-----
Chassis has 10 Module slots and 5 Fabric slots
-----
```

```
Module1 empty
```

```
Module2 ok
Module type is : 10/100/1000 Mbps Ethernet Module
1 submodules are present
Model number is NURBURGRING
H/W version is 0.407
Part Number is 73-10098-04
Part Revision is 13
Manufacture Date is Year 10 Week 44
Serial number is JAB104400P0
CLEI code is
```

```
Module3 empty
```

```
Module4 empty
```

```
Module5 empty
```

```
Module6 ok
Module type is : Supervisor module-1X
0 submodules are present
Model number is CATALUNYA
H/W version is 0.311
```

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```
Part Number is 73-10877-03
Part Revision is 09
Manufacture Date is Year 10 Week 38
Serial number is JAB10380101
CLEI code is TBD

Module7 empty

Module8 empty

Module9 empty

Module10 empty

Xbar1 ok
Module type is : Fabric card module
0 submodules are present
Model number is Estoril
H/W version is 0.203
Part Number is 73-10624-02
Part Revision is 06
Manufacture Date is Year 10 Week 43
Serial number is JAB104300HM
CLEI code is

Xbar2 empty

Xbar3 empty

Xbar4 empty

Xbar5 empty

-----
Chassis has 3 PowerSupply Slots
-----

PS1 ok
Power supply type is: 0.00W 220v AC
Model number is FIORANO
H/W version is 0.103
Part Number is 341-0230-01
Part Revision is 03
Manufacture Date is Year 11 Week 17
Serial number is DTH1117T005
CLEI code is

PS2 ok
Power supply type is: 0.00W 220v AC
Model number is FIORANO
H/W version is 0.103
Part Number is 341-0230-01
Part Revision is 03
Manufacture Date is Year 11 Week 17
Serial number is DTH1117T009
CLEI code is

PS3 absent

-----
Chassis has 4 Fan slots
-----

Fan1(sys_fan1) ok
```

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```
Model number is
H/W version is 0.0
Part Number is
Part Revision is
Manufacture Date is Year 0 Week 0
Serial number is
CLEI code is

Fan2(sys_fan2) ok
Model number is
H/W version is 0.0
Part Number is
Part Revision is
Manufacture Date is Year 0 Week 0
Serial number is
CLEI code is

Fan3(fab_fan1) ok
Model number is
H/W version is 0.0
Part Number is
Part Revision is
Manufacture Date is Year 0 Week 0
Serial number is
CLEI code is
switch#
```

The following example displays the status of the IPC channel:

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

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## show hardware fabric-mode

To display fabric operation mode, use the **show hardware fabric mode** command.

**show hardware fabric-mode**

---

**Syntax Description** This command has no arguments or keywords.

---

**Defaults** None.

---

**Command Modes** EXEC mode.

---

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.1(1b) | This command was introduced. |

---

---

**Usage Guidelines** None.

---

**Examples** The following example displays the fabric operation mode:

```
switch# show hardware fabric-mode
Fabric mode supports Gen3 and above linecards.
switch#
```

---

| Related Commands | Command              | Description  |
|------------------|----------------------|--|
|                  | <b>show hardware</b> | Displays brief information about the list of field replaceable units (FRUs) in the switch. |

---

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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    |   |
|-----------------------|---|
| <b>bootflash:</b>     | (Optional) Source or destination location for internal bootflash memory.              |
| <b>slot0:</b>         | (Optional) Source or destination location for the CompactFlash memory or PCMCIA card. |
| <b>volatile:</b>      | (Optional) 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 example displays 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
```

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Capability requirement : STRICT  
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                                     |
|------------------|--------------------------------|---|
|                  | <b>show install all status</b> | 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    |   |
|-----------------------|---|
| <b>asm-sfn</b>        | (Optional) Specifies the ASM SFN boot variable.   |
| <i>image-filename</i> | (Optional) Specifies the name of an image.        |
| <b>kickstart</b>      | (Optional) Specifies the kickstart boot variable. |
| <b>ssi</b>            | (Optional) Specifies the SSI boot variable.       |
| <b>system</b>         | (Optional) 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 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> | (Optional) Displays the type of interface.  |
| <b>bbcredit</b>        | (Optional) Displays buffer-to-buffer credit information.                                      |
| <b>brief</b>           | (Optional) Displays brief information.  |
| <b>capabilities</b>    | (Optional) Displays hardware port capabilities for a specified interface.                     |
| <b>counters</b>        | (Optional) Displays the interface counter information.  |
| <b>description</b>     | (Optional) Displays the interface description.  |
| <b>transceiver</b>     | (Optional) Displays the transceiver information for a specified interface.                    |
| <b>calibrations</b>    | (Optional) Displays transceiver calibration information for the specified interface.          |
| <b>details</b>         | (Optional) Displays detailed transceiver diagnostics information for the specified interface. |
| <b>trunk vsan</b>      | (Optional) Displays the trunking status of all VSANs.   |
| <i>vsan-id</i>         | (Optional) 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 <b>bbcredit</b> keyword and support for cpp and fv interfaces.    |
| 3.0(1)        | Added the <b>capabilities</b> option for Fibre Channel interfaces.          |
| 3.1(2)        | Added the <b>bay</b>   <b>ext</b> interface.                                |
| NX-OS 4.1(1b) | Added the command output for bbcredit information for a switch port.        |
| NX-OS 4.1(1b) | Added the command output for interface capabilities on a 48 port line card. |

### 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.

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Table 22-5 lists the interface types supported by the **show interface** command.

**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.   |
| <b>cpp</b> <i>slot/port</i>  | Displays information for a virtualization interface.   |
| <b>fc</b> <i>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.  |
| <b>fcip</b> <i>interface-number</i>                                | Specifies a FCIP interface. The range is 1 to 255.   |
| <b>fv</b> <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.  |
| <b>gigabitethernet</b> <i>slot/port</i>                            | Displays information for a Gigabit Ethernet interface at the specified slot and port.  |
| <b>gigabitethernet</b> <i>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.                              |
| <b>iscsi</b> <i>slot/port</i>                                      | Displays the description of the iSCSI interface in the specified slot and port.  |
| <b>mgmt 0</b>  | Displays the description of the management interface.  |
| <b>port-channel</b> <i>port-channel-number</i>                     | Displays the PortChannel interface specified by the PortChannel number. The range is 1 to 128.   |
| <b>port-channel</b> <i>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. |
| <b>sup-fc 0</b>  | Displays the in-band interface details.  |
| <b>vsan</b> <i>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
```



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```

    0 too long, 0 too short
    6862 frames output, 307072 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
    16 receive B2B credit remaining
    3 transmit B2B credit remaining.

```

The following example shows how to display the bbcredit information for a switch port:

```

switch# show interface fc1/1

fc1/1 is up
  Hardware is Fiber Channel, SFP is short wave laser w/o OFC (SN)
  Port WWN is 20:01:00:0d:ec:11:41:40
  Peer port WWN is 20:41:00:0d:ec:11:41:40
  Admin port mode is auto, trunk mode is off
  snmp traps are enabled
  Port mode is E, FCID is 0x340000
  Port vsan is 300
  Speed is 2 Gbps
  Rate mode is shared
Transmit B2B Credit is 16
Receive B2B Credit is 16
  B2B State Change Number is 14
  Receive data field Size is 2112
  Beacon is turned off
  5 minutes input rate 40 bits/sec, 5 bytes/sec, 0 frames/sec
  5 minutes output rate 32 bits/sec, 4 bytes/sec, 0 frames/sec
    17896 frames input, 1004932 bytes
      0 discards, 0 errors
      0 CRC, 0 unknown class
      0 too long, 0 too short
    17891 frames output, 790360 bytes
      0 discards, 0 errors
      1 input OLS, 1 LRR, 0 NOS, 1 loop inits
      1 output OLS, 1 LRR, 0 NOS, 1 loop inits
16 receive B2B credit remaining
16 transmit B2B credit remaining

```

The following example shows how to display bbcredit information for a switch port:

```

switch# show interface fc1/1 bbcredit

fc1/1 is up
  Transmit B2B Credit is 16
  Receive B2B Credit is 16
    17 receive B2B credit remaining
    16 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

```

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```
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 Mode | Admin Trunk Mode | Status       | Oper Mode | Oper Speed (Gbps) | Port-channel |
|-----------|------|------------|------------------|--------------|-----------|-------------------|--------------|
| 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   | --        | --                | --           |
| 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 |
|-----------|--------|------------|-------|-----|
|-----------|--------|------------|-------|-----|

```
-----
```

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```
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
...
-----
```

```
-----
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)
-----
```

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|                  | Rate<br>MB/s | Total<br>Frames | Rate<br>MB/s | Total<br>Frames |
|------------------|--------------|-----------------|--------------|-----------------|
| port-channel 100 | 0            | 0               | 0            | 0               |

| Interface | Input (rate is 5 min avg) |                 | Output (rate is 5 min avg) |                 |
|-----------|---------------------------|-----------------|----------------------------|-----------------|
|           | Rate<br>Mbits/s           | Total<br>Frames | Rate<br>Mbits/s            | Total<br>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
    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
```

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```

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
  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

```

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```
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 interface capabilities on a 48 port line card:

```
switch# show interface fc1/24 linecard
Min Speed is 1 Gbps
Max Speed is 2 Gbps
FC-PH Version (high, low) (32,32)
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
Class 2 sequential delivery supported
Class 3 sequential delivery supported
Hold time (max/min) (100000/1) micro sec
BB state change notification supported
Maximum BB state change notifications 14
Rate Mode change not supported

Rate Mode Capabilities Dedicated
Receive BB Credit modification supported yes
FX mode Receive BB Credit (min/max/default) (1/255/16)
ISL mode Receive BB Credit (min/max/default) (2/255/255)
Performance buffer modification supported yes
FX mode Performance buffers (min/max/default) (1/145/0)
ISL mode Performance buffers (min/max/default) (1/145/0)

Out of Service capable no
Beacon mode configurable yes
```

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)
```

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```
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
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   |
|--------------------|---|
| <i>slot</i>        | Identifies the number of the MPS-18/4 module slot.        |
| <i>port</i>        | Identifies the number of the Cisco SME port.              |
| <b>brief</b>       | Displays the brief information about Cisco SME interface. |
| <b>counters</b>    | Displays the interface counters.                          |
| <b>description</b> | 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
  clear luns 0, encrypted luns 0
  errors
```



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```
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 ioa cluster

To display detailed information of all the IOA clusters, use the **show ioa cluster** command.

```
show ioa cluster {cluster name}
```

| Syntax Description | <i>cluster name</i> | Specifies IOA cluster name. The maximum size is 31 characters. |
|--------------------|---------------------|--|
|--------------------|---------------------|--|

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

| Command Modes | Cluster Configuration submode. |
|---------------|--------------------------------|
|---------------|--------------------------------|

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(1) | This command was introduced. |

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

**Examples** The following example shows how to display detailed information of all IOA clusters:

```
switch# show ioa cluster
IOA Cluster is tape_vault
Cluster ID is 0x213a000dec3ee782
Cluster status is online
Is between sites SJC and RTP
Total Nodes are 2
Cluster Infra Status : Operational
Cluster is Administratively Up
Cluster Config Version : 26
SSL for ICN : Not Configured
switch#
```

The following example shows how to display the interfaces in an IOA cluster:

```
switch# show ioa cluster tape_vault interface
Interface ioa2/1 belongs to 172.23.144.97 (L) (M)
  Status is up
Interface ioa2/2 belongs to 172.23.144.97 (L) (M)
  Status is up
Interface ioa2/1 belongs to 172.23.144.98
  Status is up
Interface ioa2/2 belongs to 172.23.144.98
  Status is up
switch#
```

The following example shows how to display the summary of interfaces in a IOA cluster:

```
switch# show ioa cluster tape_vault interface summary
```

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```

-----
Switch                Interface        Status        Flows
-----
172.23.144.97(L)     ioa2/1          up            --
172.23.144.97(L)     ioa2/2          up            --
172.23.144.98        ioa2/1          up            --
172.23.144.98        ioa2/2          up            --
switch#

```

The following example shows how to display the N ports configuration:

```

switch# show ioa cluster tape_vault nports
-----
P-WWN Site Vsan
-----
10:00:00:00:00:00:01 SJC 100
11:00:00:00:00:00:01 RTP 100
10:00:00:00:00:00:02 SJC 100
10:00:00:00:00:00:02 RTP 100

```

The following example shows how to display an IOA cluster node:

```

sjc-sw1# show ioa cluster tape_vault node
Node 172.23.144.95 is local switch
  Node ID is 1
  Status is online
  Belongs to Site sjc
  Node is the master switch
Node 172.23.144.96 is remote switch
  Node ID is 2
  Status is offline
  Belongs to Site new_jersey
  Node is not master switch
switch#

```

The following example shows how to display an IOA cluster node summary:

```

switch# show ioa cluster tape_vault node summary
-----
Switch Site Status Master
-----
172.23.144.97(L) SJC online yes
172.23.144.98 RTP online no

```

The following example shows how to display the configured flow information:

```

switch# show ioa cluster tape_vault flows
-----
Host WWN,                VSAN    WA  TA  Comp  Status  Switch,Interface
Target WWN                Pair
-----
10:00:00:00:00:00:01, 100      Y    Y    N    online  172.23.144.97, ioa2/1
11:00:00:00:00:00:01                Y    Y    Y    online  172.23.144.98, ioa2/1
10:00:00:00:00:00:02, 100      Y    Y    Y    online  172.23.144.97, ioa2/2
11:00:00:00:00:00:02                Y    Y    Y    online  172.23.144.98, ioa2/2
switch#

```

The following example shows how to display the detailed information of the flows that are accelerated in the cluster:

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```
switch# show ioa cluster tape_vault flows detail
Host 10:00:00:00:00:00:01, Target 11:00:00:00:00:00:01, VSAN 100
  Is online
  Belongs to flowgroup fgl
  Is enabled for WA, TA,
  Is assigned to
    Switch 172.23.144.97    Interface ioa2/1 (Host Site)
    Switch 172.23.144.98    Interface ioa2/1 (Target Site)
Host 10:00:00:00:00:00:02, Target 11:00:00:00:00:00:02, VSAN 100
  Is online
  Belongs to flowgroup fgl
  Is enabled for WA, TA, Compressi
  Is assigned to
    Switch 172.23.144.97    Interface ioa2/2 (Host Site)
    Switch 172.23.144.98    Interface ioa2/2 (Target Site)
```

---

**Related Commands**

| <b>Command</b>       | <b>Description</b>            |
|----------------------|-------------------------------|
| <b>interface ioa</b> | Configures the IOA interface. |

---

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## show ioa cluster summary

To display a summary of all the IOA clusters, use the **show ioa cluster summary** command.

**show ioa cluster summary**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** Configuration mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(1) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display IOA cluster summary information:

```
switch# show ioa cluster summary
-----
Cluster          Sites                Status   Master Switch
-----
tape_vault       SJC,                 online   172.23.144.97
                  RTP
tape_vault_site2 SAC,                 online   172.23.144.97
                  SJC
switch#
```

| Related Commands | Command              | Description                   |
|------------------|----------------------|-------------------------------|
|                  | <b>interface ioa</b> | Configures the IOA interface. |

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## show ioa internal interface ioa

To display summary of all the IOA clusters, use the **show ioa internal interface ioa** command.

```
show ioa internal interface ioa slot number {els-table | errors | init-pwwn pwwn targ-pwwn
pwwn vsan vsan-id counters brief | plogi-info | stats | summary | trace log | vit-table }
```

| Syntax                       | Description  |
|------------------------------|--|
| <i>slot number</i>           | Specifies the IOA slot or port number. The range is from 1 to 16 for the slot and for the port the range is from 1 to 4. |
| <b>els-table</b>             | Specifies the IOA ELS table.   |
| <b>errors</b>                | Specifies IOA errors.  |
| <b>init-pwwn</b> <i>pwwn</i> | Specifies the initiator PWWN.  |
| <b>targ-pwwn</b> <i>pwwn</i> | Specifies the target PWWN.   |
| <b>vsan</b> <i>vsan-id</i>   | Specifies the VSAN ID. The range is from 1 to 4093.  |
| <b>counters</b>              | Specifies interface counters.  |
| <b>brief</b>                 | Specifies brief information about the interface.   |
| <b>plogi-info</b>            | Specifies PLOGI counters for IOA interface.  |
| <b>stats</b>                 | Specifies the IOA statistics.  |
| <b>summary</b>               | Specifies the IOA host map table.  |
| <b>trace log</b>             | Specifies the IOA stats  |
| <b>vit-table</b>             | Specifies the IOA vit table.   |

**Defaults** None.

**Command Modes** Configuration mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(1) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display an IOA host map table:

```
switch# show ioa int int ioa 2/1 summary
-----
FLOW HOST VSAN STATUS COMP ACC
TARGET
-----
1 10:00:00:00:00:00:03:00 200 ACTIVE YES WA
11:00:00:00:00:00:03:00
2 10:00:00:00:00:00:02:00 200 ACTIVE NO WA
11:00:00:00:00:00:02:00
```

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```
3 10:00:00:00:00:01:00 100 ACTIVE YES TA
11:00:00:00:00:00:01:00
4 10:00:00:00:00:00:00:00 100 ACTIVE NO TA
11:00:00:00:00:00:00:00
```

The following example shows how to display IOA statistics:

```
switch# show ioa int int ioa 2/1 stats
Adapter Layer Stats
4457312829 device packets in, 376008035 device packets out
8954596919462 device bytes in, 24064514554 device bytes out
526927441 peer packets in, 2473105321 peer packets out
45230025550 peer bytes in, 4701244024682 peer bytes out
8 i-t create request, 4 i-t create destroy
8 i-t activate request, 0 i-t deactivate request
0 i-t create error, 0 i-t destroy error
0 i-t activate error, 0 i-t deactivate error
48 i-t-n not found, 0 i-t-n stale logo timer expiry
4 logo sent, 8 logo timer started
4 logo timer fired, 4 logo timer cancelled
4 plogi 4 plogi-acc 4 logo-acc 4 prli 4 prli-acc 0 els-q-err
to-device 214279940 orig pkts 12743547488 orig bytes
to-peer 8748538 orig pkts 682386268 orig bytes
0 queued 0 flushed 0 discarded
LRTP Stats
0 retransmitted pkts, 0 flow control
2464072014 app sent 2464072014 frags sent 0 tx wait
0 rexmt bulk attempts 0 rexmt bulk pkts 2 delayed acks
376008013 in-order 0 reass-order 0 reass-wait 0 dup-drop
376008013 app deliver 376008013 frags rcvd
150919428 pure acks rx 376008013 data pkts rx 0 old data pkts
0 remove reass node, 0 cleanup reass table
Tape Accelerator statistics
2 Host Tape Sessions
0 Target Tape Sessions
Host End statistics
Received 26275926 writes, 26275920 good status, 2 bad status
Sent 26275914 proxy status, 10 not proxied
Estimated Write buffer 4 writes 524288 bytes
Received 0 reads, 0 status
Sent 0 cached reads
Read buffer 0 reads, 0 bytes
Host End error recovery statistics
Sent REC 0, received 0 ACCs, 0 Rejects
Sent ABTS 0, received 0 ACCs
Received 0 RECs, sent 0 ACCs, 0 Rejects
Received 0 SRRs, sent 0 ACCs, 0 Rejects
Received 0 TMF commands
Target End statistics
Received 0 writes, 0 good status, 0 bad status
Write Buffer 0 writes, 0 bytes
Received 0 reads, 0 good status, 0 bad status
Sent 0 reads, received 0 good status, 0 bad status
Sent 0 rewinds, received 0 good status, 0 bad status
Estimated Read buffer 0 reads, 0 bytes
Target End error recovery statistics
Sent REC 0, received 0 ACCs, 0 Rejects
Sent SRR 0, received 0 ACCs
Sent ABTS 0, received 0 ACCs
Write Accelerator statistics
Received 726357548 frames, Sent 529605035 frames
0 frames dropped, 0 CRC errors
0 rejected due to table full, 0 scsi busy
0 ABTS sent, 0 ABTS received
```

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```

0 tunnel synchronization errors
Host End statistics
Received 188004026 writes, 188004000 XFER_RDY
Sent 188004026 proxy XFER_RDY, 0 not proxied
Estimated Write buffer 1146880 bytes
Timed out 0 exchanges, 0 writes
Target End statistics
Received 0 writes, 0 XFER_RDY
Write buffer 0 bytes
TCP flow control 0 times, 0 bytes current
Timed out 0 exchanges, 0 writes
Compression Statistics
Pre Comp Batch size 131072
Post Comp Batch size 2048
4375494911078 input bytes, 50140348947 output compressed bytes
0 non-compressed bytes, 0 incompressible bytes
0 compression errors
0 Compression Ratio
De-Compression Statistics
0 input bytes, 0 output decompressed bytes
11883488326 non-compressed bytes
0 de-compression errors

```

The following example shows how to display the initiator PWWN:

