Show Commands

The commands in this chapter apply to the Cisco MDS 9000 Family of multilayer directors and fabric switches. All commands are shown here in alphabetical order regardless of command mode. See "About the CLI Command Modes" section on page 1-3 to determine the appropriate mode for each command.

show aaa accounting

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

show aaa accounting

Syntax Description

This command has no other arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays accounting log configuration:

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

Related Commands

Command	Description
aaa accounting default	Configures the default accounting method.

show aaa authentication

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

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

Syntax Description		
	login error-enable	(Optional) Displays the authentication login error message enable configuration.
	login mschap	(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 **login error-enable** option.
	3.0(1)	Added the **login mschap** option.

Usage Guidelines None.

Examples The following example displays the configured authentication parameters:

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

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

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

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

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

show aaa authentication login chap enable

To display CHAP authentication for login, use the **show aaa authentication login chap enable** command.

show aaa authentication login chap enable

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display CHAP authentication for login:

```
switch# show aaa authentication login chap enable
CHAP is enabled
switch#
```

Related Commands

Command	Description
aaa authentication login chap enable	Enables CHAP authentication for login.

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
aaa authentication login mschapv2 enable	Enables MS-CHAPv2 authentication for login.

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 **show aaa authentication login password-aging enable** to **show aaa authentication login ascii-authentication.**

Usage Guidelines None.

Examples The following example shows how to enable ascii authentication:

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

Related Commands

Command	Description
aaa authentication login ascii-authentication	Enables the ascii authentication method.

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
```

show aaa groups

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

show aaa groups

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
1.3(1)	This command was introduced.

Usage Guidelines None.

Examples This example shows how to display configured server groups:

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

show accounting log

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

show accounting log [*size*]

Syntax Description

size	(Optional) Specifies the size of the log to display in bytes. The range is 0 to 250000.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the entire accounting log:

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

The following example displays 400 bytes of the accounting log:

```
switch# show accounting log 400

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

Related Commands

Command	Description
clear accounting log	Clears the accounting log.

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
clear arp-cache	Clears the arp-cache table entries.

show autonomous-fabric-id database

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

show autonomous-fabric-id database

Syntax Description This command has no arguments or keywords.

Defaults None

Command Modes EXEC mode.

Command History

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

Usage Guidelines None.

Examples The following example shows contents of the AFID database:

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


Total:   1 entry in default AFID table

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


Total: 1 entry in AFID table
```

Related Commands

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

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

show banner motd

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

show banner motd

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(4)	This command was introduced.

Usage Guidelines

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

Examples

The following example displays the configured banner message:

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

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

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

Related Commands

Command	Description
banner motd	Configures the required banner message.

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
```

show boot auto-copy

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

show boot auto-copy [**list**]

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

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
1.2(1)	This command was introduced.

Usage Guidelines None.

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

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

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

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

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

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

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

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

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

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

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

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
```

show callhome

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

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

Syntax Description

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

Usage Guidelines

None.

Examples

The following example displays configured Call Home information:

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

```
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
```

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

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

Related Commands

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

show callhome transport

To display the Call Home transport configuration, use the **show callhome transport** command.

show callhome transport

Syntax Description This command has no arguments or keywords.

Defaults Enabled.

Command Modes EXEC mode.

Command History

Release	Modification
NX-OS 5.2(1)	Changed the command output.
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display the Call Home transport when the proxy is not configured :

```
switch# show callhome transport
http vrf:management
from email addr:S1-2@cisco.com

smtp server:171.69.21.28
smtp server port:25
smtp server vrf:management
smtp server priority:0

http proxy server:10.64.65.62
http proxy server port:8080
http proxy status:Enabled
switch#
```

Related Commands

Command	Description
callhome	Configures the Call Home function.

show cdp

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

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

Syntax Description

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

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

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

Examples

The following example displays all CDP-capable interfaces and parameters:

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

```
    Holdtime is 180 seconds
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
```

```
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
```

```
        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
```

show cfs

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

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

Syntax Description

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

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(1b)	This command was introduced.
2.1(1a)	• Added **status** keyword. • Replaced `vsan` with `fctimer` for the fctimer application in the Application field in the command output.
3.0(1)	Modified the **show cfs application** example with output that shows which applications support CFS distribution over IP and Fibre Channel and those that support only CFS distribution over Fibre Channel.

Usage Guidelines

None.

Note As soon as the customer encounters the syslog " %VSHD_4_VSHD_ROLE_DATABASE_OUT_OF _SYNC", Role configuration database is found to be different between the switches during merge. Role configuration database is recommended to be identical among all switches in the fabric. Edit the configuration on one of the switches to obtain the desire role configuration database and then commit it. For more information, Refer to the System Messages Guide.

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
 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#
```

show cfs regions

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

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

Syntax Description

brief *region-id*	(Optional) Displays all configured regions and applications without peers.
name name *app-name*	(Optional) Displays all peers and region information for a given application.
region *region-id*	(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
```

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

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.

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
cfs static peers	Displays configured static peers with status.

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

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

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(1)	This command was introduced.
5.2(1)	This command was deprecated.

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
```

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.
5.2(1)	This command was deprecated.

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
```

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
```

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.
5.2(1)	This command was deprecated.

Usage Guidelines

None.