```

switch# show ioa int int ioa 2/1 init-pwwn 10:00:00:00:00:03:00 targ-pwwn
11:00:00:00:00:03:00 vsan 200 counters
Adapter Layer Stats
1366529601 device packets in, 160768174 device packets out
2699458644986 device bytes in, 10289163140 device bytes out
160844041 peer packets in, 165188790 peer packets out
18652597246 peer bytes in, 47736122724 peer bytes out
0 i-t create request, 0 i-t create destroy
0 i-t activate request, 0 i-t deactivate request
0 i-t create error, 0 i-t destroy error
0 i-t activate error, 0 i-t deactivate error
0 i-t-n not found, 0 i-t-n stale logo timer expiry
1 logo sent, 2 logo timer started
1 logo timer fired, 1 logo timer cancelled
1 plogi 1 plogi-acc 1 logo-acc 1 prli 1 prli-acc 0 els-q-err
to-device 80384094 orig pkts 4662277452 orig bytes
to-peer 0 orig pkts 0 orig bytes
0 queued 0 flushed 0 discarded
LRTP Stats
0 retransmitted pkts, 0 flow control
160768190 app sent 160768190 frags sent 0 tx wait
0 rexmt bulk attempts 0 rexmt bulk pkts 1 delayed acks
160768162 in-order 0 reasm-order 0 reasm-wait 0 dup-drop
160768162 app deliver 160768162 frags rcvd
75879 pure acks rx 160768162 data pkts rx 0 old data pkts
0 remove reasm node, 0 cleanup reasm table
Write Accelerator statistics
Received 1607681842 frames, Sent 1527297774 frames
0 frames dropped, 0 CRC errors
0 rejected due to table full, 0 scsi busy
0 ABTS sent, 0 ABTS received
0 tunnel synchronization errors
Host End statistics
Received 80384094 writes, 80384082 XFER_RDY
Sent 80384094 proxy XFER_RDY, 0 not proxied
Estimated Write buffer 524288 bytes
Timed out 0 exchanges, 0 writes
Target End statistics
Received 0 writes, 0 XFER_RDY

```



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```
Write buffer 0 bytes
TCP flow control 0 times, 0 bytes current
Timed out 0 exchanges, 0 writes
```

The following example shows how to display the initiator PWWN:

```
switch# show ioa int int ioa 2/1 init-pwwn 10:00:00:00:00:03:00 targ-pwwn
11:00:00:00:00:03:00 vsan 200 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
-----
ioa1/1
Device 60 9573683 0 1126308
Peer 0 1126833 1 1157161
switch#
```

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## show interface ioa

To display IOA interface, use the **show interface ioa** command.

```
show interface ioa slot/port {brief | counters brief | description}
```

| Syntax             | Description   |
|--------------------|---|
| <i>slot /port</i>  | Specifies an IOA slot or port number. The range is from 1 to 16 for the slot and for the port the range is from 1 to 4. |
| <b>brief</b>       | Specifies brief information about the interface.  |
| <b>counters</b>    | Specifies the interface counters.   |
| <b>description</b> | Specifies the interface description.  |

**Defaults** None.

**Command Modes** Configuration mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(1) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display an IOA interface:

```
switch# show interface ioa 2/1
ioa2/1 is down (Not in any Cluster)
0 device packets in, 0 device packets out
0 device bytes in, 0 device bytes out
0 peer packets in, 0 peer packets out
0 peer bytes in, 0 peer bytes out
0 i-t create request, 0 i-t create destroy
0 i-t activate request, 0 i-t deactivate request
```

The following example shows how to display IOA interface counters:

```
switch# show interface ioa 2/1 counters
ioa1/1
4454232796 device packets in, 375748229 device packets out
8948409208760 device bytes in, 24047886946 device bytes out
526563297 peer packets in, 2471396408 peer packets out
45198770258 peer bytes in, 4697995629324 peer bytes out
8 i-t create request, 4 i-t create destroy
8 i-t activate request, 0 i-t deactivate request
```

The following example shows how to display IOA interface counters in brief:

```
switch# show int ioa 2/1 counters brief
-----
```

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```
Interface To Device (rate is 5 min avg) To Peer (rate is 5 min avg)
```

```
-----
Rate Total Rate Total
MB/s Bytes MB/s Bytes
```

```
-----
ioa1/1 0.56 24049257618 109.66 4698262901274
sjc-sw2# show ioa int int ioa 2/1 summary
```

```
-----
FLOW HOST VSAN STATUS COMP ACC
TARGET
```

```
-----
1 10:00:00:00:00:00:03:00 200 ACTIVE YES WA
11:00:00:00:00:00:03:00
2 10:00:00:00:00:00:02:00 200 ACTIVE NO WA
11:00:00:00:00:00:02:00
3 10:00:00:00:00:00:01:00 100 ACTIVE YES TA
11:00:00:00:00:00:01:00
4 10:00:00:00:00:00:00:00 100 ACTIVE NO TA
11:00:00:00:00:00:00:00
```

**Related Commands**

| Command                         | Description                                   |
|---------------------------------|---|
| <b>show ioa cluster summary</b> | Displays the summary of all the IOA clusters. |

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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**

|                           |                            |   |
|---------------------------|----------------------------|---|
| <b>Syntax Description</b> | <i>fc-id</i>               | Specifies the Fiber Channel interface ID. |
|                           | <b>transceiver details</b> |   |
| <b>Defaults</b>           | None.                      |   |
| <b>Command Modes</b>      | Exec mode                  |   |
| <b>Command History</b>    | <b>Release</b>             | <b>Modification</b>                       |
|                           | 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
```

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```

name is CISCO
part number is FTLX8541E2-C1
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                          |
|-----------------------|--------------------------------------|
| <b>show interface</b> | 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 |   |
|--------------------|---|
| <i>list-number</i> | (Optional) Specifies the IP-ACL. The range is 1 to 256. |
| <i>usage</i>       | (Optional) 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   |
|---|---|
| <b>interface</b>                        | (Optional) Displays the IP neighbors for a specified interface.   |
| <b>cpp</b> <i>module-number</i>         | (Optional) Specifies the virtualization IP over Fibre Channel (IPFC) interface by control plane processor (CPP) module number. The range is 1 to 6. |
| <b>gigabitethernet</b> <i>slot/port</i> | (Optional) Specifies the Gigabit Ethernet interface by slot and port number. The range is 1 to 6.   |
| <b>mgmt</b>                             | (Optional) Specifies the management interface.  |
| <b>vsan</b> <i>vsan-id</i>              | (Optional) 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
209.165.200.226 0           0006.d623.4008      ARPA  GigabitEthernet1/1
209.165.200.227 5           0002.b3d9.ba6f      ARPA  GigabitEthernet1/1
209.165.200.228 11          0004.23bd.677b      ARPA  GigabitEthernet1/1
209.165.200.229 67          0000.0c07.ac01      ARPA  mgmt0
209.165.200.230 0           000e.d68f.c3fc      ARPA  mgmt0
209.165.200.231 0           000e.d68f.43fc      ARPA  mgmt0
209.165.200.232 1067        00e0.8152.7f8d      ARPA  mgmt0
```

| Related Commands | Command                  | Description   |
|------------------|--------------------------|---|
|                  | <b>show ip interface</b> | Displays IP interface status and configuration information. |
|                  | <b>show ip traffic</b>   | 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                      |   |  |
|---|---|--|
| <b>cpp</b> <i>module-number</i>         | (Optional) Specifies the virtualization IP over Fibre Channel (IPFC) interface by CPP module number. The range is 1 to 6. |  |
| <b>gigabitethernet</b> <i>slot/port</i> | (Optional) Specifies the Gigabit Ethernet interface by slot and port number. The range is 1 to 6.                         |  |
| <b>mgmt</b>                             | (Optional) Specifies the management interface.  |  |
| <b>port-channel</b> <i>number</i>       | (Optional) Specifies the PortChannel interface. The range is 1 to 256.  |  |
| <b>vsan</b> <i>vsan-id</i>              | (Optional) 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                                     |
|------------------|------------------------|---|
|                  | <b>show ip arp</b>     | Displays IP neighbors for the system.           |
|                  | <b>show ip traffic</b> | Displays IP protocol statistics for the system. |

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## show ip route

To display the currently active IP routes currently active, use the **show ip route** command.

**show ip route [configured]**

|                           |                   |   |
|---------------------------|-------------------|---|
| <b>Syntax Description</b> | <b>configured</b> | (Optional) Displays configured IP routes. |
| <b>Defaults</b>           | None.             |   |
| <b>Command Modes</b>      | EXEC mode.        |   |
| <b>Command History</b>    | <b>Release</b>    | <b>Modification</b>                       |
|                           | 1.0(2)            | This command was introduced.              |
| <b>Usage Guidelines</b>   | 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                        | (Optional) Displays the IP neighbors for a specified interface.                                   |
|--------------------|----------------------------------|---|
|                    | <b>gigabitethernet slot/port</b> | (Optional) 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   |
|------------------|--------------------------|---|
|                  | <b>show ip arp</b>       | Displays IP neighbors for the system.                       |
|                  | <b>show ip interface</b> | 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
```

| <b>Syntax Description</b> | <b>interface gigabitethernet slot/port</b> Specifies a Gigabit Ethernet interface by the slot and port.  |         |              |        |                              |
|---------------------------|--|---------|--------------|--------|------------------------------|
| <b>Defaults</b>           | None.  |         |              |        |                              |
| <b>Command Modes</b>      | EXEC mode.   |         |              |        |                              |
| <b>Command History</b>    | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>1.1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table> | Release | Modification | 1.1(1) | This command was introduced. |
| 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
```

| <b>Syntax Description</b> | <b>interface gigabitethernet slot/port</b> Specifies a Gigabit Ethernet interface by the slot and port.  |         |              |        |                              |
|---------------------------|--|---------|--------------|--------|------------------------------|
| <b>Defaults</b>           | None.  |         |              |        |                              |
| <b>Command Modes</b>      | EXEC mode.   |         |              |        |                              |
| <b>Command History</b>    | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>1.1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table> | Release | Modification | 1.1(1) | This command was introduced. |
| Release                   | Modification   |         |              |        |                              |
| 1.1(1)                    | This command was introduced.   |         |              |        |                              |
| <b>Usage Guidelines</b>   | 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     |                        |  |
|------------------------|------------------------|--|
| <b>neighbors</b>       | <i>neighbors</i>       | Displays the IPv6 neighbors table.               |
| <b>interface</b>       | <i>interface</i>       | Displays the interface status and configuration. |
| <b>gigabitethernet</b> | <i>gigabitethernet</i> | Displays a Gigabit Ethernet interface.           |
| <i>slot/port</i>       | <i>slot/port</i>       | Specifies the slot and port number.              |
| <b>prefix-list</b>     | <i>prefix-list</i>     | Displays the IPv6 prefix-list table.             |
| <b>route</b>           | <i>route</i>           | Displays the IPv6 route table.                   |
| <b>routers</b>         | <i>routers</i>         | Displays the IPv6 routers table.                 |
| <b>traffic</b>         | <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
```

The following example displays the IPv6 routing table:

```
switch# show ips ipv6 route interface gigabitethernet 4/2
```



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```
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                                    |
|------------------------|--|
| <b>ipv6 enable</b>     | Enables IPv6 processing.                       |
| <b>show ipv6 route</b> | 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  |
|------------------|--------------------------|--|
|                  | <b>ips netsim enable</b> | 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                         |  |  |
|--|--|--|
| <b>buffer</b>                              |  | Displays IP storage buffer information.                      |
| <b>dma-bridge</b>                          |  | Displays the direct memory access (DMA) statistics.          |
| <b>icmp</b>                                |  | Displays ICMP statistics.                                    |
| <b>ip</b>                                  |  | Displays IP statistics.                                      |
| <b>mac</b>                                 |  | Displays MAC statistics.                                     |
| <b>hw-comp</b>                             |  | Displays hardware compression statistics.                    |
| <b>tcp</b>                                 |  | Displays TCP statistics                                      |
| <b>all</b>                                 |  | Displays statistical information for all interfaces.         |
| <b>interface gigabitethernet slot/port</b> |  | 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 statistics 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
```

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```

123186 mbuf high watermark, 20531 mbuf low watermark
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

```

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|               |                  |           |    |   |
|---------------|------------------|-----------|----|---|
| 10.1.3.3:3260 | 10.1.3.106:51939 | ESTABLISH | 0  | 0 |
| 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 |                               |  |
|--------------------|-------------------------------|--|
|                    | <b>iscsi</b> <i>slot/port</i> | (Optional) Displays Data Path Processor (DPP) fabric statistics for the iSCSI interface. |
|                    | <b>fcip</b> <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  |
|------------------|---|--|
|                  | <b>clear ips stats fabric interface</b> | 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 | Parameter                        | Description   |
|--------------------|----------------------------------|---|
|                    | <b>ingress</b>                   | Specifies the ingress direction.  |
|                    | <b>gigabitethernet slot/port</b> | 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(ethtx) = 360
empty = 757
txdel = 8
late = 617
Average speed = 0 Kbps
```



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| Related Commands | Command                  | Description  |
|------------------|--------------------------|--|
|                  | <b>ips netsim enable</b> | 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]
```

| <b>Syntax Description</b> | <b>module slot</b> (Optional) Identifies the module in the specified slot.   |         |              |        |                              |
|---------------------------|--|---------|--------------|--------|------------------------------|
| <b>Defaults</b>           | None.  |         |              |        |                              |
| <b>Command Modes</b>      | EXEC mode.   |         |              |        |                              |
| <b>Command History</b>    | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>1.1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table> | Release | Modification | 1.1(1) | This command was introduced. |
| Release                   | Modification   |         |              |        |                              |
| 1.1(1)                    | This command was introduced.   |         |              |        |                              |
| <b>Usage Guidelines</b>   | 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]
```

|                           |  |
|---------------------------|--|
| <b>Syntax Description</b> | <i>list-name</i> (Optional) Specifies the name of the ACL. The maximum size is 64. |
|---------------------------|--|

|                 |       |
|-----------------|-------|
| <b>Defaults</b> | None. |
|-----------------|-------|

|                      |            |
|----------------------|------------|
| <b>Command Modes</b> | EXEC mode. |
|----------------------|------------|

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 3.1(0)         | This command was introduced. |

|                         |       |
|-------------------------|-------|
| <b>Usage Guidelines</b> | 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
```

| <b>Related Commands</b> | <b>Command</b>   | <b>Description</b>      |
|-------------------------|------------------|-------------------------|
|                         | 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                         |            |  |
|--|------------|--|
| <b>gigabitethernet</b><br><i>slot/port</i> | (Optional) | Displays a Gigabit Ethernet interface.                   |
| <b>mgmt 0</b>                              | (Optional) | Displays the management interface.                       |
| <b>port-channel</b>                        | (Optional) | Displays a PortChannel interface.                        |
| <i>port-channel-number</i>                 | (Optional) | Specifies the PortChannel number. The range is 1 to 128. |
| <b>vsan</b>                                | (Optional) | Displays an IPFC VSAN interface.                         |
| <i>vsan-id</i>                             | (Optional) | 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
```

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```
ND reachable time is 30000 milliseconds
ND retransmission time is 1000 milliseconds
Stateless autoconfig for addresses disabled
```

| <b>Related Commands</b> | <b>Command</b>             | <b>Description</b>  |
|-------------------------|----------------------------|---|
|                         | <b>ipv6 address</b>        | Configures an IPv6 address.                               |
|                         | <b>ipv6 nd</b>             | Configures IPv6 neighbor discovery commands.              |
|                         | <b>ipv6 route</b>          | Configures an IPv6 static route.                          |
|                         | <b>show ipv6 neighbors</b> | Displays information about IPv6 neighbors for the system. |
|                         | <b>show ipv6 route</b>     | 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               |  |
|----------------------------------|--|
| <b>interface</b>                 | (Optional) Displays the IP interface status and configuration.                               |
| <b>gigabitethernet slot/port</b> | (Optional) Displays a Gigabit Ethernet interface slot and port number.                       |
| <b>mgmt 0</b>                    | (Optional) Displays the management interface.  |
| <b>vsan vsan-id</b>              | (Optional) 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                                  |
|------------------|----------------|--|
|                  | <b>ipv6 nd</b> | 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               |
|------------------|-------------------|---------------------------|
|                  | <b>ipv6 route</b> | 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** The following example displays the ipv6 routing information:

```
switch# show ipv6 routing
ipv6 routing is enabled
```

---

| Related Commands | Command             | Description                   |
|------------------|---------------------|-------------------------------|
|                  | <b>ipv6 routing</b> | 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                         |            |   |
|--|------------|---|
| <b>interface</b>                           | (Optional) | Displays the IP interface status and configuration.                               |
| <b>gigabitethernet</b><br><i>slot/port</i> | (Optional) | Displays a Gigabit Ethernet interface slot and port number.                       |
| <b>mgmt 0</b>                              | (Optional) | Displays the management interface.  |
| <b>port-channel</b> <i>number</i>          | (Optional) | Displays the PortChannel interface. The range is 1 to 256.                        |
| <b>vsan</b> <i>vsan-id</i>                 | (Optional) | 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
```

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```
0 group query, 53 group report, 0 group reduce
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*

|                           |                   |   |
|---------------------------|-------------------|---|
| <b>Syntax Description</b> | <i>dpp-number</i> | Specifies the slot along with the DPP number. |
|---------------------------|-------------------|---|

|                 |       |
|-----------------|-------|
| <b>Defaults</b> | None. |
|-----------------|-------|

|                      |            |
|----------------------|------------|
| <b>Command Modes</b> | EXEC mode. |
|----------------------|------------|

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 3.2(1)         | This command was introduced. |

|                         |       |
|-------------------------|-------|
| <b>Usage Guidelines</b> | None. |
|-------------------------|-------|

**Examples** The following example displays the ISAPI information for DPP number 7:

```
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:
```

| <b>Related Commandss</b> | <b>Command</b>                  | <b>Description</b>                     |
|--------------------------|---------------------------------|--|
|                          | <b>show isapi dpp all queue</b> | 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 the **show isapi tech-support santap file** command.

**show isapi tech-support santap file** *[name]*

| <b>Syntax Description</b> | <i>name</i> (Optional) Specifies the name of the file. The file is stored on modflash.   |         |              |               |                         |
|---------------------------|--|---------|--------------|---------------|-------------------------|
| <b>Defaults</b>           | None.  |         |              |               |                         |
| <b>Command Modes</b>      | Configuration mode.  |         |              |               |                         |
| <b>Command History</b>    | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>NX-OS 4.1(1b)</td> <td>Added Usage Guidelines.</td> </tr> </tbody> </table> | Release | Modification | NX-OS 4.1(1b) | Added Usage Guidelines. |
| Release                   | Modification   |         |              |               |                         |
| NX-OS 4.1(1b)             | Added Usage Guidelines.  |         |              |               |                         |

### Usage Guidelines

SANTap **tech support**, collected through the above CLI, is stored in the line card modflash. It includes ISAPI **tech support** and the outputs of the **show debug santap event-history** and **show santap tech-support** command. These two outputs are not present in ISAPI tech support, and are not collected after a DPP crash.

The size of the modflash is limited, close to 60 MB in 4.1(1). If less space remains on modflash than the size of the output file, an unusable truncated file may get created. To ensure that the SANTap tech support file gets created in the modflash properly, enough space (at least 20 MB) should be made available before entering the command. Copy a tech support file after collecting the tech support, and delete it from the modflash.

ISAPI **tech support** collected through the **show isapi tech-support file** *<filename>* is stored in the line card log directory.

The size of the log directory also is limited to 180 MB. This is shared for some other purposes as well. Again, at least 20 MB should be made available in the log directory before collecting ISAPI tech support, and the file should be copied out and deleted from the log directory once done.

The following commands may be used for copying and deleting files from the modflash and log directories on the line card:

copy log:// *module* / *file name* *target fs* (entered on the supervisor module) will copies the isapi tech support file from /var/log/external.

copy modflash:// *module* -1/ *file name* *target fs* (entered on the supervisor module) copies the santap-isapi tech support file from the line card modflash.

clear debug-logfile *filename* (entered on the line card module) deletes logfiles in the line card log directory.

delete modflash://*module*-1/ *filename* (entered on the supervisor module) deletes logfiles in the line card modflash.

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The following example shows how to display 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.
switch# show isapi tech-support santap file cisco
Re-directing tech support information to file: cisco
switch#
```

**Related Commands**

| <b>Command</b>                  | <b>Description</b>                     |
|---------------------------------|--|
| <b>show isapi dpp all queue</b> | 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    |            |  |
|-----------------------|------------|--|
| <b>configured</b>     | (Optional) | Displays the configured information for the iSCSI initiator. |
| <i>initiator-name</i> | (Optional) | Specifies the name of an initiator.                          |
| <b>detail</b>         | (Optional) | Displays detailed iSCSI initiator information.               |
| <b>fcp-session</b>    | (Optional) | Displays the Fibre Channel session details.                  |
| <b>iscsi-session</b>  | (Optional) | Displays iSCSI session details.                              |
| <b>summary</b>        | (Optional) | Displays summary information.                                |
| <b>name</b>           | (Optional) | 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    |            |   |
|-----------------------|------------|---|
| <b>incoming</b>       | (Optional) | Displays incoming iSCSI sessions.   |
| <b>initiator name</b> | (Optional) | Displays specific iSCSI initiator session information. Maximum length is 80 characters. |
| <b>outgoing</b>       | (Optional) | Displays outgoing iSCSI sessions  |
| <b>target name</b>    | (Optional) | Displays specific iSCSI target session information. Maximum length is 80 characters.    |
| <b>detail</b>         | (Optional) | Displays detailed iSCSI session information.  |

**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     |   |
|------------------------|---|
| <b>iscsi slot/port</b> | (Optional) Displays statistics for the specified iSCSI interface.           |
| <b>clear</b>           | (Optional) Clears iSCSI statistics for the session or interface.            |
| <b>detail</b>          | (Optional) 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
```

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```

30 packets input, 10228 bytes
  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

```

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```

    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
  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  | (optional) Displays the information for all iSCSI ports.                |
|--------------------|-------------|---|
|                    | <i>name</i> | (Optional) Displays 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 cfs-session status** 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 informations.

```
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                                      |
|------------------|---------------------------------|--|
|                  | <b>show islb initiator</b>      | Displays iSLB initiator information.             |
|                  | <b>show islb merge status</b>   | Displays iSLB merge status information.          |
|                  | <b>show islb pending</b>        | Displays iSLB pending configurations.            |
|                  | <b>show islb pending-diff</b>   | Displays iSLB pending configuration differences. |
|                  | <b>show islb session</b>        | Displays iSLB session information.               |
|                  | <b>show islb status</b>         | Displays iSLB CFS status information.            |
|                  | <b>show islb virtual-target</b> | Displays iSLB virtual target information.        |
|                  | <b>show islb vrrp</b>           | Displays 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

|                                   |  |
|-----------------------------------|--|
| <b>name</b> <i>node-name</i>      | Displays the initiator node name. The maximum size is 80.        |
| <b>detail</b>                     | Displays more detailed information.                              |
| <b>fcp-session</b>                | Displays Fibre Channel session details.                          |
| <b>iscsi-session</b>              | Displays iSLB session details.                                   |
| <b>configured</b>                 | Displays iSLB initiator configured information.                  |
| <b>name</b> <i>initiator-name</i> | Displays the configured initiator name. The maximum size is 223. |
| <b>summary</b>                    | 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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| <b>Related Commands</b> | <b>Command</b>                      | <b>Description</b>                                   |
|-------------------------|-------------------------------------|--|
|                         | <b>show islb cfs-session status</b> | Displays iSLB session status and status information. |
|                         | <b>show islb merge status</b>       | Displays iSLB merge status information.              |
|                         | <b>show islb pending</b>            | Displays iSLB pending configurations.                |
|                         | <b>show islb pending-diff</b>       | Displays iSLB pending configuration differences.     |
|                         | <b>show islb session</b>            | Displays iSLB session information.                   |
|                         | <b>show islb status</b>             | Displays iSLB CFS status information.                |
|                         | <b>show islb virtual-target</b>     | Displays iSLB virtual target information.            |
|                         | <b>show islb vrrp</b>               | Displays 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                                      |
|------------------|-------------------------------------|--|
|                  | <b>show islb cfs-session status</b> | Displays iSLB session information.               |
|                  | <b>show islb initiator</b>          | Displays iSLB initiator information.             |
|                  | <b>show islb pending</b>            | Displays iSLB pending configurations.            |
|                  | <b>show islb pending-diff</b>       | Displays iSLB pending configuration differences. |
|                  | <b>show islb session</b>            | Displays iSLB session information.               |
|                  | <b>show islb status</b>             | Displays iSLB CFS status information.            |
|                  | <b>show islb virtual-target</b>     | Displays iSLB virtual target information.        |
|                  | <b>show islb vrrp</b>               | Displays 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                                      |
|------------------|-------------------------------------|--|
|                  | <b>show islb initiator</b>          | Displays iSLB initiator information.             |
|                  | <b>show islb cfs-session status</b> | Displays iSLB session information.               |
|                  | <b>show islb merge status</b>       | Displays iSLB merge status information.          |
|                  | <b>show islb pending-diff</b>       | Displays iSLB pending configuration differences. |
|                  | <b>show islb session</b>            | Displays iSLB session information.               |
|                  | <b>show islb status</b>             | Displays iSLB CFS status information.            |
|                  | <b>show islb virtual-target</b>     | Displays iSLB virtual target information.        |
|                  | <b>show islb vrrp</b>               | Displays 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                                    |
|------------------|-------------------------------------|--|
|                  | <b>show islb cfs-session status</b> | Displays iSLB session information.             |
|                  | <b>show islb initiator</b>          | Displays iSLB initiator information.           |
|                  | <b>show islb merge status</b>       | Displays iSLB merge status information.        |
|                  | <b>show islb pending</b>            | Displays iSLB pending configurations.          |
|                  | <b>show islb session</b>            | Displays iSLB session information.             |
|                  | <b>show islb status</b>             | Displays iSLB CFS status information.          |
|                  | <b>show islb virtual-target</b>     | Displays iSLB virtual target information.      |
|                  | <b>show islb vrrp</b>               | Displays 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                             |            |   |
|--|------------|---|
| <b>detail</b>                                  | (Optional) | Displays detailed iSLB session information.   |
| <b>incoming</b>                                | (Optional) | Displays incoming iSLB sessions.  |
| <b>initiator</b><br><i>initiator-node-name</i> | (Optional) | Displays session information for a specific iSLB initiator. The maximum size for the initiator node name is 80. |
| <b>iscsi</b> <i>slot-port</i>                  | (Optional) | Specifies the iSCSI interface.  |
| <b>outgoing</b>                                | (Optional) | Displays outgoing iSLB sessions.  |
| <b>target</b>                                  | (Optional) | 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  |
|------------------|-------------------------------------|--|
|                  | <b>show islb cfs-session status</b> | Displays iSLB session information.                   |
|                  | <b>show islb initiator</b>          | Displays iSLB initiator information.                 |
|                  | <b>show islb merge status</b>       | Displays iSLB merge status information.              |
|                  | <b>show islb pending</b>            | Displays iSLB pending configurations.                |
|                  | <b>show islb pending-diff</b>       | Displays iSLB CFS pending configuration differences. |
|                  | <b>show islb status</b>             | Displays iSLB CFS status information.                |
|                  | <b>show islb virtual-target</b>     | Displays iSLB virtual target information.            |
|                  | <b>show islb vrrp</b>               | Displays 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  |
|------------------|-------------------------------------|--|
|                  | <b>show islb cfs-session status</b> | Displays iSLB session information.                   |
|                  | <b>show islb initiator</b>          | Displays iSLB initiator information.                 |
|                  | <b>show islb merge status</b>       | Displays iSLB merge status information.              |
|                  | <b>show islb pending</b>            | Displays iSLB pending configurations.                |
|                  | <b>show islb pending-diff</b>       | Displays iSLB CFS pending configuration differences. |
|                  | <b>show islb session</b>            | Displays iSLB session information.                   |
|                  | <b>show islb virtual-target</b>     | Displays iSLB virtual target information.            |
|                  | <b>show islb vrrp</b>               | Displays 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>        | (Optional) Specifies the iSLB virtual target name. The range is 16 bytes to 223 bytes. |
| <b>configured</b>  | (Optional) 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
```

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```
All initiator permit is disabled
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**

| <b>Command</b>                      | <b>Description</b>                                   |
|-------------------------------------|--|
| <b>show islb cfs-session status</b> | Displays iSLB session information.                   |
| <b>show islb initiator</b>          | Displays iSLB initiator information.                 |
| <b>show islb merge status</b>       | Displays iSLB merge status information.              |
| <b>show islb pending</b>            | Displays iSLB pending configurations.                |
| <b>show islb pending-diff</b>       | Displays iSLB CFS pending configuration differences. |
| <b>show islb session</b>            | Displays iSLB session information.                   |
| <b>show islb status</b>             | Displays iSLB CFS status information.                |
| <b>show islb vrrp</b>               | Displays 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                |  |
|-----------------------------------|--|
| <b>assignment</b>                 | (Optional) Displays iSLB VRRP initiator to interface assignment.   |
| <b>initiator <i>node-name</i></b> | (Optional) Displays a specific iSLB initiator's interface assignment. The maximum is 80.                                 |
| <b>vr <i>group-number</i></b>     | (Optional) Displays information for a specific VR group. The range is 1 to 255.  |
| <b>interface</b>                  | (Optional) Displays iSLB VRRP interface information.   |
| <b>switch <i>WWN</i></b>          | (Optional) Displays a interface information for a specific switch. The format of WWN is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> . |
| <b>summary</b>                    | (Optional) 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: 209.165.200.226
  Interface VRRP state: backup
  Interface load: 3000
  Interface redirection: enabled
  Group redirection: enabled
  Number of physical IP address: 1
    (1) 209.165.200.226
  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: 209.165.200.226
    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: 209.165.200.226
    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: 209.165.200.226
    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: 209.165.200.226
    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 --
-----

```

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| 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:01.8fbb33fdf8   | 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: 209.165.200.226
  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: 209.165.200.226
  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
```

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```
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: 209.165.200.226
  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: 209.165.200.226
  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: 209.165.200.226
  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: 209.165.200.226
  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: 209.165.200.226
  Interface VRRP state: backup
  Interface load: 1000
  Interface redirection: enabled
```



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```

    Group redirection: enabled
    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: 209.165.200.226
    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: 209.165.200.226
  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: 209.165.200.226
  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:01.8fbd33fdf8
  VRRP group id: 41, VRRP IP address: 209.165.200.226
  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: 209.165.200.226
  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: 209.165.200.226
  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: 209.165.200.226
  Assigned to switch wwn: 20:00:00:0d:ec:02:cb:00
    ifindex: GigabitEthernet1/2.441
  Waiting for the redirected session request: False

```

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```

Initiator weighted load: 1000

Initiator iqn.1987-05.com.cisco:01.e9aab57a51e0
  VRRP group id: 41, VRRP IP address: 209.165.200.226
  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: 209.165.200.226
  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: 209.165.200.226
  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: 209.165.200.226
  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  |
|-------------------------------------|--|
| <b>show islb cfs-session status</b> | Displays iSLB session information.                   |
| <b>show islb initiator</b>          | Displays iSLB initiator information.                 |
| <b>show islb merge status</b>       | Displays iSLB merge status information.              |
| <b>show islb pending</b>            | Displays iSLB pending configurations.                |
| <b>show islb pending-diff</b>       | Displays iSLB CFS pending configuration differences. |
| <b>show islb session</b>            | Displays iSLB session information.                   |
| <b>show islb status</b>             | Displays iSLB CFS status information.                |
| <b>show islb virtual-target</b>     | 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  |
|---|--|
| <b>config</b>                           | Displays iSNS server configuration.  |
| <b>database</b>                         | Displays the iSNS database contents.   |
| <b>full</b>                             | (Optional) Specifies all virtual targets or registered nodes in database.  |
| <b>virtual-targets</b>                  | (Optional) Specifies just virtual targets.   |
| <b>local</b>                            | (Optional) Specifies only local virtual targets.   |
| <b>switch</b> <i>switch-wwn</i>         | (Optional) 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. |
| <b>entity</b>                           | Displays entity attributes.  |
| <b>all</b>                              | (Optional) Specifies all information.  |
| <b>detail</b>                           | (Optional) Specifies detailed information.   |
| <b>id</b> <i>entity-id</i>              | (Optional) Specifies an entity ID. Maximum length is 255.  |
| <b>iscsi global config</b>              | Displays iSCSI global configuration for import of Fibre Channel targets.   |
| <b>node</b>                             | Displays node attributes.  |
| <b>configured</b>                       | Specifies configured nodes with detailed information.  |
| <b>name</b> <i>node-name</i>            | (Optional) Specifies the node name. Maximum length is 255.   |
| <b>virtual</b>                          | Specifies virtual targets.   |
| <b>portal</b>                           | Displays portal attributes.  |
| <b>ipaddress</b> <i>ip-address</i>      | Specifies the IP address for the portal.   |
| <b>port</b> <i>tcp-port</i>             | (Optional) Specifies the TCP port for the portal. The range is 1 to 66535.   |
| <b>profile</b>                          | (Optional) Displays iSNS profile information.  |
| <i>profile-name</i>                     | Specifies a profile name. Maximum length is 64 characters.   |
| <b>counters</b>                         | (Optional) Specifies statistics for the interfaces.  |
| <b>query</b> <i>profile-name</i>        | Specifies a query to send to the iSNS server.  |
| <b>gigabitethernet</b> <i>slot/port</i> | Specifies a Gigabit Ethernet interface.  |
| <b>port-channel</b> <i>port</i>         | Specifies a PortChannel interface. The range is 1 to 128.  |
| <b>stats</b>                            | Displays iSNS server statistics.   |

**Defaults** None.

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**Command Modes** EXEC mode.

| Command History | Release | Modification   |
|-----------------|---------|--|
|                 | 1.3(1)  | This command was introduced.   |
|                 | 2.0(x)  | Added <b>config</b> , <b>database</b> , <b>entity</b> , <b>iscsi</b> , <b>node</b> , <b>portal</b> , and <b>stats</b> 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)
  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
```

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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              |
|---------------------------|--------------------------|
| <b>isns-server enable</b> | 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                 |  |
|------------------------------------|--|
| <b>pending</b>                     | (Optional) Displays the IVR pending configuration.   |
| <b>pending-diff</b>                | (Optional) Displays the IVR pending configuration differences with the active configuration. |
| <b>session</b>                     | (Optional) Displays the IVR session status.  |
| <b>status</b>                      | (Optional) Displays the status of the configured IVR session.                                |
| <b>virtual-domains</b>             | (Optional) Displays IVR virtual domains for all local VSANs.                                 |
| <b>vsan vsan-id</b>                | (Optional) Specifies a VSAN ID. The range is 1 to 4093.                                      |
| <b>virtual-fcdomain-add-status</b> | (Optional) Displays IVR virtual fcdomain status.   |
| <b>vsan-topology</b>               | (Optional) Displays the IVR VSAN topology  |
| <b>active</b>                      | (Optional) Displays the active IVR facilities.   |
| <b>configured</b>                  | (Optional) Displays the configured IVR facilities  |
| <b>zone</b>                        | (Optional) Displays the Inter-VSA Zone (IVZ) configurations.                                 |
| <b>name name</b>                   | (Optional) Specifies the name as configured in the database.                                 |
| <b>zoneset</b>                     | (Optional) Displays the Inter-VSA Zone Set (IVZS) configurations.                            |
| <b>brief</b>                       | (Optional) Displays configured information in brief format.                                  |
| <b>fabric</b>                      | (Optional) 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 <b>pending</b> and <b>pending-diff</b> 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:

```
switch# show ivr virtual-fcdomain-add-status
IVR virtual domains are added to fcdomain list in VSANS: 1
```

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(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

The following example displays the combined user-defined and the automatically discovered IVR VSAN topology database:

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```
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
  pwwn 21:00:00:e0:8b:02:ca:4a vsan 3
  pwwn 21:00:00:20:37:c8:5c:6b vsan 2

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
```

The following example displays the active IVZS configuration:

```
switch# show ivr zoneset active
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 information for a specified IVZ:

```
switch# show ivr zone name Ivz_vsan2-3
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 specified zone in the active IVZS:



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```
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:

```
switch# show ivr zoneset name IVR_ZoneSet1
zoneset name IVR_ZoneSet1
  zone name Ivz_vsan2-3
```

■ show ivr

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```
pwwn 21:00:00:e0:8b:02:ca:4a vsan 3
pwwn 21:00:00:20:37:c8:5c:6b vsan 2
```

---

**Related Commands**

| <b>Command</b>        | <b>Description</b>            |
|-----------------------|-------------------------------|
| <b>ivr distribute</b> | Enables IVR CFS distribution. |
| <b>ivr enable</b>     | Enables IVR.                  |

---

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## show ivr aam pre-deregister-check

To display IVR pre de-register check status, use the **show ivr aam pre-deregister-check** command.

```
show ivr aam pre-deregister-check
```

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(1) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display IVR de-register check status:

```
switch(config)# show ivr aam pre-deregister-check
AAM pre-deregister check status
-----
FAILURE
switch(config)#
```

| Related Commands | Command           | Description                                   |
|------------------|-------------------|---|
|                  | <b>ivr enable</b> | Enables the inter-VSAN Routing (IVR) feature. |

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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

|  |   |
|--|---|
| <b>autonomous-fabric-num</b> <i>afid-num</i> | (Optional) Specifies the AFID. The range is 1 to 64.      |
| <b>vsan</b> <i>vsan-id</i>                   | (Optional) 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

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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                    |
|--|--------------------------------|
| <b>ivr fcdomain database autonomous-fabric-num</b> | Creates IVR persistent FC IDs. |

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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            | (Optional) Displays active IVR service groups.     |
|--------------------|-------------------|--|
|                    | <b>configured</b> | (Optional) 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                           |
|------------------|---|---------------------------------------|
|                  | <b>clear ivr service-group database</b> | Clears an IVR service group database. |
|                  | <b>ivr service-group name</b>           | Configures an IVR service group.      |

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## show ivr virtual-fcdomain-add-status2

To display the Request Domain ID (RDI) 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   |
|------------------|--|---|
|                  | <b>ivr</b><br><b>virtual-fcdomain-add2</b> | 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   |
|--------------------|---|---|
|                    | <b>native-switch-wwn</b><br><i>switch-wwn</i> | Specifies the sWWN of the native switch. The format is in dotted hex. |
|                    | <b>native-vsan</b> <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               |
|------------------|-----------------|---------------------------|
|                  | <b>show ivr</b> | 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.                                   |
|--------------------|--------------------|--|
|                    | <b>module slot</b> | Displays the kernel core configuration for a module in the specified slot. |
|                    | <b>target</b>      | 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                 |            |   |
|------------------------------------|------------|---|
| <b>brief</b>                       | (Optional) | Displays a list of license files installed on a switch. |
| <b>default</b>                     | (Optional) | Displays services using a default license.              |
| <b>file</b> <i>filename</i>        | (Optional) | Displays information for a specific license file.       |
| <b>host-id</b> <i>license-name</i> | (Optional) | Displays host ID used to request node-locked license.   |
| <b>usage</b>                       | (Optional) | 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 <b>default</b> 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 Status  ExpiryDate  Comments
Count
-----
FM_SERVER_PKG          Yes       -               Unused      never       license missing
MAINFRAME_PKG          No        -               Unused      never       Grace Period 57days15hrs
ENTERPRISE_PKG         Yes       -               InUse       never       -
SAN_EXTN_OVER_IP       No        0               Unused      never       -
SAN_EXTN_OVER_IP_IPS4 No        0               Unused      never       -
-----
```

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 license usage

To display the license usage table, use the **show license usage** command.

**show license usage** *license*

| Syntax Description | <i>license</i> | Specifies the services that are using the license. |
|--------------------|----------------|--|
|--------------------|----------------|--|

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

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

| Command History | Release | Modification                 |
|-----------------|---------|------------------------------|
|                 | 4.1(1b) | This command was introduced. |

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

| Examples | <p>The following example displays information about enterprise license usage:</p> <pre>switch# show license usage ENTERPRISE_PKG Application ----- IVR ----- switch#</pre> |
|----------|--|
|----------|--|

| Related Commands | Command                     | Description                                   |
|------------------|-----------------------------|---|
|                  | <b>license grace-period</b> | Configures grace period support for licenses. |

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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       |            |  |
|--------------------------|------------|--|
| <b>com1</b>              | (Optional) | Displays auxiliary line configuration.   |
| <b>user-input-string</b> | (Optional) | Displays the user-input initial string.  |
| <b>console</b>           | (Optional) | Displays console line configuration.     |
| <b>connected</b>         | (Optional) | 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                          |
|---------------------|--------------------------------------|
| <b>clear line</b>   | Deleted configured line sessions.    |
| <b>line aux</b>     | Configures the auxiliary COM 1 port. |
| <b>line console</b> | Configures primary terminal line.    |

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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         |   |
|----------------------------|---|
| <b>console</b>             | (Optional) Displays console logging configuration.  |
| <b>info</b>                | (Optional) Displays logging configuration.  |
| <b>last lines</b>          | (Optional) Displays last few lines of the log file. The range is 1 to 9999.   |
| <b>level facility</b>      | (Optional) Displays facility logging configuration. Facility values include <b>aaa</b> , <b>acl</b> , <b>auth</b> , <b>authpriv</b> , <b>bootvar</b> , <b>callhome</b> , <b>cdp</b> , <b>cfs</b> , <b>cimserver</b> , <b>cron</b> , <b>daemon</b> , <b>device-alias</b> , <b>dstats</b> , <b>ethport</b> , <b>fc2d</b> , <b>fcc</b> , <b>fed</b> , <b>fedomain</b> , <b>fcns</b> , <b>fcsp-mgr</b> , <b>fdmi</b> , <b>ficon</b> , <b>flogi</b> , <b>fspf</b> , <b>ftp</b> , <b>ike</b> , <b>ipacl</b> , <b>ipconf</b> , <b>ipfc</b> , <b>ips</b> , <b>ipsec</b> , <b>isns</b> , <b>kernel</b> , <b>license</b> , <b>localn</b> , <b>lpr</b> , <b>mail</b> , <b>mcast</b> , <b>module</b> , <b>news</b> , <b>platform</b> , <b>port</b> , <b>port-security</b> , <b>qos</b> , <b>radius</b> , <b>rdd</b> , <b>rib</b> , <b>rlir</b> , <b>rscn</b> , <b>scsi-target</b> , <b>security</b> , <b>syslog</b> , <b>sysmgr</b> , <b>systemhealth</b> , <b>tacacs</b> , <b>tlport</b> , <b>user</b> , <b>uucp</b> , <b>vni</b> , <b>vrrp-cfg</b> , <b>vsan</b> , <b>vshd</b> , <b>wmm</b> , <b>xbar</b> , <b>zone</b> . |
| <b>logfile</b>             | (Optional) Displays contents of the log file.   |
| <b>module</b>              | (Optional) Displays module logging configuration.   |
| <b>monitor</b>             | Displays monitor logging configuration.   |
| <b>nvrnm</b>               | Displays NVRAM log.   |
| <b>onboard information</b> | (Optional) Displays onboard failure logging (OBFL) information. The types of information include <b>boot-uptime</b> , <b>cpu-hog</b> , <b>device-version</b> , <b>endtime</b> , <b>environmental-history</b> , <b>error-stats</b> , <b>exception-log</b> , <b>interrupt-stats</b> , <b>mem-leak</b> , <b>miscellaneous-error</b> , <b>module</b> , <b>obfl-history</b> , <b>obfl-logs</b> , <b>register-log</b> , <b>stack-trace</b> , <b>starttime</b> , <b>status</b> , <b>system-health</b> .  |
| <b>pending</b>             | (Optional) Displays the server address pending configuration.   |
| <b>pending-diff</b>        | (Optional) Displays the server address pending configuration differences with the active configuration.   |
| <b>server</b>              | (Optional) Displays server logging configuration.   |
| <b>status</b>              | (Optional) 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 <b>pending</b> , <b>pending-diff</b> , and <b>status</b> keywords. |
|                 | 3.0(1)  | Added the <b>onboard</b> 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 fcmls 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<br>MM/DD/YY HH:MM:SS | In Port<br>st Rang<br>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:                               Enabled
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**

| <b>Command</b> | <b>Description</b>             |
|----------------|--------------------------------|
| <b>logging</b> | Configures logging parameters. |

---

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## show logging onboard credit-loss