Examples

The following example displays the cimserver logs:

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

Related Commands

Command	Description
cimserver loglevel	Enters cimsever log level filters.

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.
5.2(1)	This command was deprecated.

Usage Guidelines None.

Examples The following example displays the cimserver status:

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

Related Commands

Command	Description
cimserver enable	Starts the cimserver.

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

Examples The following example displays CLI aliases:

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

The following example displays a specific alias by name:

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

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

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
cli var name	Defines a CLI session variable.
cli var name (configuration)	Defines a CLI persistent variable.

show clock

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

show clock

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

None.

Examples

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

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

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.
3.2(2c)	This command was deprecated.

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.

show cloud membership

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

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

Syntax Description

all	(Optional) Displays all clouds and cloud members.
interface	(Optional) Displays all members of a cloud containing a specified interface.
gigabitethernet *slot/port*	Specifies a Gigabit Ethernet interface by slot and port number. The range is 1 to 6.
port-channel *number*	Specifies a PortChannel interface. The range is 1 to 128.
unresolved	(Optional) Displays unresolved members of the cloud.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.
3.2(2c)	This command was deprecated.

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
```

Related Commands

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

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#
```

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
```

show crypto ca certificates

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

show crypto ca certificates *trustpoint-label*

Syntax Description		
	trustpoint-label	Specifies the name of the trust point. The maximum size is 64 characters.

Defaults None.

Command Modes EXEC mode.

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

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

Examples The following example displays configured trust point certificates:

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

CA certificate 0:
subject= /C=US/O=cisco/CN=Aparna CA2
issuer= /emailAddress=amandke@cisco.com/C=IN/ST=Maharashtra/L=Pune/O=cisco/OU=ne
tstorage/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=n
etstorage/CN=Aparna CA1
issuer= /emailAddress=amandke@cisco.com/C=IN/ST=Karnataka/L=Bangalore/O=Cisco/OU
=netstorage/CN=Aparna CA
```

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

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

Related Commands

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

show crypto ca crl

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

show crypto ca crl *trustpoint-label*

Syntax Description		
	trustpoint-label	Specifies the name of the trust point. The maximum size is 64 characters.

Defaults None.

Command Modes EXEC mode.

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

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

Examples The following example displays a configured CRL:

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

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

```
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: 5C0BC225000000000000C
    Revocation Date: Apr  5 11:03:39 2005 GMT
Serial Number: 5C0DA95E00000000000D
    Revocation Date: Apr  5 11:03:35 2005 GMT
Serial Number: 5C137769000000000000E
    Revocation Date: Apr  5 11:03:31 2005 GMT
Serial Number: 4864FD5A00000000000F
    Revocation Date: Apr  5 11:03:28 2005 GMT
Serial Number: 48642E2E000000000010
    Revocation Date: Apr  5 11:03:24 2005 GMT
Serial Number: 486D4230000000000011
    Revocation Date: Apr  5 11:03:20 2005 GMT
Serial Number: 7FCB75B9000000000012
    Revocation Date: Apr  5 10:39:12 2005 GMT
Serial Number: 1A7519000000000013
    Revocation Date: Apr  5 10:38:52 2005 GMT
Serial Number: 20F1B0000000000014
    Revocation Date: Apr  5 10:38:38 2005 GMT
Serial Number: 436E43A9000000000023
    Revocation Date: Sep  9 09:01:23 2005 GMT
    CRL entry extensions:
        X509v3 CRL Reason Code:
        Cessation Of Operation
Serial Number: 152D3C5E000000000047
    Revocation Date: Sep 22 07:12:41 2005 GMT
Serial Number: 1533AD7F000000000048
    Revocation Date: Sep 22 07:13:11 2005 GMT
Serial Number: 1F9EB8EA00000000006D
    Revocation Date: Jul 19 09:58:45 2005 GMT
    CRL entry extensions:
        X509v3 CRL Reason Code:
        Cessation Of Operation
Serial Number: 1FCA9DC600000000006E
    Revocation Date: Jul 19 10:17:34 2005 GMT
    CRL entry extensions:
        X509v3 CRL Reason Code:
        Cessation Of Operation
Serial Number: 2F1B5E2E000000000072
    Revocation Date: Jul 22 09:41:21 2005 GMT
    CRL entry extensions:
        X509v3 CRL Reason Code:
        Cessation Of Operation
Signature Algorithm: sha1WithRSAEncryption
    4e:3b:4e:7a:55:6b:f2:ec:72:29:70:16:2a:fd:d9:9a:9b:12:
    f9:cd:dd:20:cc:e0:89:30:3b:4f:00:4b:88:03:2d:80:4e:22:
    9f:46:a5:41:25:f4:a5:26:b7:b6:db:27:a9:64:67:b9:c0:88:
    30:37:cf:74:57:7a:45:5f:5e:d0
```

Related Commands

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

show crypto ca remote-certstore

To display configured remote certstores, use the **show crypto ca remote-certstore** command.

show crypto ca remote certstore

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Defaults None.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines None.

Note In the current 5.0 release only ssh-client will use remote certstore. Other applications like ike, callhome will continue using local certstore irrespective of the configurations.