To display Onboard Failure Logging (OBFL) credit loss logs, use the **show logging onboard credit-loss** command.

```
show logging onboard credit-loss [last mm minutes] [last hh hours] [last dd days] [module module number]
```

| Syntax Description            |   |
|-------------------------------|---|
| <b>last</b>                   | Specifies last min/hour/day logs.   |
| <b>last</b> <i>mm minutes</i> | (Optional) Specifies duration in minutes format. The range is from 0 to 2147483647. |
| <b>last</b> <i>hh hours</i>   | (Optional) Specifies duration in hours format. The range is from 0 to 2147483647.   |
| <b>last</b> <i>dd days</i>    | (Optional) Specifies duration in days format. The range is from 0 to 2147483647.    |
| <b>module</b>                 | (Optional) Specifies the OBFL information for a module.                             |
| <i>module number</i>          | Specifies the module number. The range is from 1 to 13.                             |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.2(7a) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display OBFL credit loss logs for SUP CLI:

```
Switch# show logging onboard credit-loss
-----
Module: 2
-----
-----
ERROR STATISTICS INFORMATION FOR DEVICE ID 118 DEVICE Aakash
-----
-----
Interface      |          Error Stat Counter Name          | Count | Time Stamp
  Range        |          |      | MM/DD/YY HH:MM:SS
-----
fc2/1          | AK_FCP_CNTR_CREDIT_LOSS                   |    647 | 05/25/10 23:53:34
fc2/7          | AK_FCP_CNTR_CREDIT_LOSS                   |    400 | 05/25/10 23:50:34
-----
Module: 9
-----
```

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```
-----
ERROR STATISTICS INFORMATION FOR DEVICE ID 63 DEVICE Stratosphere
-----
```

| Interface<br>Range | Error Stat Counter Name | Count | Time Stamp<br>MM/DD/YY HH:MM:SS |
|--------------------|-------------------------|-------|---------------------------------|
| fc9/2              | FCP_CNTR_CREDIT_LOSS    | 447   | 05/23/10 20:53:34               |
| fc9/5              | FCP_CNTR_CREDIT_LOSS    | 200   | 05/23/10 20:50:34               |

Switch#

The following example shows how to display OBFL credit loss logs for LC CLI:

```
Switch# show logging onboard credit-loss
```

```
-----
ERROR STATISTICS INFORMATION FOR DEVICE ID 118 DEVICE Aakash
-----
```

| Interface<br>Range | Error Stat Counter Name | Count  | Time Stamp<br>MM/DD/YY HH:MM:SS |
|--------------------|-------------------------|--------|---------------------------------|
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180235 | 06/02/10 20:21:09               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180226 | 06/02/10 20:20:59               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180217 | 06/02/10 20:20:49               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180208 | 06/02/10 20:20:39               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180199 | 06/02/10 20:20:29               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180190 | 06/02/10 20:20:19               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180181 | 06/02/10 20:20:09               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180171 | 06/02/10 20:19:59               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180162 | 06/02/10 20:19:49               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180153 | 06/02/10 20:19:39               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180144 | 06/02/10 20:19:28               |
| fc2/1              | AK_FCP_CNTR_CREDIT_LOSS | 180135 | 06/02/10 20:19:18               |

Switch#

#### Related Commands

| Command        | Description                    |
|----------------|--------------------------------|
| <b>logging</b> | Configures logging parameters. |

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## show logging onboard request-timeout

To display Onboard Failure Logging (OBFL) request timeout logs, use the **show logging onboard request-timeout** command.

**show logging onboard request-timeout** [*module module number*]

| Syntax Description | module               | (Optional) Specifies the OBFL information for the module. |
|--------------------|----------------------|---|
|                    | <i>module number</i> | Specifies the module number. The range is from 1 to 13.   |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.2(7a) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display OBFL request timeout log information for module 2:

```
Switch# show logging onboard request-timeout module 2
```

```
-----
      Module:  2
-----
-----
| Dest | Source | Events |      Timestamp      |      Timestamp      |
| Intf | Intf   | Count  |      Latest         |      Earliest       |
-----
| fc2/1 | fc2/19, |    77 | Mon May 31 13:12:22 2010 | Mon May 31 13:12:39 2010 |
-----
| fc2/19 | fc2/18, |    1 | Mon May 31 13:12:21 2010 | Mon May 31 13:12:21 2010 |
-----
| fc2/1 | fc2/19, |   13 | Mon May 31 13:12:13 2010 | Mon May 31 13:12:21 2010 |
-----
| fc2/19 | fc2/18, |    2 | Mon May 31 13:12:11 2010 | Mon May 31 13:12:11 2010 |
-----
| fc2/1 | fc2/19, |  313 | Mon May 31 13:10:50 2010 | Mon May 31 13:12:06 2010 |
-----
| fc2/19 | fc2/18, |    3 | Mon May 31 13:10:16 2010 | Mon May 31 13:10:26 2010 |
-----
| fc2/1 | fc2/19, |   28 | Mon May 31 13:09:57 2010 | Mon May 31 13:10:06 2010 |
-----
| fc2/19 | fc2/18, |    2 | Mon May 31 13:09:56 2010 | Mon May 31 13:09:56 2010 |
-----
Switch#
```



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| Related Commands | Command | Description                    |
|------------------|---------|--------------------------------|
|                  | logging | Configures logging parameters. |

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## show logging onboard timeout-drops

To display the Onboard Failure Logging (OBFL) timeout drops log, use the **show logging onboard timeout-drops** command.

```
show logging onboard timeout-drops [last mm minutes] [last hh hours] [last dd days] [module
module number]
```

| Syntax                        | Description   |
|-------------------------------|---|
| <b>last</b>                   | Specifies last min/hour/day logs.   |
| <b>last</b> <i>mm minutes</i> | (Optional) Specifies duration in minutes format. The range is from 0 to 2147483647. |
| <b>last</b> <i>hh hours</i>   | (Optional) Specifies duration in hours format. The range is from 0 to 2147483647.   |
| <b>last</b> <i>dd days</i>    | (Optional) Specifies duration in days format. The range is from 0 to 2147483647.    |
| <b>module</b>                 | Specifies the OBFL information for module.  |
| <i>module number</i>          | Specifies the module number. The range is from 1 to 13.                             |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.2(7a) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display OBFL timeout drops logs for SUP CLI:

```
Switch# show logging onboard timeout-drops
```

```
-----
Module: 2
-----
ERROR STATISTICS INFORMATION FOR DEVICE ID 118 DEVICE Aakash
-----
Interface          |                               | Count | Time Stamp
  Range            | Error Stat Counter Name      |       | MM/DD/YY HH:MM:SS
-----
fc2/1              | AK_FCP_CNTR_LAF_TOTAL_TIMEOUT_FR | 647   | 05/25/10 23:53:34
fc2/2              | AK_FCP_CNTR_LAF_TOTAL_TIMEOUT_FR | 200   | 05/25/10 20:53:34
-----
```

```
Module: 9
```

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```

-----
ERROR STATISTICS INFORMATION FOR DEVICE ID 63 DEVICE Stratosphere
-----
Interface          |          Error Stat Counter Name          | Count |      Time Stamp
      Range        |          |          |      MM/DD/YY HH:MM:SS
-----
fc9/1              | AK_FCP_CNTR_LAF_TOTAL_TIMEOUT_FR |    300 |    05/25/10 23:53:34
fc9/2              | AK_FCP_CNTR_LAF_TOTAL_TIMEOUT_FR |    220 |    05/25/10 20:53:34
Switch#

```

The following example shows how to display OBFL timeout drops logs for LC CLI:

```

Switch# show logging onboard timeout-drops
-----
ERROR STATISTICS INFORMATION FOR DEVICE ID 118 DEVICE Aakash
-----
Interface          |          Error Stat Counter Name          | Count |      Time Stamp
      Range        |          |          |      MM/DD/YY HH:MM:SS
-----
fc2/1              | AK_FCP_CNTR_LAF_TOTAL_TIMEOUT_FR |    647 |    05/25/10 23:53:34
fc2/2              | AK_FCP_CNTR_LAF_TOTAL_TIMEOUT_FR |    200 |    05/25/10 20:53:34
Switch#

```

#### Related Commands

| Command        | Description                    |
|----------------|--------------------------------|
| <b>logging</b> | Configures logging parameters. |

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## show mcast

To display multicast information, use the **show mcast** command.

```
show mcast [vsan vsan-id]
```

| <b>Syntax Description</b> | <b>vsan vsan-id</b> (Optional) Specifies the number of the VSAN. The range is 1 to 4093.   |         |              |        |                              |
|---------------------------|--|---------|--------------|--------|------------------------------|
| <b>Defaults</b>           | None.  |         |              |        |                              |
| <b>Command Modes</b>      | EXEC mode.   |         |              |        |                              |
| <b>Command History</b>    | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>2.0(x)</td> <td>This command was introduced.</td> </tr> </tbody> </table> | Release | Modification | 2.0(x) | This command was introduced. |
| 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**

| <b>Command</b>    | <b>Description</b>                  |
|-------------------|-------------------------------------|
| <b>mcast root</b> | 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    |   |
|-----------------------|---|
| <i>slot</i>           | (Optional) Specifies the slot number for the module.  |
| <b>recovery-steps</b> | (Optional) Displays information about modules and the steps to recover a module.            |
| <b>diag</b>           | (Optional) Displays module-related information.   |
| <b>uptime</b>         | (Optional) Displays the length of time that the modules have been functional in the switch. |
| <b>xbar number</b>    | (Optional) Displays information about the specified crossbar, either 1 or 2.                |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification   |
|-----------------|---------------|--|
|                 | 1.3(4)        | This command was introduced.   |
|                 | 3.0(1)        | Added the <b>recovery-steps</b> and <b>xbar</b> options.   |
|                 | NX-OS 4.1(1b) | Added the command output for a module resource on a 24-port line card with all ports in shared mode.                                 |
|                 | NX-OS 4.1(1b) | Added the command output for a module resource on a 24-port line card with few ports in shared mode and few port in dedicated mode.  |
|                 | NX-OS 4.1(1b) | Added the command output for a module resource on a 12-port line card with all ports in dedicated mode.                              |
|                 | NX-OS 4.1(1b) | Added the command output for a module resource on a 12-port line card with all ports in dedicated mode and extended feature enabled. |
|                 | NX-OS 4.1(1b) | Added the command output for <b>show module xbar</b> .   |

### Usage Guidelines

If your chassis has more than one switching module, you will see the progress check if you enter 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.

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**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:

```
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 shows how to module resources on a 24-port line card with all ports in shared mode:

```
switch# show module 1 resources

BB_Credit  Bandwidth  Rate
           (Gbps)  Mode
-----
Available Dedicated Buffers    5336

Port-Group 0
Total Bandwidth                12
Allocated Dedicated Bandwidth   0
Shared Bandwidth in Use        12

fc1/1    16    4    shared
fc1/2    16    4    shared
fc1/3    16    4    shared
fc1/4    16    4    shared
fc1/5    16    4    shared
fc1/6    16    4    shared
```

The following example shows how to module resources on a 24-port line card with a few ports in shared mode and a few ports in dedicated mode:

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```
switch# show module 1 resources
```

|                               | BB_Credit | Bandwidth<br>(Gbps) | Rate<br>Mode |
|-------------------------------|-----------|---------------------|--------------|
| -----                         |           |                     |              |
| Available Dedicated Buffers   | 1776      |                     |              |
| Port-Group 0                  |           |                     |              |
| Total Bandwidth               |           | 12                  |              |
| Allocated Dedicated bandwidth |           | 8                   |              |
| Shared Bandwidth in Use       |           | 4                   |              |
| fc1/1                         | 250       | 1                   | dedicated    |
| fc1/2                         | 16        | 4                   | shared       |
| fc1/3                         | 250       | 1                   | dedicated    |
| fc1/4                         | 250       | 2                   | dedicated    |
| fc1/5                         | 16        | 4                   | shared       |
| fc1/6                         | 250       | 4                   | dedicated    |

The following example shows how to module resources on a 12-port line card with all ports in dedicated mode:

```
switch# show module 1 resources
```

|                               | BB_Credit | Bandwidth<br>(Gbps) | Rate<br>Mode |
|-------------------------------|-----------|---------------------|--------------|
| -----                         |           |                     |              |
| Available Dedicated Buffers   | 3000      |                     |              |
| Port-Group 0                  |           |                     |              |
| Total Bandwidth               |           | 12                  |              |
| Allocated Dedicated bandwidth |           | 11                  |              |
| Shared Bandwidth in Use       |           | 0                   |              |
| fc1/1                         | 250       | 4                   | dedicated    |
| fc1/2                         | 250       | 1                   | dedicated    |
| fc1/3                         | 250       | 2                   | dedicated    |
| fc1/4                         | 250       | 1                   | dedicated    |
| fc1/5                         | 250       | 2                   | dedicated    |
| fc1/6                         | 250       | 1                   | dedicated    |

The following example shows module resources on a 12-port line card with all ports in dedicated mode and extended feature enabled:

```
switch# show module 1 resources
```

|                               | BB_Credit | Bandwidth<br>(Gbps) | Rate<br>Mode |
|-------------------------------|-----------|---------------------|--------------|
| -----                         |           |                     |              |
| Available Dedicated Buffers   | 2700      |                     |              |
| Port-Group 0                  |           |                     |              |
| Total Bandwidth               |           | 12                  |              |
| Allocated Dedicated bandwidth |           | 11                  |              |
| Shared Bandwidth in Use       |           | 0                   |              |
| fc1/1                         | 100       | 1                   | dedicated    |



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```

fc1/2          250    1          dedicated
fc1/3          250    2          dedicated
fc1/4          150    1          dedicated
fc1/5          300    2          dedicated
fc1/6          600    4          dedicated

```

The following example displays diagnostic information about the modules on the switch:

```

switch# show module diag

Diag status for module 2 (. = PASS, F = FAIL, N = N/A)
CPU                .
SPROM              .
ASICS              .

Diag status for module 4 (. = PASS, F = FAIL, N = N/A)
CPU                .
SPROM              .
ASICS              .

```

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
Xbar Ports  Module-Type                Model                Status
-----
1    0    Fabric Module 1                    DS-13SLT-FAB1      ok
2    0    Fabric Module 2                    DS-13SLT-FAB2      ok

Xbar Sw      Hw      World-Wide-Name(s) (WWN)
-----
1    NA      0.0    --
2    NA      0.111  --

Xbar MAC-Address(es)                Serial-Num
-----
1    NA      JAF1207ARRS
2    NA      JAE1212BPR0

* this terminal session

```

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

```

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```

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

```

```

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
-----
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
```

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Module index distribution:

| 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:

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Insufficient indices in range 0-255. Module cannot be powered up

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      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 | Alloted indices info
    | range  | 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

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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 because of alignment, even though contiguous indices 208 through 252 are available.

```
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
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 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       |  |  |
|--------------------------|--|--|
| <b>peers</b>             |  | Displays all the peers.  |
| <b>pending peers</b>     |  | Displays pending NTP configuration changes on all peers.   |
| <b>pending-diff</b>      |  | Displays the differences between the pending NTP configuration changes and the active NTP configuration. |
| <b>session-status</b>    |  | Displays the Cisco Fabric Services (CFS) session status.   |
| <b>statistics</b>        |  | Displays the NTP statistics  |
| <b>io</b>                |  | (Optional) Displays the input/output statistics.   |
| <b>local</b>             |  | (Optional) Displays the counters maintained by the local NTP.  |
| <b>memory</b>            |  | (Optional) Displays the statistics counters related to memory code.                                      |
| <b>peer</b>              |  | (Optional) Displays the per-peer statistics counter of a peer.   |
| <b>ipaddr ip-address</b> |  | (Optional) Displays the peer statistics for the specified IP address.                                    |
| <b>name peer-name</b>    |  | (Optional) Displays the peer statistics for the specified peer name.                                     |
| <b>timestamp-status</b>  |  | 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 <b>pending</b> , <b>pending-diff</b> , and <b>session-status</b> 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 I/O 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                |
|------------|----------------------------|
| <b>ntp</b> | 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 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. |



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## 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 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: 209.165.200.226
Switch Mgmt IP Address: 209.165.200.226
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
Statistics:
```

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```

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   |
|-----------------------|---|
| <b>debug npv</b>      | Enables debugging NPV configurations.                     |
| <b>show debug npv</b> | 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 arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode

| Command History | Release  | Modification                     |
|-----------------|----------|----------------------------------|
|                 | 4.1(1b)  | 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               |
|------------------|-----------------------------|---------------------------|
|                  | <b>show npv traffic-map</b> | 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 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  |
|------------------|---|--|
|                  | <b>show npv flogi-table</b>               | Displays information about NPV FLOGI sessions.       |
|                  | <b>show npv internal info traffic-map</b> | 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 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                                       |
|------------------|-----------------------------|---|
|                  | <b>show npv flogi-table</b> | Displays the information about NPV FLOGI session. |

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## show process creditmon

To display creditmon information, use the **show process creditmon** command.

```
show process creditmon {credit-loss-event-history module module number | credit-loss-events
module module number}
```

| Syntax Description               |   |
|----------------------------------|---|
| <b>credit-loss-event-history</b> | Specifies the credit loss event history information.            |
| <b>credit-loss-events</b>        | Specifies the credit loss event information.                    |
| <b>module</b>                    | Specifies the credit loss event information for a module.       |
| <i>module number</i>             | Specifies the module number. The range is from 0 to 2147483647. |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(7) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display credit loss event information for module 2:

```
Switch# show process creditmon credit-loss-events module 2
```

```
Module: 02      Credit Loss Events: YES
```

```
-----
```

| Interface | Total<br>Events | Timestamp                   |
|-----------|-----------------|-----------------------------|
| fc2/1     | 444748          | 1. Tue Jun 8 20:22:02 2010  |
|           |                 | 2. Tue Jun 8 20:22:01 2010  |
|           |                 | 3. Tue Jun 8 20:22:00 2010  |
|           |                 | 4. Tue Jun 8 20:21:59 2010  |
|           |                 | 5. Tue Jun 8 20:21:58 2010  |
|           |                 | 6. Tue Jun 8 20:21:57 2010  |
|           |                 | 7. Tue Jun 8 20:21:56 2010  |
|           |                 | 8. Tue Jun 8 20:21:55 2010  |
|           |                 | 9. Tue Jun 8 20:21:53 2010  |
|           |                 | 10. Tue Jun 8 20:21:52 2010 |
| fc2/19    | 2               | 1. Wed Jun 9 10:15:49 2010  |
|           |                 | 2. Wed Jun 9 09:07:45 2010  |

```
-----
```

```
Switch#
```

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The following example shows how to display the credit loss event history information for module 2:

```
Switch# show process creditmon credit-loss-event-history module 2
1) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 854490 usecs after Wed Jun  9
   10:15:49 2010
   interface = fc2/19

2) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 205391 usecs after Wed Jun  9
   09:07:45 2010
   interface = fc2/19

3) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 730422 usecs after Tue Jun  8
   20:22:02 2010
   interface = fc2/1

4) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 630446 usecs after Tue Jun  8
   20:22:01 2010
   interface = fc2/1

5) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 530392 usecs after Tue Jun  8
   20:22:00 2010
   interface = fc2/1

6) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 430418 usecs after Tue Jun  8
   20:21:59 2010
   interface = fc2/1
Switch#
```

### Related Commands

| Command        | Description                    |
|----------------|--------------------------------|
| <b>logging</b> | Configures logging parameters. |

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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 <b>naming</b> 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 |           Alloted indices info
      | range   | 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 |           Alloted indices info
      | range   | 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 |           Alloted indices info
      | range   | 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 |           Alloted indices info
      | range   | 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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## 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

|   |   |
|---|---|
| <b>compatibility-parameters</b>                             | Displays compatibility parameters.                            |
| <b>consistency</b>  | Displays the database consistency information of all modules. |
| <b>detail</b>   | Displays detailed database consistency information.           |
| <b>database</b>   | Displays PortChannel database information.                    |
| <b>interface port-channel</b><br><i>port-channel-number</i> | Specifies the PortChannel number. The range is 1 to 256.      |
| <b>summary</b>  | Displays PortChannel summary.                                 |
| <b>usage</b>  | 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"> <li>Increased the <b>interface port-channel</b> range to 256.</li> <li>Modified the output of the <b>compatibility-parameters</b> option.</li> </ul> |

### 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 details and with details.

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.

```

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-channel database

To display the PortChannel database, use the **show port-channel database** command.

**show port-channel database interface port-channel** *{port-channel number}*

| Syntax Description | Parameter                  | Description   |
|--------------------|----------------------------|---|
|                    | <b>interface</b>           | Specifies the PortChannel interface.                          |
|                    | <b>port-channel</b>        | Specifies the PortChannel.                                    |
|                    | <i>port-channel number</i> | Specifies the PortChannel number. The range is from 1 to 256. |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.1(2) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display the PortChannel database:

```
switch# show port-channel database interface port-channel 1
port-channel 1
  Administrative channel mode is on
  Operational channel mode is on
  Last membership update succeeded
  1 port in total, 0 ports up
  Ports:   fc1/1   [down]
switch#
```

| Related Commands | Command                              | Description  |
|------------------|--------------------------------------|--|
|                  | <b>show port-channel consistency</b> | Displays PortChannel distributed database consistency. |

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## show port-channel compatibility-parameters

To display the PortChannel compatibility parameters, use the **show port-channel compatibility-parameters** command.

**show port-channel compatibility-parameters**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.1(3) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display 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

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

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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. MEDIUM

Members have to have the same medium type configured. This only applies to ethernet port-channel.

## 12. Span mode

Members must have the same span mode.

## 13. admin channel mode

Port Channel admin channel mode must be active.

## 14. port VSAN

Members must have the same port VSAN.

## 15. port allowed VSAN list

Members must have the same port allowed VSAN list.

## 16. IP address

Members must not have IP address configured. This only applies to ethernet port-channel.

## 17. IPv6 configuration

Members must not have any IPv6 configuration. This only applies to ethernet port-channel.

## 18. port-security active bindings

Members must all be permitted by the activated port-security bindings and fabric-bindings in all the allowed VSANs.



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## 19. 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

## 20. IP ACLs

Members must not have IP ACLs configured individually on them. This only applies to ethernet port-channel.

## 21. sub interfaces

Members must not have sub-interfaces.

## 22. Duplex Mode

Members must have same Duplex Mode configured.

## 23. Ethernet Layer

Members must have same Ethernet Layer (switchport/no-switchport) configured.

## 24. Span Port

Members cannot be SPAN ports.

## 25. Storm Control

Members must have same storm-control configured.

## 26. Flow Control

Members must have same flowctrl configured.

## 27. Capabilities

Members must have common capabilities.

## 28. port

Members port VLAN info.

## 29. port

Members port does not exist.

## 30. switching port

Members must be switching port, Layer 2.

## 31. port access VLAN

Members must have the same port access VLAN.

--More--

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| Related Commands | Command                   | Description                   |
|------------------|---------------------------|-------------------------------|
|                  | show port-channel summary | Displays PortChannel summary. |

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## show port-channel consistency

To display the PortChannel distributed database consistency, use the **show port-channel consistency** command.

**show port-channel consistency { detail }**

| Syntax Description | detail | Specifies the PortChannel distributed database in all modules. |
|--------------------|--------|--|
|--------------------|--------|--|

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.1(3) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display the Port Channel distributed database consistency:

```
switch# show port-channel consistency detail
Authoritative port-channel database:
=====
total 1 port-channels
port-channel 1:
    1 ports, first operational port is none
    fc1/1    [down]
=====
database 1: from module 1
=====
total 1 port-channels
port-channel 1:
    1 ports, first operational port is none
    fc1/1    [down]
=====
switch#
```

| Related Commands | Command   | Description                                    |
|------------------|---|--|
|                  | <b>show port-channel compatibility-parameters</b> | Displays PortChannel compatibility parameters. |

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## show port-channel internal

To display the PortChannel internal status, use the **show port-channel internal** command.

```
show port-channel internal event-history {all | debugs | errors | interface {fa | fc |
gigabitethernet {slot number} port-channel {port-channel number} | lock | msgs | pcp} info
{ all | interface} mem-stats {detail}
```

| Syntax                     | Description   |
|----------------------------|---|
| <b>event-history</b>       | Specifies a PortChannel.                                      |
| <b>all</b>                 | Specifies interface event transition for all interfaces.      |
| <b>debugs</b>              | Specifies debug logs for a PortChannel.                       |
| <b>errors</b>              | Specifies error logs for a PortChannel.                       |
| <b>interface</b>           | Specifies interface event transitions.                        |
| <b>fa</b>                  | Specifies the FA port interface.                              |
| <b>fc</b>                  | Specifies the Fiber Channel interface.                        |
| <b>gigabitethernet</b>     | Specifies the Ethernet interface.                             |
| <i>slot number</i>         | Specifies the slot number.                                    |
| <b>port-channel</b>        | Specifies the PortChannel interface.                          |
| <i>port-channel number</i> | Specifies the PortChannel number. The range is from 1 to 256. |
| <b>lock</b>                | Specifies lock log of the PortChannel.                        |
| <b>msgs</b>                | Specifies message logs of the PortChannel.                    |
| <b>pcp</b>                 | Specifies interface PCP event transition.                     |
| <b>info</b>                | Specifies internal information.                               |
| <b>all</b>                 | Specifies PortChannel global information.                     |
| <b>interface</b>           | Specifies PortChannel interface information.                  |
| <b>mem-stats</b>           | Specifies memory allocation statistics of the PortChannel.    |
| <b>detail</b>              | Specifies detail memory statistics for the PortChannel.       |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.1(3) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to configure the error logs for the PortChannel:

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```
switch# show port-channel internal event-history errors
1) Event:E_DEBUG, length:99, at 268834 usecs after Thu Nov 6 12:44:17 2008
   [102] pcm_port_ac_add_eval(1420): pc: port-channel 2 last port 1000000 for t
   his msg. send hw_config

2) Event:E_DEBUG, length:158, at 268821 usecs after Thu Nov 6 12:44:17 2008
   [102] pcm_port_ac_add_eval(1384): Added pc: port-channel 2 pinfo->nports=0x1
   ,port 1000000 for this msg. pinfo->bundle=0x1,mbr->bundle=0xffffe,ports_to_add=0x
   1

3) Event:E_DEBUG, length:99, at 444720 usecs after Thu Nov 6 12:24:11 2008
   [102] pcm_port_ac_rem_eval(1655): pc: port-channel 1 last port 1000000 for t
   his msg. send hw_config

4) Event:E_DEBUG, length:143, at 444702 usecs after Thu Nov 6 12:24:11 2008
   [102] pcm_port_ac_rem_eval(1645): removed pc: port-channel 1 pinfo->nports=0
   x1,port 1000000 for this msg. pinfo->bundle=0x0,mbr->bundle=0xffffe

5) Event:E_DEBUG, length:72, at 462673 usecs after Thu Nov 6 12:23:59 2008
   [102] abort_members(1235): port-channel 2: reverting newly changed ports

6) Event:E_DEBUG, length:86, at 462660 usecs after Thu Nov 6 12:23:59 2008
   [102] split_members(1319): port-channel 2: fc1/1 is already in another port-
   channel [1]

7) Event:E_DEBUG, length:68, at 293493 usecs after Thu Nov 6 12:19:05 2008
   [102] pcm_pc_ac_get_wnn(244): wnn request setting pinfo->bundle=0x1f

8) Event:E_DEBUG, length:65, at 292875 usecs after Thu Nov 6 12:19:05 2008
   [102] pcm_alloc_pc(494): pallocpc setting pinfo->bundle to 0xFFFF

9) Event:E_DEBUG, length:73, at 535797 usecs after Thu Nov 6 12:02:03 2008
   [102] abort_members(1235): port-channel 20: reverting newly changed ports

10) Event:E_DEBUG, length:87, at 535784 usecs after Thu Nov 6 12:02:03 2008
   [102] split_members(1319): port-channel 20: fc1/1 is already in another port
   -channel [1]

11) Event:E_DEBUG, length:68, at 533069 usecs after Thu Nov 6 12:02:03 2008
   [102] pcm_pc_ac_get_wnn(244): wnn request setting pinfo->bundle=0x13

12) Event:E_DEBUG, length:65, at 532434 usecs after Thu Nov 6 12:02:03 2008
   [102] pcm_alloc_pc(494): pallocpc setting pinfo->bundle to 0xFFFF

13) Event:E_DEBUG, length:72, at 425969 usecs after Thu Nov 6 12:01:33 2008
   [102] abort_members(1235): port-channel 5: reverting newly changed ports

14) Event:E_DEBUG, length:86, at 425955 usecs after Thu Nov 6 12:01:33 2008
   [102] split_members(1319): port-channel 5: fc1/1 is already in another port-
   channel [1]

15) Event:E_DEBUG, length:67, at 423106 usecs after Thu Nov 6 12:01:33 2008
   [102] pcm_pc_ac_get_wnn(244): wnn request setting pinfo->bundle=0x4
```

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```

16) Event:E_DEBUG, length:65, at 422473 usecs after Thu Nov  6 12:01:33 2008
    [102] pcm_alloc_pc(494): pcallocpc setting pinfo->bundle to 0xFFFF

17) Event:E_DEBUG, length:72, at 612546 usecs after Thu Nov  6 12:01:22 2008
    [102] abort_members(1235): port-channel 2: reverting newly changed ports

18) Event:E_DEBUG, length:86, at 612534 usecs after Thu Nov  6 12:01:22 2008
    [102] split_members(1319): port-channel 2: fc1/1 is already in another port-
channel [1]

19) Event:E_DEBUG, length:67, at 56546 usecs after Thu Nov  6 12:00:16 2008
    [102] pcm_pc_ac_get_wwn(244): wwn request setting pinfo->bundle=0x1

20) Event:E_DEBUG, length:65, at 55927 usecs after Thu Nov  6 12:00:16 2008
    [102] pcm_alloc_pc(494): pcallocpc setting pinfo->bundle to 0xFFFF

21) Event:E_DEBUG, length:72, at 65985 usecs after Thu Nov  6 11:53:31 2008
    [102] abort_members(1235): port-channel 2: reverting newly changed ports

22) Event:E_DEBUG, length:86, at 65972 usecs after Thu Nov  6 11:53:31 2008
    [102] split_members(1319): port-channel 2: fc1/1 is already in another port-
channel [1]

23) Event:E_DEBUG, length:67, at 63276 usecs after Thu Nov  6 11:53:31 2008
    [102] pcm_pc_ac_get_wwn(244): wwn request setting pinfo->bundle=0x1

24) Event:E_DEBUG, length:65, at 62639 usecs after Thu Nov  6 11:53:31 2008
    [102] pcm_alloc_pc(494): pcallocpc setting pinfo->bundle to 0xFFFF

25) Event:E_DEBUG, length:90, at 942691 usecs after Thu Nov  6 11:48:04 2008
    [102] pcm_pc_create(923): port-channel interface <250> out of existing suppo-
rted range 129

26) Event:E_DEBUG, length:40, at 942678 usecs after Thu Nov  6 11:48:04 2008
    [102] pcm_search_pc(733): invalid id 249

27) Event:E_DEBUG, length:40, at 175505 usecs after Mon Nov  3 13:25:07 2008
    [102] pcm_search_pc(733): invalid id 249

28) Event:E_DEBUG, length:40, at 346351 usecs after Mon Nov  3 13:23:58 2008
    [102] pcm_search_pc(733): invalid id 255

29) Event:E_DEBUG, length:40, at 634271 usecs after Mon Nov  3 13:17:10 2008
    [102] pcm_search_pc(733): invalid id 249

30) Event:E_DEBUG, length:73, at 1815 usecs after Thu Oct 30 17:16:05 2008
    [102] abort_members(1235): port-channel 20: reverting newly changed ports

31) Event:E_DEBUG, length:87, at 1802 usecs after Thu Oct 30 17:16:05 2008
    [102] split_members(1319): port-channel 20: fc1/1 is already in another port-
channel [1]

32) Event:E_DEBUG, length:68, at 999046 usecs after Thu Oct 30 17:16:04 2008

```

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```
[102] pcm_pc_ac_get_wwn(244): wwn request setting pinfo->bundle=0x13
```

```
33) Event:E_DEBUG, length:65, at 998412 usecs after Thu Oct 30 17:16:04 2008
    [102] pcm_alloc_pc(494): pcallopc setting pinfo->bundle to 0xFFFF
```

```
34) Event:E_DEBUG, length:73, at 841236 usecs after Thu Oct 30 17:15:58 2008
    [102] abort_members(1235): port-channel 20: reverting newly changed ports
```

The following example shows how to display interface event transition for all interfaces:

```
switch# show port-channel internal event-history all
Low Priority Pending queue: len(0), max len(1) [Fri Nov 7 16:53:01 2008]
High Priority Pending queue: len(0), max len(14) [Fri Nov 7 16:53:01 2008]
PCM Control Block info:
pcm_max_channels      : 128
pcm_max_channel_in_use : 32
pcm_max_eports       : 256
pcm_max_eports_inuse  : 0
bsup_dit_address     : 0, rc=0x802b003e
has Generation-1 Line Card
Total of 1 Generation-1 Line cards
PCM total_vlans info: 0x0
g_pcm_cb.path.num_ports: 0
=====
PORT CHANNELS:

port-channel 1
channel      : 1
bundle       : 0
ifindex      : 0x4000000
pcport mode  : NONE
admin mode   : on
oper mode    : on
nports       : 0
--More--
```

The following example shows how to display PortChannel global information:

```
switch# show port-channel internal info all
Low Priority Pending queue: len(0), max len(1) [Sun Nov 9 10:03:32 2008]
High Priority Pending queue: len(0), max len(14) [Sun Nov 9 10:03:32 2008]
PCM Control Block info:
pcm_max_channels      : 128
pcm_max_channel_in_use : 32
pcm_max_eports       : 256
pcm_max_eports_inuse  : 0
bsup_dit_address     : 0, rc=0x802b003e
has Generation-1 Line Card
Total of 1 Generation-1 Line cards
PCM total_vlans info: 0x0
g_pcm_cb.path.num_ports: 0
=====
PORT CHANNELS:

port-channel 1
channel      : 1
bundle       : 0
ifindex      : 0x4000000
pcport mode  : NONE
admin mode   : on
oper mode    : on
nports       : 0
```

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The following example shows how to display detail memstats for the PortChannel:

```
switch# show port-channel internal mem-stats detail

Private Mem stats for UUID : Malloc track Library(103) Max types: 5
-----
TYPE NAME                                ALLOCS                                BYTES
                                CURR    MAX                                CURR    MAX
  0 MT_MEM_other                          0      0                                0      0
  1 MT_MEM_mtrack_default                  0      0                                0      0
  2 MT_MEM_mtrack_hdl                      30     31                                13848   15484
  3 MT_MEM_mtrack_info                     390    518                                6240    8288
  4 MT_MEM_mtrack_lib_name                 585    713                                20466   24956
-----
Total bytes: 40554 (39k)
-----

Private Mem stats for UUID : Non mtrack users(0) Max types: 67
-----
TYPE NAME                                ALLOCS                                BYTES
                                CURR    MAX                                CURR    MAX
  0 [r-xp]/isan/bin/pcm                    0      0                                0      0
  1 [r-xp]/isan/lib/convert/libsysstr.so   0      0                                0      0
  2 [r-xp]/isan/lib/convert/libvdb.so      0      0                                0      0
  3 [r-xp]/isan/lib/libaccounting.so.0.0.0 0      1                                0      65
  4 [r-xp]/isan/lib/libacfg.so.0.0.0      0      8                                0     51684
--More--
```

#### Related Commands

| Command                           | Description                    |
|-----------------------------------|--------------------------------|
| <b>show port-channel database</b> | Displays PortChannel database. |



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## show port-channel summary

To display the PortChannel summary, use the **show port-channel summary** command.

**show port-channel summary**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.1(3) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display the PortChannel summary:

```
switch# show port-channel summary
-----
Interface                Total Ports    Oper Ports    First Oper Port
-----
port-channel 1           1              0             --
switch#
```

| Related Commands | Command                           | Description                               |
|------------------|-----------------------------------|---|
|                  | <b>show port-channel internal</b> | Displays the PortChannel internal status. |

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## show port-channel usage

To display the PortChannel usage, use the **show port-channel usage** command.

**show port-channel usage**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.1(3) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display the PortChannel usage:

```
switch# show port-channel usage
```

```
Totally 1 port-channel number used
=====
Used   :    1
Unused:  2 - 256
switch#
```

| Related Commands | Command                          | Description                     |
|------------------|----------------------------------|---------------------------------|
|                  | <b>show port-channel summary</b> | Displays the PortChannel usage. |

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## show port-group-monitor status

To display Port Group Monitor (PGM) status, use the **show port-group-monitor status** command.

**show port-group-monitor status**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                 |
|-----------------|--------------|------------------------------|
|                 | NX-OS 4.2(1) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display Port Group Monitor status:

```
switch# show port-group-monitor status
Port Group Monitor : Enabled
Active Policies : pgmon
Last 10 logs
switch#
```

| Related Commands | Command                        | Description                              |
|------------------|--------------------------------|--|
|                  | <b>show port-group-monitor</b> | Displays Port Group Monitor information. |

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## show port-monitor active

To display the details of all operationally active policies, use the **show port-monitor active** command.

**show port-monitor active**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.2(7a) | Changed the command output.  |
|                 | NX-OS 4.1(1b) | This command was introduced. |

**Usage Guidelines** Policies can be either operationally active or administratively active as shown by the **show port-monitor active** command. An administratively active policy is not active on the line card and can be activated operationally by enabling the port monitor.

**Examples** The following example shows how to display the details of all operationally active policies:

```
switch(config)# show port-monitor active
Policy Name : default
Admin status : Active
Oper status : Active
Port type : All Ports
-----
Counter Threshold Interval Rising Threshold event Falling Threshold event Portguard In
Use
-----
Link Loss Delta 60 5 4 1 4 Not enabled
Yes
Sync Loss Delta 60 5 4 1 4 Not enabled
Yes
Protocol Error Delta 60 1 4 0 4 Not enabled
Yes
Signal Loss Delta 60 5 4 1 4 Not enabled
Yes
Invalid Words Delta 60 1 4 0 4 Not enabled
Yes
Invalid CRC's Delta 60 5 4 1 4 Not enabled
Yes
RX Performance Delta 60 2147483648 4 524288000 4Not enabled
Yes
```

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```

TX Performance          Delta      60      2147483648      4      524288000 4Not enabled
Yes
LR RX                   Delta      20      10              4      3      4      Not enabled
Yes
LR TX                   Delta      60      5               4      1      4      Not enabled
Yes
Timeout Discards       Delta      60      80              4      20     4      Not enabled
Yes
Credit Loss Reco        Delta      5       4               4      1      4      Not enabled
Yes
TX Credit Not Available Delta      30      60              4      30     4      Not enabled
Yes
-----
Switch(config)#

```

**Related Commands**

| Command                         | Description                                   |
|---------------------------------|---|
| <b>show port-monitor status</b> | Shows the current status of the port monitor. |

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## show port-group-monitor

To display the the details about the Port Group Monitor (PGM) policy specified by [NAME] along with the counters information, use the **show port-group-monitor** command.

```
show port-group-monitor {name}
```

|                           |                |                              |
|---------------------------|----------------|------------------------------|
| <b>Syntax Description</b> | <i>name</i>    | Displays a policy name.      |
| <b>Defaults</b>           | None.          |                              |
| <b>Command Modes</b>      | EXEC mode.     |                              |
| <b>Command History</b>    | <b>Release</b> | <b>Modification</b>          |
|                           | NX-OS 4.2(1)   | This command was introduced. |
| <b>Usage Guidelines</b>   | None.          |                              |

### Examples

The following example shows how to display Port Group Monitor policy name:

```
switch# show port-group-monitor pgmon
```

```
Policy Name : pgmon
Admin status : Not Active
Oper status : Not Active
Port type : All Port Groups
```

```
-----
Counter Threshold Interval %ge Rising Threshold %ge Falling Threshold In Use
-----
```

```
RX Performance Delta 60 80 20 Yes
TX Performance Delta 60 80 20 Yes
```

```
-----
switch#
```

The following example shows how to display Port Group Monitor:

```
switch# show port-group-monitor
```

```
-----
Port Group Monitor : enabled
-----
```

```
Policy Name : pgm1
Admin status : Not Active
Oper status : Not Active
Port type : All Port Groups
```

```
-----
Counter Threshold Interval %ge Rising Threshold %ge Falling Threshold In Use
-----
```

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```
RX Performance Delta 60 50 10 Yes
TX Performance Delta 60 50 10 Yes
```

```
-----
Policy Name   : pgm2
Admin status  : Not Active
Oper status   : Not Active
Port type     : All Port Groups
```

```
-----
Counter Threshold Interval %ge Rising Threshold %ge Falling Threshold In Use
-----
```

```
RX Performance Delta 60 80 10 Yes
TX Performance Delta 60 80 10 Yes
```

```
-----
Policy Name   : default
Admin status  : Not Active
Oper status   : Not Active
Port type     : All Port Groups
```

```
-----
Counter Threshold Interval %ge Rising Threshold %ge Falling Threshold In Use
-----
```

```
RX Performance Delta 60 80 20 Yes
TX Performance Delta 60 80 20 Yes
```

**Related Commands**

| Command                               | Description                         |
|---------------------------------------|-------------------------------------|
| <b>show port-group-monitor status</b> | Displays Port Group Monitor status. |

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## show port internal info interface fc

To display the port internal Fibre Channel interface information, use the **show port internal info interface fc** command.