Examples The following example shows how to display configured remote certstores:

```
switch# show crypto ca remote-certstore
Remote Certstore:LDAP
CRL Timer : 10 Hours
LDAP Server group : Ldap1
switch#
```

Related Commands

Command	Description
crypto certificatemap mapname	Specifies the certificate map that will be used for filtering the certificate request.

show crypto ca trustpoints

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

show crypto ca trustpoints

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays configured trust points:

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

Related Commands

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

show crypto certificatemap

To display certificatemap filters, use the **show crypto certificatemap** command.

show crypto certificatemap

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Defaults None.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display certificatemap filters:

```
switch# show crypto certificatemap
Map Name: map1
Subject name: /DCBU
Altname Email: koukumar@cisco.com
Altname UPN:
switch#
```

Related Commands

Command	Description
crypto certificatemap mapname	Specifies the certificate map that will be used for filtering the certificate request.

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

interface gigabitethernet *slot/port*	(Optional) Displays crypto IPsec domain information for the specified Gigabit Ethernet interface slot and port.
security-association lifetime	(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
```

Related Commands

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

show crypto ike domain ipsec

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

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

Syntax Description

initiator	(Optional) Displays initiator configuration information.
address *ip-address*	Specifies the initiator peer IP address.
keepalive	(Optional) Displays keepalive for the IKE protocol in seconds
key	(Optional) Displays pre-shared authentication keys.
policy *policy-number*	Displays IKE configuration policies for IPsec. The range is 1 to 255.
sa	(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
crypto ike domain ipsec	Enters IKE configuration mode.
crypto ike enable	Enables the IKE protocol.

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 mupubkey rsa
key label: myrsa
key size: 512
exportable: yes
```

Related Commands

Command	Description
crypto ca enroll	Requests certificates for the switch's RSA key pair.
crypto key generate rsa	Generates an RSA key pair.
rsakeypair	Configures trust point RSA key pair details

show crypto map domain ipsec

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

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

Syntax Description

interface gigabitethernet *slot*/*port*	(Optional) Displays IPsec map information for a specific Gigabit Ethernet interface.
tag *tag-name*	(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 = aclmds10
            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
```

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

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

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

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

Related Commands

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

show crypto sad domain ipsec

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

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

Syntax Description

interface gigabitethernet *slot*/*port*	(Optional) Displays IPsec security association information for a specific Gigabit Ethernet interface.
inbound	(Optional) Specifies the inbound association.
outbound	(Optional) Specifies the outbound association.
sa-index *index*	(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
```

Related Commands

Command	Description
crypto ipsec enable	Enables IPsec.

show crypto spd domain ipsec

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

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

Syntax Description		
	interface gigabitethernet *slot*/*port*	(Optional) Displays SPD information for a specific Gigabit Ethernet interface.
	policy *number*	(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
	crypto ipsec enable	Enables IPsec.

show crypto ssh-auth-map

To display mapping filters applied for SSH authentication, use the **show crypto ssh-auth-map** command.

show crypto ssh-auth-map

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Defaults None.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display mapping filters applied for SSH authentication:

```
switch# show crypto ssh-auth-map
Issuer Name: /DCBU
Map1: map1
Map2: map2
switch#
```

Related Commands

Command	Description
crypto certificatemap mapname	Specifies the certificate map that will be used for filtering the certificate request.

show crypto transform-set domain ipsec

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

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

Syntax Description		
	set-name	(Optional) Specifies the transform set name. Maximum length is 63 characters.

Defaults Displays information for all transform sets.

Command Modes EXEC mode.

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

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

Examples 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}
```

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

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

cluster	Displays all the debugging flags.
bypass	Displays the bypass flags.
sap *sap*	Displays all debugging flags of SAP. Specifies the SAP in the range from 1 to 65535.
sme	Displays all the debugging flags of Cisco SME.
bypass	Displays all the bypass flags of Cisco SME.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.2(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
debug sme	Debugs Cisco SME features.

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
```

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

Related Commands

Command	Description
debug npv	Enables debugging NPV configurations.

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

cluster	Displays all the debugging flags.
bypass	Displays the bypass flags.
sap *sap*	Displays all debugging flags of SAP. Specifies the SAP in the range from 1 to 65535.
sme	Displays all the debugging flags of Cisco SME.
bypass	Displays all the bypass flags of Cisco SME.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.2(2)	This command was introduced.

Usage Guidelines

None.

Examples

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

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

Related Commands

Commands	Description
debug sme	Debugs Cisco SME features.

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**] | **session** {**rejected** | **status**} | **statistics** | **status}**

Syntax Description

database	Displays the entire device name database.
pending	(Optional) Displays the pending device name database information.
pending-diff	(Optional) Displays pending differences in the device name database information.
name *device-name*	Displays device name database information for a specific device name.
pwwn *pwwn-id*	Displays device name database information for a specific pWWN. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*, where *h* is a hexadecimal number.
session	Displays the session information.
rejected	Display the rejected command list.
status	Displays the device-alias session status.
statistics	Displays device name database statistics.
status	Displays the device name database status.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(9)	Added the **rejected** keyword to the syntax description.
2.0(x)	This command was introduced.

Usage Guidelines

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

The device-alias configuration best practice has been described in the configuration guide.

Examples

The following example shows the set of rejected device-alias commands in a session:

```
switch(config-device-alias-db)# show device-alias session rejected
To avoid command rejections, within a device alias session
Do not reuse:
a) a device alias name while configuring a rename command
b) a PWWN while configuring an add or delete command
c) a device alias name already renamed while configuring add command

Rejected commands must be committed in a separate device alias session
```

```
which may cause traffic interruption for those devices. Plan accordingly.
Refer to this command in the NX-OS Command Reference Guide
for more information about device alias configuration best practices


Rejected Command List
---------------------
device-alias name Dev1 pwwn 01:01:01:01:02:02:02:02
device-alias name Dev20 pwwn 01:01:01:01:02:02:02:02
switch(config-device-alias-db)#
```

The following examples shows the device-alias session status:

```
switch(config)# show device-alias session status
Last Action Time Stamp     : Tue Jul  1 01:54:21 2014
Last Action                : Commit
Last Action Result         : Success
Last Action Failure Reason : none
switch(config)#
```

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 fcaliases and all VSAN dependent fcaliases:

```
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 fcaliases and all VSAN dependent fcaliases:

```
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# pwwn 21:00:00:20:37:6f:dc:0e
```

Related Commands

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

show device-alias status

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

show device-alias status

Syntax Description

This command has no arguments or keywords.

Defaults

Basic mode.

Command Modes

EXEC mode.

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

None.

Examples

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
```

Related Commands

Command	Description
device-alias commit	Commits changes to the active device alias database.
device-alias database	Configures and activates the device alias database.

show diagnostic bootup level

To display the diagnostic bootup level information (bypass or complete) that is currently in place on the device, use the **show diagnostic bootup level** command.

show diagnostic bootup level

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display the diagnostic bootup level information (bypass or complete) that is currently in place on the device:

```
switch# show diagnostic bootup level
Current bootup diagnostic level: complete
switch#
```

Related Commands

Commands	Description
debug sme	Debugs Cisco SME features.

show diagnostic content module

To display information about diagnostic test content for a module, use the **show diagnostic content module** command.

show diagnostic content module {*module-number* | **all**}

Syntax Description

module-number	Displays the module number. The range is from 1 to 10.
all	Displays all module ID.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display information about diagnostic test content for a module:

```
switch# show diagnostic content module 1

Module 1: 2/4/8/10/16 Gbps Advanced FC Module

Diagnostics test suite attributes:
B/C/* - Bypass bootup level test / Complete bootup level test
 / NA
P/*   - Per port test / NA
M/S/* - Only applicable to active / standby unit / NA
D/N/* - Disruptive test / Non-disruptive test / NA
H/O/* - Always enabled monitoring test / Conditionally enable
d test / NA
F/*   - Fixed monitoring interval test / NA
X/*   - Not a health monitoring test / NA
E/*   - Sup to line card test / NA
L/*   - Exclusively run this test / NA
T/*   - Not an ondemand test / NA
A/I/* - Monitoring is active / Monitoring is inactive / NA
switch#
```

Related Commands

Commands	Description
debug sme	Debugs Cisco SME features.

show diagnostic status module

To display test status for a module, use the **show diagnostic status module** command.

show diagnostic status module *module-number*

Syntax Description		
	module-number	Displays the module number. The range is from 1 to 10.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	6.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to displays test status for a module:

```
switch# show diagnostic status module 1
<BU>-Bootup Diagnostics, <HM>-Health Monitori
ng Diagnostics
                <OD>-OnDemand Diagnostics, <SCH>-Scheduled Di
agnostics

==============================================
Card:(1) 2/4/8/10/16 Gbps Advanced FC Module
==============================================
Current running test               Run by
    -NA-                           -NA-
Currently Enqueued Test            Run by
    -NA-                           -NA-
indapex-03#
switch#

switch#
```

Related Commands	Commands	Description
	debug sme	Debugs Cisco SME features.

show diagnostic description module

To display the diagnostic test description for a module, use the **show diagnostic description module** command.

show diagnostic description module *module-number* **test** [*test-id test-name* | **all**]

Syntax Description

module-number	Displays the module number. The range is from 1 to 10.
test	Displays the diagnostic test selection.
test-id	Displays the diagnostic test ID.
test-name	Displays the test name.
all	Displays all test ID.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display the diagnostic test description for a module:

```
switch# show diagnostic description module 1 test all
ASICRegisterCheck :
        A health monitoring test,enabled by default that chec
ks read/write
        access to scratch registers on ASICs on the module.

PrimaryBootROM :
        A health monitoring test that verifies the primary Bo
otROM
        state.

SecondaryBootROM :
        A health monitoring test that verifies the secondary
BootROM
        state.

EOBCPortLoopback :
switch#
```

Related Commands

Commands	Description
debug sme	Debugs Cisco SME features.

show diagnostic events

To display the diagnostic events by error and information event type**,** use the **show diagnostic events** command.

show diagnostic events [**error | info**]

Syntax Description

error	Displays the error event type.
info	Displays the information event type.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display the diagnostic events by error event type:

```
switch# show diagnostic events error
switch#
```

Related Commands

Commands	Description
debug sme	Debugs Cisco SME features.

show diagnostic ondemand setting

To display the information about on demand diagnostic settings, use the **show diagnostic ondemand setting** command.

show diagnostic ondemand setting

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display the information about on demand diagnostic settings:

```
switch# show diagnostic ondemand setting
Test iterations = 1
        Action on test failure = continue until test failure
limit reaches 1
switch#

switch#
```

Related Commands

Commands	Description
debug sme	Debugs Cisco SME features.