**show port internal info interface fc** *slot number*

| Syntax Description | <i>slot number</i> | Specifies the slot or port number. The range is from 1 to 9 for the slot and 1 to 48 for the port. |
|--------------------|--------------------|--|
|--------------------|--------------------|--|

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

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

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.2(7a) | This command was introduced. |

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

**Examples** The following example shows how to display the port internal Fibre Channel interface information for current settings:

```
Switch# show port internal info interface fc 2/1

fc2/1 - if_index: 0x01080000, phy_port_index: 0x0
      local_index: 0x0
      Admin Config - state(up), mode(FX), speed(auto), trunk(off)
      beacon(off), snmp trap(on), tem(false)
      rx bb_credit(default), rx bb_credit multiplier(default)
      rx bb_credit performance buffers(default)
      bb scn config(on)
      ignore flags (ignore:none), service state(in service)
      rxbufsize(2112), encap(default), user_cfg_flag(0x1)
      description()
      port owner()
      admin rate-mode(default) port act license(eligible)
      congestion drop timeout mode F (500), congestion drop timeout mode E (500)
      no-credit-force mode F enable (0), no-credit-force mode F timeout (500)
      no-credit-force mode E enable (0)    no-credit-force mode E timeout (500)
Port guard info -
  link failure state (disabled, 4) nt 0, dur 0
  tsv state (disabled, 4) nt 0, dur 0
  bit error state (disabled, 2) nt 0, dur 0
  sig loss state (disabled, 2) nt 0, dur 0
  sync loss state (disabled, 2) nt 0, dur 0
  link reset state (disabled, 2) nt 0, dur 0
switch#
```



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---

**Related Commands**

---

**Command****Description**

---

|                                |  |
|--------------------------------|--|
| <b>show port-group-monitor</b> | Displays the port group monitor information. |
|--------------------------------|--|

---

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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  |
|---------------------|--|
| <b>port-license</b> | 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> | (Optional) Displays a policy name. Maximum size is 32 characters. |
|--------------------|-------------|---|
|--------------------|-------------|---|

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

| Command Modes | Configuration mode. |
|---------------|---------------------|
|---------------|---------------------|

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.2(7a) | Changed the command output.  |
|                 | 4.1(1b)       | This command was introduced. |

| Usage Guidelines | The <b>show port-monitor</b> command also can include a string name of a policy and display the details of that policy only. |
|------------------|--|
|------------------|--|

| Examples | The following example shows how to display the counter details of the policy: |
|----------|---|
|----------|---|

```
switch(config)# show port-monitor cisco
Policy Name   : cisco
Admin status  : Not Active
Oper status   : Not Active
Port type     : All Ports
-----
Counter  Threshold  Interval Rising Threshold event Falling Threshold  event Portguard  In
Use
-----
Link Loss          Delta      60      5      4      1      4      Not enabled
  Yes
Sync Loss          Delta      60      5      4      1      4      Not enabled
  Yes
Protocol Error     Delta      60      1      4      0      4      Not enabled
  Yes
Signal Loss        Delta      60      5      4      1      4      Not enabled
  Yes
Invalid Words      Delta      60      1      4      0      4      Not enabled
  Yes
Invalid CRC's      Delta      60      5      4      1      4      Not enabled
  Yes
RX Performance     Delta      60      2147483648  4      524288000 4Not enabled
  Yes
TX Performance     Delta      60      2147483648  4      524288000 4Not enabled
  Yes
```

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```

LR RX              Delta      20      10              4      3      4      Not enabled
Yes
LR TX              Delta      60      5               4      1      4      Not enabled
Yes
Timeout Discards   Delta      60      80              4      20     4      Not enabled
Yes
Credit Loss Reco   Delta      5        4               4      1      4      Not enabled
Yes
TX Credit Not Available Delta    30      60              4      30     4      Not enabled
Yes

```

-----  
Switch(config)#

The following example shows how to display the default slow drain policy which monitors the credit-loss-reco and credit-not-available counters:

Switch(config)# **show port-monitor slowdrain**

```

Policy Name      : slowdrain
Admin status     : Active
Oper status      : Active
Port type        : All Ports

```

```

-----
Counter          Threshold Interval Rising Threshold event Falling Threshold event
Portguard        In Use
-----
-----
Credit Loss Reco   Delta      5        4               4      1              4
Not enabled       Yes
Credit Not Available Delta    1        20              4      10             4
Not enabled       Yes

```

-----  
Switch(config)#

#### Related Commands

| Command                  | Description                  |
|--------------------------|------------------------------|
| <b>show port-monitor</b> | Shows port monitor policies. |

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## show port-monitor status

To display the current status of the port monitor feature along with the last 10 alarms or logs generated by port monitor, use the **show port-monitor status** command.

**show port-monitor status**

**Syntax Description** This command has no argument or keywords.

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.1(1b) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows the current status of the port monitor feature:

```
switch# show port-monitor status
Port Monitor      : Enabled
Active Policies  : pgm2
Last 10 logs     :
switch#
```

| Related Commands | Command        | Description                                |
|------------------|----------------|--|
|                  | show call home | Displays configured Call Home information. |

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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                      |
|--------------------|----------------------------------|
| <b>show module</b> | 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       |  |  |
|--------------------------|--|--|
| <b>database</b>          |  | Displays database-related port security information.   |
| <b>active</b>            |  | (Optional) Displays the activated database information.                                      |
| <b>vsan vsan-id</b>      |  | (Optional) Displays information for the specified database.                                  |
| <b>fwwn fwwn-id</b>      |  | (Optional) Displays information for the specified fabric WWN.                                |
| <b>interface</b>         |  | (Optional) Displays information for an interface.  |
| <b>fc slot/port</b>      |  | Displays information for the specified Fibre Channel interface.                              |
| <b>port-channel port</b> |  | Displays information for the specified PortChannel interface. The range is 1 to 128.         |
| <b>pending</b>           |  | Displays the server address pending configuration.   |
| <b>pending-diff</b>      |  | Displays the server address pending configuration differences with the active configuration. |
| <b>statistics</b>        |  | Displays port security statistics.   |
| <b>status</b>            |  | Displays the port security status on a per VSAN basis.                                       |
| <b>violations</b>        |  | Displays violations in the port security database.   |
| <b>last count</b>        |  | (Optional) 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 <b>pending</b> and <b>pending-diff</b> 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.

The **show port-security** command issued with the **last number** option displays only the specified number of entries that appear first.



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## 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

Total Logins permitted : 4
Total Logins denied    : 0
Statistics For VSAN: 2
-----
```

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```
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                          |
|----------------------|--------------------------------------|
| <b>port-security</b> | 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           |  |
|------------------------------|--|
| <b>cpu</b>                   | (Optional) Displays processes CPU information.   |
| <b>log</b>                   | (Optional) Displays information about process logs.  |
| <b>details</b>               | (Optional) Displays detailed process log information.  |
| <b>pid <i>process-id</i></b> | (Optional) Displays process information about a specific process ID. The range is 0 to 2147483647. |
| <b>memory</b>                | (Optional) 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  | 7ffffce0/7ffffdf4  | 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 process creditmon

To display creditmon information, use the **show process creditmon** command.

```
show process creditmon {credit-loss-event-history module module number | credit-loss-events
module module number}
```

| Syntax Description               |   |
|----------------------------------|---|
| <b>credit-loss-event-history</b> | Specifies the credit loss event history information.            |
| <b>credit-loss-events</b>        | Specifies the credit loss event information.                    |
| <b>module</b>                    | Specifies the credit loss event information for a module.       |
| <i>module number</i>             | Specifies the module number. The range is from 0 to 2147483647. |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.2(7a) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to display credit loss event information for module 2:

```
Switch# show process creditmon credit-loss-events module 2
```

```
Module: 02 Credit Loss Events: YES
```

```
-----
```

| Interface | Total Events | Timestamp                   |
|-----------|--------------|-----------------------------|
| fc2/1     | 444748       | 1. Tue Jun 8 20:22:02 2010  |
|           |              | 2. Tue Jun 8 20:22:01 2010  |
|           |              | 3. Tue Jun 8 20:22:00 2010  |
|           |              | 4. Tue Jun 8 20:21:59 2010  |
|           |              | 5. Tue Jun 8 20:21:58 2010  |
|           |              | 6. Tue Jun 8 20:21:57 2010  |
|           |              | 7. Tue Jun 8 20:21:56 2010  |
|           |              | 8. Tue Jun 8 20:21:55 2010  |
|           |              | 9. Tue Jun 8 20:21:53 2010  |
|           |              | 10. Tue Jun 8 20:21:52 2010 |
| fc2/19    | 2            | 1. Wed Jun 9 10:15:49 2010  |
|           |              | 2. Wed Jun 9 09:07:45 2010  |

```
-----
```

```
Switch#
```

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The following example shows how to display the credit loss event history information for module 2:

```
Switch# show process creditmon credit-loss-event-history module 2
1) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 854490 usecs after Wed Jun  9
   10:15:49 2010
   interface = fc2/19

2) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 205391 usecs after Wed Jun  9
   09:07:45 2010
   interface = fc2/19

3) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 730422 usecs after Tue Jun  8
   20:22:02 2010
   interface = fc2/1

4) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 630446 usecs after Tue Jun  8
   20:22:01 2010
   interface = fc2/1

5) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 530392 usecs after Tue Jun  8
   20:22:00 2010
   interface = fc2/1

6) Event:CREDITMON_EVENT_CREDIT_LOSS, length:4, at 430418 usecs after Tue Jun  8
   20:21:59 2010
   interface = fc2/1
Switch#
```

#### Related Commands

| Command        | Description                    |
|----------------|--------------------------------|
| <b>logging</b> | Configures logging parameters. |

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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. |
|                 | NX-OS 4.1(1c) | Changed the command output.  |

**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 four roles necessary for SME, sme-admin, sme-stg-admin, sme-kmc-admin and
sme-rec-officer? (yes/no) [no] yes
SME setup done
```

```
switch# show role

Role: sme-admin
Description: new role
Vsan policy: permit (default)
-----
Rule    Type    Command-type    Feature
-----
1       permit  show            sme
2       permit  config          sme
3       permit  debug           sme
```

```
Role: sme-storage
Description: new role
Vsan policy: permit (default)
-----
Rule    Type    Command-type    Feature
-----
1       permit  show            sme-stg-admin
2       permit  config          sme-stg-admin
3       permit  debug           sme-stg-admin
```



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```

Role: sme-kmc
Description: new role
Vsan policy: permit (default)
-----
Rule      Type      Command-type  Feature
-----
1         permit   show          sme-kmc-admin
2         permit   config       sme-kmc-admin
3         permit   debug        sme-kmc-admin

Role: sme-recovery
Description: new role
Vsan policy: permit (default)
-----
Rule      Type      Command-type  Feature
-----
1         permit   config       sme-recovery-officer

```

**Related Commands**

| <b>Command</b>   | <b>Description</b>  |
|------------------|---|
| <b>setup sme</b> | 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                   |   |
|--------------------------------------|---|
| <b>class-map</b>                     | Displays QoS class maps.  |
| <b>name</b> <i>class-name</i>        | (Optional) Specifies a class map name. The maximum length is 63 alphanumeric characters.  |
| <b>dwrr</b>                          | Displays deficit weighted round robin queue weights.                                      |
| <b>policy-map</b>                    | Displays QoS policy-maps.   |
| <b>name</b> <i>policy-name</i>       | (Optional) Specifies a policy map name. The maximum length is 63 alphanumeric characters. |
| <b>service policy</b>                | Displays QoS service policy associations.   |
| <b>interface fc</b> <i>slot/port</i> | (Optional) Specifies a Fibre Channel interface.   |
| <b>vsan</b> <i>vsan-id</i>           | (Optional) Specifies a VSAN ID. The range is 1 to 4093.                                   |
| <b>statistics</b>                    | 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 |                            |   |
|--------------------|----------------------------|---|
|                    | <b>distribution status</b> | Displays the status of the RADIUS CFS distribution.                                     |
|                    | <b>pending</b>             | Displays the pending configuration that is not yet applied.                             |
|                    | <b>pending-diff</b>        | 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                      |
|------------------|--------------------------|----------------------------------|
|                  | <b>radius distribute</b> | Enables RADIUS CFS distribution. |



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## show running radius

To display the RADIUS configuration, use the **show running radius** command.

```
show running radius {all}
```

|                           |                |  |
|---------------------------|----------------|--|
| <b>Syntax Description</b> | <b>all</b>     | Displays running config with defaults. |
| <b>Defaults</b>           | None.          |  |
| <b>Command Modes</b>      | EXEC mode.     |  |
| <b>Command History</b>    | <b>Release</b> | <b>Modification</b>                    |
|                           | NX-OS 4.1(3)   | Changed the command output.            |
|                           | 2.0(x)         | This command was introduced.           |

**Usage Guidelines** None.

### Examples

The following example shows how to display the RADIUS configuration:

```
switch# show running radius
version 4.1(3)
radius distribute
radius-server key 7 "fewhg"
radius-server timeout 1
radius-server retransmit 0
radius-server deadtime 1
radius-server host 10.10.1.1 authentication accounting
radius commit
aaa group server radius radius
switch#
```

The following example shows how to display the running config with defaults:

```
switch# show running radius all
version 4.1(3)
radius distribute
radius-server key 7 "fewhg"
radius-server timeout 1
radius-server retransmit 0
radius-server deadtime 1
radius-server host 10.10.1.1 auth-port 1812 acct-port 1813 authentication accounting
radius-server host 10.10.1.1 test username test password test idle-time 0
radius commit
aaa group server radius radius
    server 10.10.1.1
```

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```
    deadtime 0
switch#
```

---

**Related Commands**

| <b>Command</b>           | <b>Description</b>               |
|--------------------------|----------------------------------|
| <b>radius distribute</b> | 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>      | (Optional) Specifies the RADIUS server DNS name. The maximum character size is 256. |  |
| <i>ipv4-address</i>     | (Optional) Specifies the RADIUS server IP address in the format <i>A.B.C.D</i> .    |  |
| <i>ipv6-address</i>     | (Optional) Specifies the RADIUS server IP address in the format <i>X:X::X</i> .     |  |
| <b>directed-request</b> | (Optional) Displays an enabled directed request RADIUS server configuration.        |  |
| <b>groups</b>           | (Optional) Displays configured RADIUS server group information.                     |  |
| <b>sorted</b>           | (Optional) Displays RADIUS server information sorted by name.                       |  |
| <b>statistics</b>       | (Optional) 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"> <li>Added the <i>server-name</i>, <i>ipv4-address</i>, and <i>ipv6-address</i> arguments.</li> <li>Added the <b>directed-request</b> and <b>statistics</b> options.</li> </ul> |

**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
```



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```
10.10.0.0:
  available for authentication on port:1812
  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

|                               |   |
|-------------------------------|---|
| <b>erl</b>                    | Displays Established Registration List (ERL) information.   |
| <b>vsan vsan-id</b>           | (Optional) Specifies a VSAN ID. The range is 1 to 4093.   |
| <b>history</b>                | Displays link incident history.   |
| <b>recent</b>                 | Displays recent link incident.  |
| <b>interface</b>              | (Optional) Specifies an interface.  |
| <b>fc slot/port</b>           | (Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.   |
| <b>bay port   ext port</b>    | 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. |
| <b>portnumber port-number</b> | (Optional) Specifies a port number for the link incidents. The range is 1 to 224.   |
| <b>statistics</b>             | 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 <b>show rlir erl</b> command.                   |
| 3.1(2)  | Added the <b>bay port   ext port</b> 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 |                 |  |
|--------------------|-----------------|--|
|                    | <b>alarms</b>   | Displays the configured 32-bit RMON alarms.                    |
|                    | <b>events</b>   | Displays the configured RMON events.                           |
|                    | <b>hcalarms</b> | Displays the configured 64-bit high-capacity (HC) RMON alarms. |
|                    | <b>logs</b>     | 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 <b>logs</b> option.     |
|                 | 3.0(1)  | Added the <b>hcalarms</b> 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                                     |
|-----------------------|---|
| <b>rmon alarm</b>     | Configures the 32-bit RMON alarm.               |
| <b>rmon event</b>     | Configures an RMON event.                       |
| <b>rmon hcalarm</b>   | Configures the 64-bit RMON alarm.               |
| <b>show snmp host</b> | 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 alarms and hcalarms:

```
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                        |
|------------------|---------------------------|------------------------------------|
|                  | <b>show rmon alarms</b>   | Displays the RMON alarm table.     |
|                  | <b>show rmon hcalarms</b> | Displays the RMON hcalarm table.   |
|                  | <b>show rmon events</b>   | Displays the RMON event table.     |
|                  | <b>show rmon logs</b>     | Displays 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

|                           |   |
|---------------------------|---|
| <b>name</b> <i>string</i> | (Optional) Specifies a name of the role.  |
| <b>pending</b>            | (Optional) Displays uncommitted role configuration for fabric distribution.                         |
| <b>pending-diff</b>       | (Optional) Displays the differences between the pending configuration and the active configuration. |
| <b>session status</b>     | (Optional) Displays the session status for a role.  |
| <b>status</b>             | (Optional) 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 <b>pending</b> , <b>pending-diff</b> , <b>session</b> , and <b>status</b> 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
```

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Access to selected SAN Volume Controller commands

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 example 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                                  |
|------------------------|--|
| <b>role abort</b>      | Enables authorization role CFS distribution. |
| <b>role commit</b>     | Enables authorization role CFS distribution. |
| <b>role distribute</b> | Enables authorization role CFS distribution. |
| <b>role name</b>       | 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

|                     |   |
|---------------------|---|
| <b>event-tov</b>    | Displays the event timeout value.   |
| <b>vsan vsan-id</b> | Specifies a VSAN ID. The range is 1 to 4093.                              |
| <b>pending</b>      | Displays the pending configuration.                                       |
| <b>pending-diff</b> | Displays the difference between the active and the pending configuration. |
| <b>scr-table</b>    | Displays the State Change Registration table.                             |
| <b>statistics</b>   | 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 <b>event-tov</b> , <b>pending</b> , and <b>pending-diff</b> 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

|                                  |   |
|----------------------------------|---|
| <b>diff</b>                      | (Optional) Displays the difference between the running and startup configurations.  |
| <b>interface</b>                 | (Optional) Displays running configuration information for a range of interfaces.  |
| <b>cpp</b>                       | (Optional) Displays the virtualization interface.   |
| <b>fc slot/port</b>              | (Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.   |
| <b>bay port   ext port</b>       | 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. |
| <b>fc-tunnel tunnel-id</b>       | (Optional) Displays description of the specified FC tunnel from 1 to 4095.  |
| <b>fcip fcip-number</b>          | Displays the description of the specified FCIP interface from 1 to 255.   |
| <b>gigabitethernet slot/port</b> | Displays the description of the Gigabit Ethernet interface in the specified slot and port.  |
| <b>iscsi slot/port</b>           | Displays the description of the iSCSI interface in the specified slot and port.   |
| <b>mgmt 0</b>                    | Displays the description of the management interface.   |
| <b>port-channel</b>              | Displays the description of the PortChannel interface.  |
| <b>sup-fc</b>                    | Displays the inband interface details.  |
| <b>svc</b>                       | Displays the virtualization interface specific to the CSM module.   |
| <b>vsan vsan-id</b>              | 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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### Usage Guidelines

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 209.165.200.226 209.165.200.227
 no shutdown
 vsan database
 boot system bootflash:isan-237; sup-1
 boot kickstart bootflash:boot-237 sup-1
 callhome
 ip default-gateway 209.165.200.226
 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 209.165.200.226

 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 209.165.200.226

 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 209.165.200.226 209.165.200.226
```

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  |
|----------------------------------|--|
| <b>interface</b>                 | Displays SAN extension tuner information for a specific Gigabit Ethernet interface.                                    |
| <b>gigabitethernet slot/port</b> | Specifies a Gigabit Ethernet interface.  |
| <b>nport</b>                     | (Optional) Specifies an N port.  |
| <b>pwwn pwwn-id</b>              | (Optional) 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. |
| <b>vsan vsan-id</b>              | (Optional) Specifies a VSAN ID. The range is 1 to 4093.  |
| <b>counters</b>                  | (Optional) Specifies SAN extension tuner counters.   |
| <b>nports</b>                    | 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                                    |
|------------------|----------------------|--|
|                  | <b>san-ext-tuner</b> | 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  |  |   |
|---------------------|--|---|
| <i>slot</i>         |  | Displays SANTap configuration for a module in the specified slot.           |
| <b>avt</b>          |  | Displays the appliance virtual target (AVT) configuration.                  |
| <i>name</i>         |  | (Optional) Specifies the user name.   |
| <b>brief</b>        |  | (Optional) Displays a brief format version of the display.                  |
| <b>avtlun</b>       |  | Displays the appliance AVT LUN configuration.                               |
| <b>cvt</b>          |  | Displays the control virtual target (CVT) configuration.                    |
| <i>cvt-id</i>       |  | (Optional) Specifies a user configured CVT ID. The range is 1 to 65536.     |
| <b>dvt</b>          |  | Displays the data virtual target (DVT) configuration.                       |
| <b>dvtlun</b>       |  | Displays the DVT LUN configuration.   |
| <b>rvt</b>          |  | Displays the remote virtual target (AVT) configuration.                     |
| <b>rvtlun</b>       |  | Displays the RVT LUN configuration.   |
| <b>session</b>      |  | Displays the SANTap session information.                                    |
| <i>session-id</i>   |  | (Optional) Specifies a user configured session ID. The range is 1 to 65536. |
| <b>tech-support</b> |  | 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 <b>tech-support</b> option. |

**Usage Guidelines** None.

**Examples** The following example displays the SANTap AVT configuration:

```
switch# show santap module 2 avt

AVT Information :
  avt pwwn      = 2a:4b:00:05:30:00:22:25
  avt nwwn      = 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 DVT LUN 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 pwwn    = 00:00:00:00:00:00:00:00
tgt lun     = 0x0
adt pwwn    = 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 pwwn      = 2a:61:00:05:30:00:22:25
  rvt nwwn      = 2a:62:00:05:30:00:22:25
  rvt id        = 17
  rvt vsan      = 4
  rvt if_index  = 0x1080000
```

The following example displays the SANTap RVT LUN configuration:

```
switch# show santap module 2 rvtlun
```

```
RVT LUN Information :
  rvt pwwn      = 2a:61:00:05:30:00:22:25
  rvt lun       = 0x0
  xmap id       = 22
  rvt id        = 17
  app pwwn      = 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 pwwn      = 22:00:00:20:37:39:b1:00
  dvt nwwn      = 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 pwwn      = 22:00:00:20:37:88:20:ef
  dvt nwwn      = 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 pwn      = 22:00:00:20:37:39:87:70
dvt nwn      = 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 pwn      = 29:5d:33:33:33:33:33:36
cvt nwn      = 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 22-7 describes the significant fields shown in the previous displays.

**Table 22-7** *show santap Field Descriptions*

| Field        | Description                                  |
|--------------|--|
| app lun      | Displays the appliance LUN.                  |
| app pwn      | 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 nwn      | Displays the AVT Node port world wide name.  |
| avt pwn      | Displays the AVT port world wide name.       |

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**Table 22-7** *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  |
|----------------------|--|
| <b>santap module</b> | Configures the mapping between the SSM and the VSAN where the appliance is configured. |

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## show santap module dvt

To display the SANTap DVT configuration on the Storage Service Module (SSM), use the **show santap module dvt** command in the EXEC mode.

```
show santap module slot dvt {name | brief}
```

| Syntax Description | Parameter    | Description  |
|--------------------|--------------|--|
|                    | <i>slot</i>  | Specifies the module number. The range is from 1 to 9. |
|                    | <i>name</i>  | Specifies the user name for DVT.                       |
|                    | <b>brief</b> | Displays SANTap DVT configuration in a brief format.   |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.1(1b) | This command was introduced. |

**Usage Guidelines** None.

**Examples** 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
```

| Related Commands | Command                  | Description                              |
|------------------|--------------------------|--|
|                  | <b>show santap vttbl</b> | Displays the SANTap VTTBL configuration. |

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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**

| <b>Syntax Description</b> | <b>slot</b> Displays SANTap configuration for a module in the specified slot.  |         |              |        |                              |
|---------------------------|--|---------|--------------|--------|------------------------------|
| <b>Defaults</b>           | None.  |         |              |        |                              |
| <b>Command Modes</b>      | EXEC mode.   |         |              |        |                              |
| <b>Command History</b>    | <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.   |         |              |        |                              |
| <b>Usage Guidelines</b>   | 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                              |
|--------------------------------|--|
| <code>show santap vttbl</code> | Displays the SANTap VTTBL configuration. |



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## show santap module dvtlun

To display the SANTap DVT LUN configuration on the Storage Service Module (SSM), use the **show santap module dvt lun** command in the EXEC mode.