show diagnostic result module

To display the information about the diagnostic test result for a module, use the **show diagnostic result module** command.

show diagnostic result module *module-number* **all [detail | statistics | test]**

Syntax Description

module-number	Displays the module number. The range is from 1 to 10.
detail	(Optional) Displays the detailed result.
statistics	Displays the statistics result.
test	Displays the diagnostic test selection.
all	Displays all test ID.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display the detailed information about the diagnostic test result for a module:

```
switch# show diagnostic result module 1 detail

Current bootup diagnostic level: complete
Module 1: 2/4/8/10/16 Gbps Advanced FC Module

  Diagnostic level at card bootup: complete

        Test results: (. = Pass, F = Fail, I = Incomplete,
        U = Untested, A = Abort, E = Error disabled)

        ------------------------------------------------------
------------------

        1) ASICRegisterCheck .

                Error code ------------------> DIAG TEST SUCC
ESS
                Total run count -------------> 23
                Last test execution time ----> Fri Jun 26 21:
25:33 2009
                First test failure time ------>  n/a
```

```
                Last test failure time ------>  n/a
--More--

switch#
```

Related Commands

Commands	Description
debug sme	Debugs Cisco SME features.

show diagnostic simulation module

To display the information about a simulated diagnostic result for a module, use the **show diagnostic simulation module** command.

show diagnostic simulation module *module-number*

Syntax Description		
	module-number	Displays the module number. The range is from 1 to 10.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	6.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display the information about a simulated diagnostic result for a module:

```
switch# show diagnostic simulation module 1

Card(1): 2/4/8/10/16 Gbps Advanced FC Module
_____________________________________________________
    -NA-

switch#
```

Related Commands	Commands	Description
	debug sme	Debugs Cisco SME features.

show diagnostic status module

To display the test status for all tests on a module, use the **show diagnostic status module** command.

show diagnostic status module *module-number*

Syntax Description		
	module-number	Displays the module number. The range is from 1 to 10.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	6.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display the test status for all tests on a module:

```
switch# show diagnostic status module 1
<BU>-Bootup Diagnostics, <HM>-Health Monitori
ng Diagnostics
                <OD>-OnDemand Diagnostics, <SCH>-Scheduled Di
agnostics

==============================================
Card:(1) 2/4/8/10/16 Gbps Advanced FC Module
==============================================
Current running test               Run by
    -NA-                           -NA-
Currently Enqueued Test            Run by
    -NA-                           -NA-
switch#
```

Related Commands	Commands	Description
	debug sme	Debugs Cisco SME features.

show hardware capacity

To display the information about the hardware capabilities and current hardware utilization by the system, use the **show hardware capacity** command.

show hardware capacity [**eobc | fabric-utilization | forwarding | interface | module | power**]

Syntax Description

eobc	Displays the EOBC resources.
fabric-utilization	Displays the fabric utilization.
forwarding	Displays the L2 L3 forwarding resources.
interface	Displays the interface resources.
module	Displays the SUP, LC, Xbar.
power	Displays the power supply.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display the information about the hardware capabilities and current hardware utilization by the system:

```
switch# show hardware capacity fabric-utilization
------------------------------------------------------------------------------
Fabric Planes:
A -- Unicast fabric packets
B -- Multicast/Multidestination fabric packets
------------------------------------------------------------------------------
Bandwidth is in Gbps and shared by both Fabric Planes (A+B)
-----------------------------PEAK FABRIC UTILIZATION-----------------------------
Mod Fab Fab Fab  ASIC Band Fab      Ingress                  Egress
    Lnk Mod ASIC Port wdth Pln Util%       Time         Util%       Time
------------------------------------------------------------------------------
1    9   3    1   16   55   A     4 2009-06-26@21:06:04    4 2009-06-26@21:06:04
1    9   3    1   16   55   B     0          --            0          --
1   10   3    1   17   55   A     6 2009-06-26@21:06:04    6 2009-06-26@21:06:04
1   10   3    1   17   55   B     0          --            0          --
1   11   3    2    0   55   A     4 2009-06-26@21:06:19    4 2009-06-26@21:06:19
1   11   3    2    0   55   B     0          --            0          --
1   12   3    2   24   55   A     0          --            0          --
1   12   3    2   24   55   B     0          --            0          --
```

```
1   13   4    1   16   55   A     3 2009-06-26@21:06:04    3 2009-06-26@21:06:04
1   13   4    1   16   55   B     0         --             0         --
1   14   4    1   17   55   A     3 2009-06-26@21:06:04    3 2009-06-26@21:06:04
1   14   4    1   17   55   B     0         --             0         --
1   15   4    2    0   55   A     3 2009-06-26@21:06:19    3 2009-06-26@21:06:19
1   15   4    2    0   55   B     0         --             0         --
1   16   4    2   24   55   A     0         --             0         --
1   16   4    2   24   55   B     0         --             0         --
1   17   5    1   16   55   A     3 2009-06-26@21:06:04    3 2009-06-26@21:06:04
1   17   5    1   16   55   B     0         --             0         --
1   18   5    1   17   55   A     3 2009-06-26@21:06:04    3 2009-06-26@21:06:04
1   18   5    1   17   55   B     0         --             0         --
1   19   5    2    0   55   A     3 2009-06-26@21:06:19    3 2009-06-26@21:06:19
1   19   5    2    0   55   B     0         --             0         --
1   20   5    2   24   55   A     0         --             0         --
--More--
```

```
switch(config)# show hardware capacity power

Power Resources Summary:
------------------------
Power Supply redundancy mode(administratively):  PS-Redundant
Power Supply redundancy mode(operationally):     PS-Redundant
Total Power Capacity                             6000.00 W
Power reserved for SUP,Fabric,and Fan Module(s)  3230.00 W (
53.83 % )
Power currently used by Modules                   650.00 W (
10.83 % )
Total Power Available                            2120.00 W (
35.33 % )
Total Power Output (actual draw)                    0.00 W

switch#
```

Related Commands

Commands	Description
debug sme	Debugs Cisco SME features.

show module

To display the module information including the online diagnostic test status, use the **show module** command.

show module

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display the module information including the online diagnostic test status:

```
switch# show module
Mod  Ports  Module-Type                          Model              Status
---  -----  ----------------------------------- ------------------ ----------
1    48     2/4/8/10/16 Gbps Advanced FC Module DS-X9448-768K9     ok
5    0      Supervisor module-3                 DS-X9700-SF3-K9    ha-standby
6    0      Supervisor module-3                 DS-X9700-SF3-K9    active *
9    48     2/4/8/10/16 Gbps Advanced FC Module DS-X9448-768K9     powered-dn

Mod  Power-Status  Reason
---  ------------  --------------------------
9    powered-dn     Configured Power down

Mod  Sw              Hw
---  --------------  ------
1    6.2(1X)         0.301
5    6.2(1X)         0.103
6    6.2(1X)         0.103


Mod  MAC-Address(es)                         Serial-Num
---  --------------------------------------  ----------
1    54-7f-ee-d7-bc-2c to 54-7f-ee-d7-bc-2f  JAE164302NU
5    d8-67-d9-0a-86-1d to d8-67-d9-0a-86-2f  JAF1629AMQA
6    d8-67-d9-0a-86-0a to d8-67-d9-0a-86-1c  JAF1629AMQF
9    00-00-00-00-00-00 to 00-00-00-00-00-00  JAE164302O4

Mod  Online Diag Status
```

```
---  ------------------
1    Pass
switch#
```

Related Commands

Commands	Description
debug sme	Debugs Cisco SME features.

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.

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
```

```
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
dmm module	Enables DMM configuration on a module.
show dmm srvr-vt-login	Enables the DMM feature.

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
```

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 |** *sess-id*] [**session-event-log**] **| storage** [**tgt-pwwn** *tgt-pwwn*] {**vi-pwwn** *vi-pwwn*} [**lun-event-log** *lun-id* **| tgt-event-log**]}

Syntax Description

job-id	Specifies the job ID. The range is 0 to 18446744073709551615.
detail	Displays detailed job information.
job-fsm-eventlog	Displays the Job FSM Event Log.
job-infra-fsm-eventlog	Displays the Job Infra FSM Event Log.
lun_tokens	Displays a list of job LUN tokens.
token *tok-pwwn*	Specifies the storage port world-wide name.
session	Displays job session information.
sess-id	(Optional) Specifies the job session. The range is 0 to 2147483647255.
session-event-log	(Optional) Displays the Session FSM Event Log.
storage	Displays the storage ports discovered by DMM.
tgt-pwwn *tgt-pwwn*	(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.
vi-pwwn *vi-pwwn*	(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.
lun-event-log *lun-id*	(Optional) Displays the Virtual Initiator and Target LUN FSM event log and specifies the LUN ID.
tgt-event-log	(Optional) Displays the Virtual Initiator and Target FSM Event Log.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(2)	Removed the **session-id** keyword from the syntax description. Changed the command output.
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 the jobs:

```
switch# show dmm job
================================================================================================
================================
                      Data Mobility Manager Job Information
================================================================================================
================================
 Num Job Identifier     Name                    Type  Mode  Method DMM GUI IP Peer SSM
DPP Session  Status    Est. Time of Completion
================================================================================================
================================
  1        1        CLI_JOB_0x1             SRVR  ONL  METHOD-2 127.0.0.1  NOT_APPL
1         IN_PROGRESS      Wed Jun 30 07:10:16 1971

Number of Jobs :1
switch#
```

Related Commands

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

show dmm module

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

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

Syntax Description		
	module-id	Specifies the module ID. The range is 1 to 13.
	vi-list	Displays the VI list.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	NX-OS 4.1(1b)	Added the **vi-list** 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
	dmm module	Enables DMM configuration on a module.
	dmm module job set-vi	Specifies the VI for the storage based job.
	show dmm srvr-vt-login	Enables the DMM feature.

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_rdrt-fsm-eventlog** | **login-fsm-eventlog**}

Syntax Description

job-id *job-id*	(Optional) Specifies the job ID. The range is 0 to 18446744073709551615.
server-pwwn *srvr-pwwn*	Specifies the server port world-wide name. The format is *hh:hh:hh:hh:hh:hh:hh:hh*, where *h* is a hexadecimal number.
vt-pwwn *vt-pwwn*	Specifies the VT port worldwide name. The format is *hh:hh:hh:hh:hh:hh:hh:hh*, where *h* is a hexadecimal number.
fc_rdrt-fsm-eventlog	Displays the server VT FC-Redirect FSM event log.
login-fsm-eventlog	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
```