```
show santap module slot dvtlun {brief | dvt-pwwn}
```

| Syntax Description | slot            | Specifies the module number. The range is from 1 to 9.   |
|--------------------|-----------------|--|
|                    | <b>brief</b>    | Displays SANTap DVT LUN configuration in a brief format. |
|                    | <b>dvt-pwwn</b> | Displays the DVT port world wide name (pWWN).            |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.1(1b) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example displays the SANTap DVT LUN 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
```

| Related Commands | Command                  | Description                              |
|------------------|--------------------------|--|
|                  | <b>show santap vttbl</b> | Displays the SANTap VTTBL configuration. |

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## show santap vttbl dvt

To display the SANTap VTTBL DVT configuration on the Storage Service Module (SSM), use the **show santap vttbl dvt** command in the EXEC mode.

```
show santap vttbl dvt {dvt-pwwn}
```

| Syntax Description | vttbl    | Displays SANTap VTTBL configuration.          |
|--------------------|----------|---|
|                    | dvt      | Displays SANTap DVT configuration.            |
|                    | dvt-pwwn | Displays the DVT port world wide name (pWWN). |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.1(1b) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example displays the SANTap VTTBL DVT configuration:

```
switch# 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
```

| Related Commands | Command           | Description                              |
|------------------|-------------------|--|
|                  | show santap vttbl | Displays the SANTap VTTVL configuration. |

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## show santap vttbl dvt host

To display the SANTap VTTBL DVT host configuration on the Storage Service Module (SSM), use the `show santap vttbl dvt host` command in the EXEC mode.

```
show santap vttbl dvt {dvt-pwwn} host {host-pwwn}
```

| Syntax Description | Parameter              | Description                                   |
|--------------------|------------------------|---|
|                    | <code>dvt-pwwn</code>  | Displays the DVT port world wide name (pWWN). |
|                    | <code>host pwwn</code> | Displays the host pWWN.                       |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.1(1b) | This command was introduced. |

**Usage Guidelines** None.

**Examples** 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                              |
|------------------|--------------------------------|--|
|                  | <code>show santap vttbl</code> | 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.   |
|--------------------|---------------------------------|---|
|                    | <b>job</b>                      | Displays job information.   |
|                    | <b>name</b> <i>jobname</i>      | (Optional) Restricts the output to a specific job name. Maximum length is 31 characters.      |
|                    | <b>logfile</b>                  | Displays the log file.  |
|                    | <b>schedule</b>                 | Displays schedule information.  |
|                    | <b>name</b> <i>schedulename</i> | (Optional) 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 shows how to display the job information:

```
switch# show scheduler job name test_1
Job Name: test_1
-----
config t
.81@ptEFACadmiQSAP8config t c=====
=====
switch#
```

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
```

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```
-----
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 log file information:

```
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
config terminal
  scheduler schedule name configureVsan99
  time start 2004:8:10:9:52
  job name addMemVsan99
end
```

#### Related Commands

| Command                        | Description                        |
|--------------------------------|------------------------------------|
| <b>scheduler enable</b>        | Enables the command scheduler.     |
| <b>scheduler job name</b>      | Configures command scheduler jobs. |
| <b>scheduler schedule name</b> | 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 flow-id | (Optional) Displays a specific SCSI flow index.        |
|--------------------|-----------------|--|
|                    | statistics      | Displays the statistics for the SCSI flow.             |
|                    | lun lun-number  | (Optional) 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 22-8 describes the significant fields shown in the **show scsi-flow** command output.

**Table 22-8** *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"> <li>1. The target switch sees the proper name server and zone server information for the initiator.</li> <li>2. The target switch sees the proper name server, FLOGI server and zone server information for the target.</li> <li>3. The target is connected to an SSM and if DPP provisioning is enabled for that module.</li> </ol> |

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  |
|-------------------------------|--|
| <b>auto-poll</b>              | Displays SCSI target auto polling information.                             |
| <b>custom-list</b>            | Displays customized discovered targets.                                    |
| <b>devices</b>                | Displays discovered scsi-target devices information.                       |
| <b>vsan</b> <i>vsan-range</i> | (Optional) Specifies the VSAN ID or VSAN range. The ID range is 1 to 4093. |
| <b>fcid</b> <i>fcid-id</i>    | (Optional) Specifies the FCID of the SCSI target to display.               |
| <b>disk</b>                   | Displays discovered disk information.                                      |
| <b>lun</b>                    | Displays discovered SCSI target LUN information.                           |
| <b>os</b>                     | Discovers the specified operating system.                                  |
| <b>aix</b>                    | (Optional) Specifies the AIX operating system.                             |
| <b>all</b>                    | (Optional) Specifies all operating systems.                                |
| <b>hpux</b>                   | (Optional) Specifies the HPUNIX operating system.                          |
| <b>linux</b>                  | (Optional) Specifies the Linux operating system.                           |
| <b>solaris</b>                | (Optional) Specifies the Solaris operating system.                         |
| <b>windows</b>                | (Optional) Specifies the Windows operating system.                         |
| <b>status</b>                 | Displays SCSI target discovery status.                                     |
| <b>pwwn</b>                   | Displays discover pWWN information for each OS.                            |
| <b>tape</b>                   | Displays discovered tape information.                                      |

**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
```

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discovery completed

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
```

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The following example displays the port WWN that is assigned to each OS (Windows, AIX, Solaris, Linux, or HP-UX):

```
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 (SDV), 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             |  |  |
|--------------------------------|--|--|
| <b>database</b>                |  | Displays the SDV database.   |
| <b>pending</b>                 |  | (Optional) Displays the pending SDV database.                        |
| <b>vsan</b> <i>vsan-id</i>     |  | (Optional) Specifies the number of the VSAN. The range is 1 to 4093. |
| <b>merge status</b>            |  | Displays the SDV merge status.                                       |
| <b>pending-diff</b>            |  | Displays the SDV pending differences.                                |
| <b>session</b>                 |  | Displays the SDV session status.                                     |
| <b>statistics</b>              |  | Displays the SDV statistics.   |
| <b>virtual-device</b>          |  | Displays the SDV virtual devices.                                    |
| <b>name</b> <i>device-name</i> |  | Specifies the name of the virtual target. The maximum size is 32.    |
| <b>zone</b>                    |  | Specifies the zone.  |
| <b>active</b>                  |  | (Optional) Specifies the active VSAN.                                |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | 3.1(2)        | This command was introduced. |
|                 | NX-OS 4.1(1b) | Changed the command output.  |

**Usage Guidelines** None.

**Examples** The following example shows how to display SDV database information:

```
switch# show sdv database vsan 1
[ WWN:50:00:53:00:00:1a:30:01 FCID:0xcd01a3 Real-FCID:0x7f000e ]
 *pwwn 20:0e:0d:00:00:01:12:10 primary
  pwwn 20:0e:0d:00:00:01:12:11
```

The following example displays merge status:

```
switch# show sdv merge status vsan 1
Merge Status for VSAN      : 1
```

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```

-----
Last Merge Time Stamp      : None
Last Merge State          : None
Last Merge Result         : SUCCESS
Last Merge Failure Reason: None [cfs_status: 0]

```

| Related Commands | Command                   | Description                                    |
|------------------|---------------------------|--|
|                  | <b>sdv enable</b>         | Enables the SAN device virtualization feature. |
|                  | <b>sdv virtual-device</b> | 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 {detail | 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} | load-balancing | lun crypto-status | 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

|  |   |
|--|---|
| <b>cluster</b> <i>cluster name</i>       | Displays Cisco SME cluster information. The maximum length is 32 characters.      |
| <b>detail</b>                            | Displays Cisco SME cluster details.   |
| <b>interface</b>                         | Displays information about Cisco SME cluster interface.                           |
| <b>node</b>                              | 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.  |
| <b>sme</b>                               | Specifies the Cisco SME interface.  |
| <i>slot</i>                              | Identifies the MPS-18/4 module slot.  |
| <i>port</i>                              | Identifies the Cisco SME port.  |
| <b>interface summary</b>                 | Displays Cisco SME cluster interface summary.                                     |
| <b>it-nexus</b>                          | Displays the initiator to target connections (IT-nexus) in the Cisco SME cluster. |
| <b>key database</b>                      | Shows the Cisco SME cluster key database.   |
| <b>detail</b>                            | Shows the Cisco SME cluster key database details.                                 |
| <b>guid</b> <i>guid name</i>             | Displays Cisco SME cluster key database guid. The maximum length is 64.           |
| <b>summary</b>                           | Displays Cisco SME cluster key database summary.                                  |
| <b>load-balancing</b>                    | Displays the load balancing status of the cluster.                                |
| <b>lun</b>                               | Displays the logical unit numbers (LUNs) in a cluster.                            |
| <b>crypto-status</b>                     | Displays the crypto status of the LUNs.   |
| <b>node summary</b>                      | Displays Cisco SME cluster node summary.  |
| <b>recovery officer detail</b>           | Displays Cisco SME cluster recovery officer detail.                               |
| <b>recovery officer summary</b>          | Displays Cisco SME cluster recovery officer summary.                              |
| <i>index</i>                             | Specifies recovery officer index. The range is 1 to 8.                            |
| <b>detail</b> <i>index</i>               | Specifies recovery officer detail index. The range is 1 to 8.                     |
| <b>summary</b> <i>index</i>              | Specifies recovery officer summary index. The range is 1 to 8.                    |
| <b>tape detail</b>                       | Displays Cisco SME tape detail  |
| <b>tape summary</b>                      | Displays the tape summary   |
| <b>tape-bkgrp</b> <i>tape group name</i> | Displays the crypto tape backup group name. The maximum length is 32 characters.  |

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|  |   |
|--|---|
| <b>volgrp</b> <i>volume group name</i> | Displays tape volume group name. The maximum length is 32 characters. |
| <b>detail</b>                          | Displays Cisco SME cluster details.                                   |
| <b>summary</b>                         | Shows Cisco SME cluster summary.                                      |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                  |
|-----------------|---------------|-------------------------------|
|                 | 3.2(2)        | This command was introduced.  |
|                 | NX-OS 4.1(1c) | Added the syntax description. |

**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 clusternam1 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 clusternam1, Master Key Version is 0
  Recovery Share Version is 0, Share Index is 1
```

**Related Commands**

| <b>Command</b>          | <b>Description</b>                            |
|-------------------------|---|
| <b>clear sme</b>        | Clears Cisco SME configuration.               |
| <b>show sme cluster</b> | Displays information about Cisco SME cluster. |

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## show sme transport

To display the Cisco SME cluster transport information, use the **show sme transport** command.

**show sme transport ssl trustpoint**

| Syntax Description | ssl               | Displays transport Secure Sockets Layer (SSL) information. |
|--------------------|-------------------|--|
|                    | <b>trustpoint</b> | Displays transport SSL trustpoint information.             |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                     |
|-----------------|---------------|----------------------------------|
|                 | 3.2(2c)       | This command was introduced.     |
|                 | NX-OS 4.1(1c) | Added the syntax of the command. |

**Usage Guidelines** None.

**Examples** The following example displays the internal cluster errors:

```
switch# show sme transport ssl trustpoint
SME Transport SSL trustpoint is trustpoint-label
```

| Related Commands | Command                 | Description                                   |
|------------------|-------------------------|---|
|                  | <b>clear sme</b>        | Clears Cisco SME configuration.               |
|                  | <b>show sme cluster</b> | Displays information about Cisco SME cluster. |

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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 |            |  |
|--------------------|------------|--|
| <b>community</b>   | (Optional) | Displays SNMP community strings.             |
| <b>engineID</b>    | (Optional) | Displays SNMP engine IDs.                    |
| <b>group</b>       | (Optional) | Displays SNMP groups.                        |
| <b>host</b>        | (Optional) | Displays SNMP hosts.                         |
| <b>sessions</b>    | (Optional) | Displays SNMP sessions.                      |
| <b>trap</b>        | (Optional) | Displays SNMP traps.                         |
| <b>user</b>        | (Optional) | Displays SNMPv3 users.                       |
| <i>user-name</i>   | (Optional) | Specifies the user name. The maximum is 32.  |
| <b>engineID</b>    | (Optional) | Displays the engine ID.                      |
| <i>engine-id</i>   | (Optional) | 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 <b>engineid</b> , <b>group</b> , and <b>sessions</b> keywords. |
|                 | 3.1(2)  | Added the <b>trap</b> keyword.   |

**Usage Guidelines** None.

**Examples** The following example shows how to display SNMP traps:

```
switch# show snmp trap
-----
Trap type                                     Enabled
-----
entity           : entity_mib_change           Yes
entity           : entity_module_status_change  Yes
entity           : entity_power_status_change  Yes
entity           : entity_module_inserted       Yes
entity           : entity_module_removed       Yes
entity           : entity_unrecognised_module   Yes
entity           : entity_fan_status_change     Yes
```

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```

entity           : entity_power_out_change           Yes
link             : delayed-link-state-change        Yes
link             : iflink-up                        Yes
link             : iflink-down                      Yes
callhome         : event-notify                     No
callhome         : smtp-send-fail                   No
cfs              : state-change-notif               No
cfs              : merge-failure                    No
rf               : redundancy_framework             Yes
aaa              : server-state-change              No
license          : notify-license-expiry            Yes
license          : notify-no-license-for-feature    Yes
license          : notify-licensefile-missing       Yes
--More--

```

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
    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
-----
public             rw

User               Group                Auth  Priv
-----
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:

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```
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:[Dec] 128:000:000:009:003:000:013:236:008:040:192
switch#
```

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
```

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```
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                           |
|------------------|-------------------------------------|---------------------------------------|
|                  | <b>show span max-queued-packets</b> | 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<br>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>  | (Optional) Specifies the SPAN session ID. The range is 1 to 16.       |
| <b>brief</b>       | (Optional) 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,
```

#### Related Commands

| Command                              | Description  |
|--------------------------------------|--|
| <b>span session source interface</b> | Configures the SPAN traffic in both ingress (rx) and egress (tx) directions. |

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## show sprom

To display vendor ID, product component attributes and 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                                       |  |  |
|--|--|--|
| <b>backplane</b><br><i>backplane-index</i>               | Displays attributes that can be used to uniquely identify a switch. The range is 1 to 2.   |  |
| <b>clock</b><br><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.   |  |
| <b>fan</b>   | Displays attributes that uniquely identified fan.  |  |
| <b>mgmt-module</b>                                       | Displays attributes of management module. This module is only present in MDS9216 type switch.  |  |
| <b>module</b> <i>module-number</i><br><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.   |  |
| <b>powersupply</b><br><i>powersupply-index</i>           | Displays attributes of the first or the second power supply. This contains information about the power supply capacity in watts when it is used in 110 Volts and 220 Volts. This information is used for power-budget allocation. The range is 1 to 2. |  |
| <b>sup</b>   | 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. |

**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 you need to report a problem with a module, supervisor module, switch, power supply module, or a fan module and do not have access to the management station, then you can extract the 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:
```

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```

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
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

```

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```

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**

| <b>Command</b>       | <b>Description</b>   |
|----------------------|--|
| <b>show hardware</b> | 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.                 |
|--------------------|---------------|------------------------------------|
|                    | <b>dsa</b>    | (Optional) Displays DSA SSH keys.  |
|                    | <b>rsa</b>    | (Optional) Displays RSA SSH keys.  |
|                    | <b>rsa1</b>   | (Optional) Displays RSA1 SSH keys. |
|                    | <b>server</b> | Displays the SSH server status.    |

**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 22-9](#) describes the significant fields shown in the **show ssm provisioning** command output.

**Table 22-9** *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                               |
|------------------|---------------------------|---|
|                  | <b>ssm enable feature</b> | 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 | (Optional) 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 1-10interface 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 209.165.200.226 209.165.200.227
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 | (Optional) 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   |
|------------------------------|---|
| <b>cores</b>                 | Displays core transfer option.  |
| <b>default</b>               | Displays system default values.   |
| <b>switchport</b>            | Displays default values for switch port attributes.                           |
| <b>zone</b>                  | Displays default values for a zone.   |
| <b>directory information</b> | Displays information of the system manager.                                   |
| <b>error-id</b>              | Displays description about errors.  |
| <i>hex-id</i>                | Specifies the error ID in hexadecimal format. The range is 0x0 to 0xffffffff. |
| <b>list</b>                  | Specifies all error IDs.  |
| <b>exception-info</b>        | Displays last exception log information.                                      |
| <b>pss shrink status</b>     | Displays the last PSS shrink status.  |
| <b>details</b>               | (Optional) Displays detailed information on the last PSS shrink status.       |
| <b>redundancy status</b>     | Displays Redundancy status.   |
| <b>reset-reason</b>          | Displays the last four reset reason codes.                                    |
| <b>module slot</b>           | (Optional) Specifies the module number to display the reset-reason codes.     |
| <b>resources</b>             | Displays the CPU and memory statistics.                                       |
| <b>standby manual-boot</b>   | Displays the standby manual boot option.                                      |
| <b>uptime</b>                | Displays how long the system has been up and running.                         |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release      | Modification                                  |
|-----------------|--------------|---|
|                 | NX-OS 4.1(3) | Changed the command output.                   |
|                 | 1.0(2)       | This command was introduced.                  |
|                 | 3.0(1)       | Added the <b>zone</b> option.                 |
|                 | 3.0(1)       | Added the <b>standby manual-boot</b> 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 shows how to display the system uptime:

```
switch# show system uptime
System start time:      Fri Dec 19 02:26:05 2008
System uptime:         18 days, 6 hours, 14 minutes, 19 seconds
Kernel uptime:         18 days, 4 hours, 48 minutes, 28 seconds
switch#
```

The following example shows how to display 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.
```

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| 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 |
| 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
```

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 internal snmp credit-not-available

To display the port monitor credit-not-available counter logs, use the **show system internal snmp credit-not-available** command.

```
show system internal snmp credit-not-available { module | module-id }
```

| Syntax Description | module           | Description  |
|--------------------|------------------|--|
|                    | <i>module-id</i> | Displays the port monitor module information.<br>Specifies the module ID. The range is from 1 to 4294967295. |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.2(7a) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows how to displays the port monitor credit-not-available counter logs:

```
Switch# show system internal snmp credit-not-available module 2
Module: 2      Number of events logged: 5
```

```
-----
-
Port   Threshold Rising   Interval(s)   Event Time                               Type   Duration of time not
                                             available
-----
-
fc2/1  20/10(%)            1             Tue Jun  1 16:27:24 2010   Falling  0%
fc2/13 20/10(%)            1             Tue Jun  1 16:27:24 2010   Falling  0%
fc2/19 20/10(%)            1             Tue Jun  1 16:27:24 2010   Falling  0%
fc2/13 20/10(%)            1             Tue Jun  1 16:27:43 2010   Rising   100%
fc2/13 20/10(%)            1             Tue Jun  1 16:27:44 2010   Falling  0%
```

| Related Commands | Command                         | Description                         |
|------------------|---------------------------------|-------------------------------------|
|                  | <b>show port-monitor active</b> | Shows port monitor active policies. |

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## show system internal snmp lc

To display the active policies of the line card, use the **show system internal snmp lc** command.

```
show system internal snmp lc {module-id | counters}
```

| Syntax Description | module-id | Specifies the module ID number.                                      |
|--------------------|-----------|--|
|                    | counters  | Displays the port monitor line card information for module counters. |

**Defaults** None.

**Command Modes** EXEC mode.

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | NX-OS 4.1(1b) | This command was introduced. |

**Usage Guidelines** None.

**Examples** The following example shows the port monitor line card information:

```
switch# show system internal snmp lc 4
-----
No. of ports monitored: 0
-----
Ports:
Time since activation: 23:51:52 UTC Jun 30 2000
-----
-----
Counter      Threshold  Interval  Rising  Threshold  event  Falling  Threshold
event In Use
-----
-----
Link Loss    Delta      60        5       4          1       4
  Yes
Sync Loss    Delta      60        5       4          1       4
--More--
switch#
```

The following example shows the port monitor line card information for the module counter:

```
switch# show system internal snmp lc counters
switch#
```

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| Related Commands | Command                  | Description                         |
|------------------|--------------------------|-------------------------------------|
|                  | show port monitor active | Shows port monitor active policies. |

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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
```

|                           |  |
|---------------------------|--|
| <b>Syntax Description</b> | This command has no other arguments or keywords. |
|---------------------------|--|

|                 |       |
|-----------------|-------|
| <b>Defaults</b> | None. |
|-----------------|-------|

|                      |            |
|----------------------|------------|
| <b>Command Modes</b> | EXEC mode. |
|----------------------|------------|

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>                                |
|------------------------|----------------|--|
|                        | 3.0(1)         | This command was introduced.                       |
|                        | 3.2(1)         | Added the <b>basic default zoning mode</b> option. |

|                         |       |
|-------------------------|-------|
| <b>Usage Guidelines</b> | None. |
|-------------------------|-------|

|                 |   |
|-----------------|---|
| <b>Examples</b> | The following example shows the default values for default-zone as deny, distribute as active only, and zone mode as basic: |
|-----------------|---|