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

```
switch# show dmm srvr-vt-login  job-id 1187978941 server-pwwn 21:32:00:0d:ec:02:2d:82
vt-pwwn 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
dmm module	Enables DMM configuration on a module.
show dmm srvr-vt-login	Displays the DMM feature.

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.

show dpvm

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

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

Syntax Description

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

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

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

Examples

The following example shows how to display DPVM database information:

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

Related Commands

Command	Description
dpvm database	Configures the DPVM database.

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
clear dpvm merge statistics	Clears the DPVM merge statistics.

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#
```

show environment

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

show environment [**clock** | **fan** | **power** | **temperature**]

Syntax Description

clock	(Optional) Displays status of chassis clock modules.
fan	(Optional) Displays status of chassis fan modules.
power	(Optional) Displays status of power supply modules, power supply. redundancy mode and power usage summary.
temperature	(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 power capacity and power distribution of the system:

```
switch(config)# show environment power Power Supply
Voltage: 42 Volts
-------------------------------------------------------
PS  Model                Power       Power     Status
                         (Watts)     (Amp)
-------------------------------------------------------
1   DS-CAC-3000W         2771.16     65.98     Ok
2   ------------            0.00      0.00     Fail/Shut


Mod Model                Power     Power       Power     Power       Status
                         Requested Requested   Allocated Allocated
                         (Watts)   (Amp)       (Watts)   (Amp)
--- -------------------  -------   ----------  --------- ----------  ----------
1    DS-X9248-256K9       136.50    3.25        136.50    3.25        Powered-Up
2    DS-X9248-96K9        298.20    7.10        298.20    7.10        Powered-Up
3    DS-X9304-18K9        199.50    4.75        199.50    4.75        Powered-Up
4    DS-X9232-256K9       130.20    3.10        130.20    3.10        Powered-Up
5    DS-X9530-SF2AK9      126.00    3.00        126.00    3.00        Powered-Up
6    DS-X9530-SF2AK9      126.00    3.00        126.00    3.00        Powered-Up
```

```
7    DS-X9248-256K9       136.50    3.25       136.50    3.25        Powered-Up
8    DS-X9232-256K9       130.20    3.10       130.20    3.10        Powered-Up
9    DS-X9232-256K9       130.20    3.10       130.20    3.10        Powered-Up
fan1 DS-9SLOT-FAN         210.00    5.00       210.00    5.00        Powered-Up


Power Usage Summary:
--------------------
Power Supply redundancy mode:                 Redundant
Power Supply redundancy operational mode:     Redundant

Total Power Capacity                             2771.16 W

Power reserved for Supervisor(s)                  252.00 W
Power reserved for Fan Module(s)                  210.00 W
Power currently used by Modules                  1161.30 W

                                                -------------
Total Power Available                             1147.86 W
                                                -------------
switch9509(config)#
```

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

```
switch# show environment
Power Supply:
Voltage: 42 Volts
------------------------------------------------------
PS  Model                Power       Power     Status
                         (Watts)     (Amp)
------------------------------------------------------
1   DS-CAC-3000W         2771.16     65.98     Ok
2   ------------            0.00      0.00     Fail/Shut


Mod Model                Power     Power       Power     Power       Status
                         Requested Requested   Allocated Allocated
                         (Watts)   (Amp)       (Watts)   (Amp)
--- -------------------  -------   ----------  --------- ----------  ----------
1    DS-X9248-256K9       136.50    3.25       136.50    3.25        Powered-Up
2    DS-X9248-96K9        298.20    7.10       298.20    7.10        Powered-Up
3    DS-X9304-18K9        199.50    4.75       199.50    4.75        Powered-Up
4    DS-X9232-256K9       130.20    3.10       130.20    3.10        Powered-Up
5    DS-X9530-SF2AK9      126.00    3.00       126.00    3.00        Powered-Up
6    DS-X9530-SF2AK9      126.00    3.00       126.00    3.00        Powered-Up
7    DS-X9248-256K9       136.50    3.25       136.50    3.25        Powered-Up
8    DS-X9232-256K9       130.20    3.10       130.20    3.10        Powered-Up
9    DS-X9232-256K9       130.20    3.10       130.20    3.10        Powered-Up
fan1 DS-9SLOT-FAN         210.00    5.00       210.00    5.00        Powered-Up


Power Usage Summary:
--------------------
Power Supply redundancy mode:                 Redundant
Power Supply redundancy operational mode:     Redundant

Total Power Capacity                             2771.16 W

Power reserved for Supervisor(s)                  252.00 W
Power reserved for Fan Module(s)                  210.00 W
Power currently used by Modules                  1161.30 W
```

```
                                                    -------------
Total Power Available                                1147.86 W
                                                    -------------
Clock:
----------------------------------------------------------
Clock           Model                Hw         Status
----------------------------------------------------------
A               DS-C9509-CL          1.0        Ok/Active
B               DS-C9509-CL          1.0        Ok/Standby


Fan:
-----------------------------------------------------
Fan             Model                Hw         Status
-----------------------------------------------------
ChassisFan1     DS-9SLOT-FAN         2.0        Ok
Fan_in_PS1      --                   --         Ok
Fan_in_PS2      --                   --         Failure
Fan Air Filter : NotSupported


Temperature:
---------------------------------------------------------------------------
Module   Sensor        MajorThresh   MinorThres   CurTemp     Status
                       (Celsius)     (Celsius)    (Celsius)
---------------------------------------------------------------------------
1        Outlet1         80              70          47         Ok
1        Outlet2         80              70          45         Ok
1        Intake1         65              50          34         Ok
1        IOSlice0        105             95          54         Ok
1        IOSlice1        105             95          57         Ok
2        Outlet1         80              70          42         Ok
2        Outlet2         80              70          47         Ok
2        Intake1         65              50          31         Ok
3        Outlet1         75              60          38         Ok
3        Outlet2         75              65          38         Ok
3        Intake1         65              50          30         Ok
4        Outlet1         80              70          41         Ok
4        Outlet2         80              70          40         Ok
4        Intake1         65              50          33         Ok
4        IOSlice0        105             95          46         Ok
4        IOSlice1        105             95          47         Ok
5        Outlet1         75              60          36         Ok
5        Outlet2         75              60          39         Ok
5        Intake1         65              50          32         Ok
6        Outlet1         75              60          36         Ok
6        Outlet2         75              60          40         Ok
6        Intake1         65              50          33         Ok
7        Outlet1         80              70          44         Ok
7        Outlet2         80              70          44         Ok
7        Intake1         65              50          37         Ok
7        IOSlice0        105             95          47         Ok
7        IOSlice1        105             95          49         Ok
8        Outlet1         80              70          45         Ok
8        Outlet2         80              70          45         Ok
8        Intake1         65              50          36         Ok
8        IOSlice0        105             95          49         Ok
8        IOSlice1        105             95          51         Ok
9        Outlet1         80              70          45         Ok
9        Outlet2         80              70          45         Ok
9        Intake1         65              50          40         Ok
9        IOSlice0        105             95          48         Ok
9        IOSlice1        105             95          49         Ok
switch(config)#
```