```
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
```

| <b>Related Commands</b> | <b>Command</b>                                    | <b>Description</b>   |
|-------------------------|---|--|
|                         | <b>no system default zone mode enhanced</b>       | Configures the default value of zone mode as basic.        |
|                         | <b>no system default zone distribute full</b>     | Configures the default value of distribute as active only. |
|                         | <b>no system default zone default-zone permit</b> | Configures the default value of default zone as deny.      |

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| <b>Command</b>                                 | <b>Description</b>                                     |
|--|--|
| <b>system default zone<br/>distribute full</b> | Configures the default value of distribute as full.    |
| <b>system default zone<br/>mode enhanced</b>   | Configures the default value of zone mode as enhanced. |

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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

|                            |   |
|----------------------------|---|
| <b>loopback</b>            | (Optional) Displays the OHMS loopback test statistics.  |
| <b>frame-length</b>        | (Optional) Displays the loopback frame length.  |
| <b>module slot</b>         | (Optional) Displays module information.   |
| <b>statistics</b>          | (Optional) Displays OHMS statistics.  |
| <b>interface</b>           | (Optional) Specifies the required interface.  |
| <b>fc slot/port</b>        | Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.  |
| <b>bay port   ext port</b> | 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. |
| <b>iscsi slot/port</b>     | (Optional) Specifies the iSCSI interface at the specified slot and port.  |
| <b>timelog</b>             | (Optional) 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 <b>bay port   ext port</b> keywords and arguments. |

### Usage Guidelines

None.

### Examples

The following example displays the current health of all modules in the switch:

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```
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 |

```
Current health information for module 10.
```

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| 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 22-10 describes the status value for each module

**Table 22-10 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
-----
```

■ show system health

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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   |
|-----------------------------|---|
| <b>system health module</b> | 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 |                            |   |
|--------------------|----------------------------|---|
|                    | <b>distribution status</b> | Displays the status of the TACACS+ CFS distribution.                                    |
|                    | <b>pending</b>             | Displays the pending configuration that is not yet applied.                             |
|                    | <b>pending-diff</b>        | 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                                   |
|------------------|---------------------------|---|
|                  | <b>tacacs+ distribute</b> | Initiates TACACS+ configuration distribution. |
|                  | <b>tacacs+ enable</b>     | Enables TACACS+.                              |

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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>      | (Optional) Specifies the TACACS+ server DNS name. The maximum is 256.             |  |
| <i>ipv4-address</i>     | (Optional) Specifies the TACACS+ server IP address in the format <i>A.B.C.D</i> . |  |
| <i>ipv6-address</i>     | (Optional) Specifies the TACACS+ server IP address in the format <i>X:X::X</i> .  |  |
| <b>directed-request</b> | (Optional) Displays an enabled directed request TACACS+ server configuration.     |  |
| <b>groups</b>           | (Optional) Displays configured TACACS+ server group information.                  |  |
| <b>sorted</b>           | (Optional) Displays TACACS+ server information sorted by name.                    |  |
| <b>statistics</b>       | (Optional) 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"> <li>Added the <i>server-name</i>, <i>ipv4-address</i>, and <i>ipv6-address</i> arguments.</li> <li>Added the <b>directed-request</b> and <b>statistics</b> options.</li> </ul> |

**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
```

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The following command displays the configured TACACS+ server groups:

```
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

|                                  |   |
|----------------------------------|---|
| <b>acl</b>                       | (Optional) Displays information for ACL troubleshooting.  |
| <b>bootvar</b>                   | (Optional) Displays information for bootvar troubleshooting.  |
| <b>brief</b>                     | (Optional) Displays a summary of the current running state of the switch.   |
| <b>cfs</b>                       | (Optional) Displays information for CFS troubleshooting.  |
| <b>name application-name</b>     | (Optional) Specifies an application that uses the CFS infrastructure. Maximum length is 64 characters.  |
| <b>details</b>                   | (Optional) Displays detailed information for each <b>show</b> command.  |
| <b>device-alias</b>              | (Optional) Displays device alias information.   |
| <b>fcdomain</b>                  | (Optional) Displays information for fcdomain troubleshooting.   |
| <b>fcip</b>                      | (Optional) Displays information for FCIP troubleshooting.   |
| <b>ficon</b>                     | (Optional) Displays information for FICON troubleshooting.  |
| <b>fspf</b>                      | (Optional) Displays information for FSPF troubleshooting.   |
| <b>fta</b>                       | (Optional) Displays information for FTA troubleshooting.  |
| <b>interface</b>                 | (Optional) Displays information for interface troubleshooting.  |
| <b>fc slot/port</b>              | (Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.   |
| <b>bay port   ext port</b>       | 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. |
| <b>gigabitethernet slot/port</b> | (Optional) Specifies the Gigabit Ethernet interface at the specified slot and port.   |
| <b>ip</b>                        | (Optional) Displays information for IP troubleshooting.   |
| <b>iscsi</b>                     | (Optional) Displays information for iSCSI troubleshooting.  |
| <b>islb</b>                      | (Optional) Displays information for iSLB troubleshooting.   |
| <b>license</b>                   | (Optional) Displays information for license troubleshooting.  |
| <b>logging</b>                   | (Optional) Displays information for logging troubleshooting.  |
| <b>module</b>                    | (Optional) Displays information for module status troubleshooting.  |
| <b>port</b>                      | (Optional) Displays information for Port Manager troubleshooting.   |



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|                            |  |
|----------------------------|--|
| <b>port-channel</b>        | Displays information for PortChannel troubleshooting.  |
| <b>prefpath</b>            | Displays information for preferred path troubleshooting.   |
| <b>qos</b>                 | Displays information for QoS troubleshooting.  |
| <b>snmp</b>                | Displays information for SNMP troubleshooting.   |
| <b>sysmgr</b>              | Displays information for system management troubleshooting.  |
| <b>vrrp</b>                | Displays information for VRRP troubleshooting.   |
| <b>vsan</b> <i>vsan-id</i> | Displays information for VSAN troubleshooting. Specifies a VSAN ID. The range is 1 to 4093.        |
| <b>zone</b> <i>vsan-id</i> | 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**

### Command Modes

EXEC mode.

### Command History

| Release | Modification  |
|---------|---|
| 1.3(4)  | This command was introduced.  |
| 3.0(1)  | Added the <b>fdomain</b> , <b>port-channel</b> , and <b>zone</b> options.   |
| 3.0(3)  | Added the <b>cfs</b> , <b>fcip</b> , <b>fspf</b> , <b>fta</b> , <b>ip</b> , <b>license</b> , <b>prefpath</b> , and <b>vrrp</b> options. |
| 3.1(1)  | Added the <b>device-alias</b> keyword.  |
| 3.1(2)  | Added the <b>bay port</b>   <b>ext port</b> 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.

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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:
-----
Fan        Model                Hw          Status
-----
Chassis    DS-2SLOT-FAN        0.0         ok
PS-1       --                   --          ok
PS-2       --                   --          absent

Temperature:
-----
Module  Sensor  MajorThresh  MinorThres  CurTemp  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
```

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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

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 swl  --   --
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  --   --   --
-----
```

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```
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

-----
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
```

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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 Cisco SME technical support, use the **show tech-support sme** command.

**show tech-support sme compressed bootflash: | tftp:**

| Syntax Description | Parameter         | Description                                    |
|--------------------|-------------------|--|
|                    | <b>compressed</b> | Saves the compressed Cisco SME .               |
|                    | <b>bootflash:</b> | Specifies the filename that need to be stored. |
|                    | <b>tftp:</b>      | Specifies the filename that need to be stored. |

**Defaults** None.

**Command Modes** EXEC mode

| Command History | Release       | Modification                 |
|-----------------|---------------|------------------------------|
|                 | 3.3(1c)       | This command was introduced. |
|                 | NX-OS 4.1(1c) | Added the Command output.    |

**Usage Guidelines** None.

**Examples** The following example displays the information for SME technical support:

```
sw-sme-n1# show tech-support sme

'show startup-config'
version 4.1(1)
username admin password 5 $1$jC/GIid6$PuNDstXwdAnwGaxxjdx150 role network-admin
no password strength-check
feature telnet
ntp server 10.81.254.131
kernel core target 0.0.0.0
kernel core limit 1
aaa group server radius radius
snmp-server user admin network-admin auth md5 0x7eedfdadb219506ca61b0e2957cc7ef5
priv 0x7eedfdadb219506ca61b0e2957cc7ef5 localizedkey
snmp-server host 171.71.49.157 informs version 2c public udp-port 2162
snmp-server enable traps license
snmp-server enable traps entity fru
device-alias database
  device-alias name sme-host-171-hba0 pwnn 21:01:00:e0:8b:39:d7:57
  device-alias name sme-host-171-hba1 pwnn 21:00:00:e0:8b:19:d7:57
  device-alias name sme-host-172-hba0 pwnn 21:01:00:e0:8b:39:c2:58
  device-alias name sme-host-172-hba1 pwnn 21:00:00:e0:8b:19:c2:58
  device-alias name sme-sanblaze-port0-tgt0 pwnn 2f:ff:00:06:2b:0d:39:08
  device-alias name sme-sanblaze-port0-tgt1 pwnn 2f:df:00:06:2b:0d:39:08
--More--
```

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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         |  |   |
|----------------------------|--|---|
| <b>alpa-cache</b>          |  | Displays the contents of the ALPA cache.                              |
| <b>discapp</b>             |  | Displays private N port parameters.                                   |
| <b>fcid</b> <i>fcid-id</i> |  | Specifies the FCID of the N port.                                     |
| <b>vsan</b> <i>vsan-id</i> |  | (Optional) Specifies the N port VSAN ID. The range is 1 to 4093.      |
| <b>verbose</b>             |  | (Optional) Specifies the verbose mode.                                |
| <b>interface</b>           |  | Displays TL ports in the selected interface.                          |
| <b>fc</b> <i>slot/port</i> |  | Specifies the Fiber Channel interface at the specified slot and port. |
| <b>all</b>                 |  | Displays all proxied and private devices on this TL port.             |
| <b>private</b>             |  | Displays all private devices on this TL port.                         |
| <b>proxied</b>             |  | Displays all proxied devices on this TL port.                         |
| <b>topology</b>            |  | Displays loop topology for this TL port.                              |
| <b>unsupported</b>         |  | Displays all unsupported devices on this TL port.                     |
| <b>list</b>                |  | 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*]

| <b>Syntax Description</b> | <b>vsan</b> <i>vsan-id</i> (Optional) Displays information for a VSAN. The range is 1 to 4093.   |         |              |        |                              |
|---------------------------|--|---------|--------------|--------|------------------------------|
| <b>Defaults</b>           | None.  |         |              |        |                              |
| <b>Command Modes</b>      | EXEC mode.   |         |              |        |                              |
| <b>Command History</b>    | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>2.0(x)</td> <td>This command was introduced.</td> </tr> </tbody> </table> | Release | Modification | 2.0(x) | This command was introduced. |
| Release                   | Modification   |         |              |        |                              |
| 2.0(x)                    | This command was introduced.   |         |              |        |                              |
| <b>Usage Guidelines</b>   | 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.

---

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 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 |   |
|--------------------|---|
| <i>user-name</i>   | (Optional) Specifies the user name.                     |
| <b>iscsi</b>       | (Optional) 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 CLI 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        |            |   |
|---------------------------|------------|---|
| <b>clock-module</b>       | (Optional) | Displays all current EPLD versions on the clock module.   |
| <b>epld</b>               | (Optional) | Displays all current versions of EPLDs on a specified module.   |
| <b>epld</b> <i>url</i>    | (Optional) | Displays all EPLD versions that are available at the specified URL (bootflash:, ftp:, scp:, sftp:, slot0:, tftp:, or volatile:) |
| <b>image</b>              | (Optional) | Displays the software version of a given image.   |
| <b>bootflash:</b>         | (Optional) | Specifies internal bootflash memory.  |
| <b>slot0:</b>             | (Optional) | Specifies CompactFlash memory or PCMCIA card.   |
| <b>volatile:</b>          | (Optional) | Specifies the volatile directory.   |
| <i>image-filename</i>     | (Optional) | Specifies the name of the system or kickstart image.  |
| <b>module</b> <i>slot</i> | (Optional) | 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 <b>clock-module</b> option.            |
|                 | NX-OS 4.1(1b) | Changed the command output from SAN-OS to NX-OS. |

**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-sf1ek9-mz.1.0.3.bin
system:      version 1.0(3)
compiled:    10/25/2010 12:00:00
```



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```
switch(boot)# show version image bootflash:kickstart_image <-----kickstart image
  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
```

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```
PCI ASIC I/F      0x07
IPS DB I/F       0x1a
```

The following example displays the entire output for the show version command:

```
switch# show version
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2008, 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 are covered under the GNU Public
License. A copy of the license is available at
http://www.gnu.org/licenses/gpl.html.

Software
  BIOS:          version 1.1.0
  loader:        version 1.2(2)
  kickstart:     version 4.1(1) [build 4.1(0.155)] [gdb]
  system:        version 4.1(1) [build 4.1(0.155)] [gdb]
  BIOS compile time:      10/24/03
  kickstart image file is: bootflash:///m9200-ek9-kickstart-mzg.4.1.0.155.bin
  kickstart compile time: 10/12/2020 25:00:00 [07/23/2008 10:00:56]
  system image file is:   bootflash:///m9200-ek9-mzg.4.1.0.155.bin
  system compile time:    12/25/2010 12:00:00 [07/23/2008 10:53:42]

Hardware
  cisco MDS 9216i (2 Slot) Chassis ("2x1GE IPS, 14x1/2Gbps FC/Supervisor")
  Intel(R) Pentium(R) III CPU with 965712 kB of memory.
  Processor Board ID JAB1007017G

  Device name: 10.64.66.22
  bootflash:   1001448 kB
  slot0:       0 kB (expansion flash)

Kernel uptime is 1 day(s), 2 hour(s), 22 minute(s), 40 second(s)

Last reset at 800175 usecs after Tue Jul 29 11:07:38 2008

Reason: Reset Requested by CLI command reload
System version: 4.1(0.151)
Service:
```

The following examples display a before and after comparison scenario after the loader version is updated:

```
switch# show version
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2008, 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 are covered under the GNU Public
License. A copy of the license is available at
http://www.gnu.org/licenses/gpl.html.

Software
  BIOS:          version 1.1.0
  loader:        version 1.2(2) <-----existing version
  kickstart:     version 4.1(1) [build 4.1(0.155)] [gdb]
  system:        version 4.1(1) [build 4.1(0.155)] [gdb]
  BIOS compile time:      10/24/03
  kickstart image file is: bootflash:///m9200-ek9-kickstart-mzg.4.1.0.155.bin
```

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```
kickstart compile time: 10/12/2020 25:00:00 [07/23/2008 10:00:56]
system image file is:   bootflash://m9200-ek9-mzg.4.1.0.155.bin
system compile time:   12/25/2010 12:00:00 [07/23/2008 10:53:42]
```

```
switch# show version
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2008, 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 are covered under the GNU Public
License. A copy of the license is available at
http://www.gnu.org/licenses/gpl.html.
```

```
Software
  BIOS:      version 1.1.0
  loader:    version 4.1(0)<-----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

|                        |   |
|------------------------|---|
| <b>ipv6</b>            | (Optional) Displays IPv6 virtual router information.      |
| <b>vr</b>              | (Optional) Displays the virtual router information.       |
| <i>group-id</i>        | (Optional) Specifies the group ID. The range is 1 to 255. |
| <b>interface</b>       | (Optional) Displays the interface type.                   |
| <b>gigabitethernet</b> | (Optional) Displays the Gigabit Ethernet interface.       |
| <i>slot/port</i>       | (Optional) Specifies the slot and port.                   |
| <b>configuration</b>   | (Optional) Displays the VRRP configuration.               |
| <b>statistics</b>      | (Optional) Displays cumulative VRRP statistics.           |
| <b>status</b>          | (Optional) Displays VRRP operational status.              |
| <b>mgmt 0</b>          | (Optional) Displays the mgmt0 interface.                  |
| <b>port-channel</b>    | (Optional) Displays the PortChannel interface.            |
| <i>port-channel</i>    | Specifies the Port Channel.                               |
| <b>vsan</b>            | (Optional) Displays the VSAN interface.                   |
| <i>vsan-id</i>         | (Optional) 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 <b>IPv6</b> option. |

### Usage Guidelines

None.

### Examples

The following example displays VRRP configured information:

```
switch# show vrrp vr 7 interface vsan 2 configuration
vr id 7 configuration
```

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```
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

|   |   |
|---|---|
| <b>vsan</b> <i>vsan-id</i>  | (Optional) Displays information for the specified VSAN ID. The range is 1 to 4093.  |
| <b>membership</b>   | (Optional) Displays membership information.   |
| <b>interface</b>  | (Optional) Specifies the interface type.  |
| <b>fc</b> <i>slot/port</i>  | (Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.   |
| <b>bay   ext</b> port   | 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. |
| <b>fcip</b> <i>fcip-id</i>  | (Optional) Specifies a FC IP interface ID. The range is 1 to 255.   |
| <b>fv</b> <i>slot/dpp-number/fv-port</i>                          | (Optional) 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.                 |
| <b>iscsi</b> <i>slot/port</i>                                     | (Optional) Specifies the iSCSI interface in the specified slot/port on a Cisco MDS 9000 Family switch.  |
| <b>port-channel</b> <i>portchannel-number.subinterface-number</i> | (Optional) Specifies a PortChannel interface specified by the PortChannel number followed by a dot (.) indicator and the subinterface number.                           |
| <b>usage</b>  | (Optional) 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 <b>bay   ext</b> 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/dpplfvport - 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 display configured VSAN information:

```
switch# show vsan 1
vsan 1 information
    name:VSAN0001 state:active
    interoperability mode:yes β 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            |  |
|-------------------------------|--|
| <b>status block-id number</b> | Displays WWN usage and alarm status for a block ID. The range is 34 to 1793. |
| <b>switch</b>                 | Displays switch WWN.   |
| <b>vsan-wwn</b>               | 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 <b>vsan-wwn</b> 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      |  |  |
|-------------------------|--|--|
| <b>active</b>           | (Optional) Displays zones which are part of active zone set.               |  |
| <b>ess</b>              | Displays ESS information.  |  |
| <b>member</b>           | Displays all zones in which the given member is part of zone.              |  |
| <b>name string</b>      | Displays members of a specified zone.                                      |  |
| <b>statistics</b>       | Displays zone server statistics.   |  |
| <b>status</b>           | Displays zone server current status.                                       |  |
| <b>vsan vsan-id</b>     | Displays zones belonging to the specified VSAN ID. The range is 1 to 4093. |  |
| <b>lun lun-id</b>       | Specifies a LUN ID.  |  |
| <b>lun-zoning</b>       | Displays LUN zoning-related statistics.                                    |  |
| <b>read-only-zoning</b> | 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 <b>show zone status</b> 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
  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
```

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```
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
```

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
```

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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: 0x222222, 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: 0x222222, 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: 0x333333, D-ID: 0x111111, 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
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
```

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```
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 22-11 describes the significant fields shown in the **show zone status vsan** display.

**Table 22-11** *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.   |
| 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         |  |  |
|----------------------------|--|--|
| <b>active</b>              |  | Displays analysis information for the active zone set.                           |
| <b>vsan</b> <i>vsan-id</i> |  | Displays analysis information for the specified VSAN ID. The range is 1 to 4093. |
| <b>zoneset</b> <i>name</i> |  | 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 22-12 describes the fields displayed in the output of a **show zone analysis** command for the active zoning database.

**Table 22-12** *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"> <li>• 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"> <li>– CLI: The active zoning database was modified by the user from the Command Line Interface.</li> <li>– SNMP: The active zoning database was modified by the user through the Simple Network Management Protocol (SNMP).</li> <li>– GS: The active zoning database was modified from the Generic Services (GS) client.</li> <li>– CIM: The active zoning database was modified by the applications using the Common Information Model (CIM).</li> <li>– 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.</li> </ul> </li> <li>• Merge: indicates that the active database was last modified by the Merge protocol. The interface on which the merge occurred is also displayed.</li> <li>• 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.</li> </ul> <p> <b>Note</b> 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 22-12** *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"> <li>• a = The number of unique resolved members in the active database.</li> <li>• b = The number of devices logged in, which is the same as the number of entries in the Fibre Channel name server (FCNS) database.</li> <li>• c = The number of devices logged in, but not zoned in the zoning configuration.</li> <li>• d = The number of devices in the default zone. d is displayed only if the default zoning policy is permit.</li> </ul> |
| 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"> <li>• a = The number of members resolved.</li> <li>• b = The total number of members present.</li> <li>• c = The total number of members unresolved.</li> </ul>       |
| 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:<br/>&lt; X KB / Y KB, as in the following example.<br/>Formatted database size: &lt; 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]
```

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```

Num zonesets: 1
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 22-13 describes the fields displayed in the output of a **show zone analysis** command for the full zoning database.

**Table 22-13** *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"> <li>• 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"> <li>– CLI: The full zoning database was modified by the user from the Command Line Interface.</li> <li>– SNMP: The full zoning database was modified by the user through the Simple Network Management Protocol (SNMP).</li> <li>– GS: The full zoning database was modified from the Generic Services (GS) client.</li> <li>– CIM: The full zoning database was modified by the applications using the Common Information Model (CIM).</li> <li>– 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.</li> </ul> </li> <li>• 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.</li> <li>• 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.</li> </ul> <p> <b>Note</b> 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.   |

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**Table 22-13** *show zone analysis Field Descriptions (continued)for the Full Zoning Database*

| Field                   | Description   |
|-------------------------|---|
| Num zones               | Displays the total number of zones in the database, including unassigned zones.   |
| 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.<br><br>The formatted database size is displayed in kilobytes in this format: < X KB / Y KB, as in the following example.<br>Formatted database size: < 1 KB/2000 KB<br><br>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 22-13](#) 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                         |
|------------------------------|-------------------------------------|
| <b>zone compact database</b> | 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-attribute-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  |  |  |
|---------------------|--|--|
| <b>active</b>       |  | Displays only active zone sets.                      |
| <b>vsan</b>         |  | Displays the VSAN.                                   |
| <i>vsan-id</i>      |  | Specifies the ID of the VSAN. The range is 1 to 4093 |
| <b>brief</b>        |  | Displays zone set members in a brief list.           |
| <b>name</b>         |  | Displays members of a specified zone set.            |
| <i>zoneset-name</i> |  | Specifies the zone set name. The maximum is 64.      |
| <b>pending</b>      |  | 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

```