Related Commands

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

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

variable-name	Displays information about the specified environment variable.
all	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
event manager environment	Displays an EEM environment variable.

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.
policy-name	(Optional) Specifies a policy-name policy to display.
inactive	(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
event manager applet	Displays an applet with the Emedded Event manager.

show fabric-binding

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

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

Syntax Description

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

```
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
```

```
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
```

```
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
```

show fabric switch information vsan

To display the switch name, switch model, running version and memory details, use the **show fabric switch information vsan** command.

show fabric switch information [**vsan** *vsan-id*]

Syntax Description

vsan-id	(Optional) Specifies the VSAN range. The range is from 1 to 4093.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(9)	Added a note.
6.2(7)	This command was introduced.

Usage Guidelines

None.

Note In scenarios where the **show fabric switch information** command output has few missing parameters like switchname, model, version, etc. Please re-execute this command after few seconds.

Note Without the VSAN option this command will displays the information about switches in all the VSANs.

Note SUP memory is not displayed for switches that are running versions prior to 6.2(7) release.

Examples

The following example displays the switch name, switch model, running version and memory details of all switches in the fabric in the given VSAN:

```
switch# show fabric switch information vsan 320

VSAN 320:
--------------------------------------------------------------------------------
Switch Name Model Version Sup Memory
--------------------------------------------------------------------------------
sw3-gd99-9148s DS-C9148S48PK9 6.2(9) 4 GB
minishan-scale DS-C9148S48PK9 6.2(9) 4 GB
mdsng-sca DS-C9710 6.2(9) 8 GB
switch#
```

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

explicit-path	(Optional) Displays all configured explicit paths.
name	(Optional) Specifies the explicit path name. The maximum length is 16 characters.
tunnel-id-map	(Optional) Displays the mapping information for the outgoing interface.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(5)	This command was deprecated.
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: Alternate1
       10.20.1.2 loose
       10.20.1.3 strict
Explicit path name: User2
       10.20.50.1 strict
       10.20.50.4 loose
```

show fc2

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

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

Syntax Description

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

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays FC2 active socket information:

```
switch# show fc2 socket
SOCKET   REFCNT 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
```

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

The following example displays FC2 socket binding information:

```
switch# show fc2 bind
  SOCKET RULE   SINDEX   VSAN     D_ID     MASK TYPE  SUBTYPE M_VALUES
b23ba0c0   16  6081000      1        0        0    0 00:00:00 00:00:00:00:00:00:00:00
b2a647e0    7 ffffffff  65535   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    10000     2000
8000 0000 2112 0001 0001 8000 0256 8000 0256
  1  D    1    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    10000     2000
8000 0000 2112 0001 0001 8000 0256 8000 0256
  3  D    1    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    10000     2000
8000 0000 2112 0001 0001 8000 0256 8000 0256
```

...

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
....
```

show fcalias

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

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

Syntax Description

name *fcalias-name*	(Optional) Displays fcalias information for a specific name. The maximum length is 64.
pending	(Optional) Displays pending fcalias information.
vsan *vsan-id*	(Optional) Displays fcalias information for a VSAN. The range is 1 to 4093.

Defaults

Displays a list of all global fcaliases and all VSAN dependent fcaliases.

Command Modes

EXEC mode.

Command History

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

Usage Guidelines

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

Examples

The following example displays fcalias configuration information:

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

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

Related Commands

Command	Description
fcalias name	Configures fcalias names.

show fcanalyzer

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

show fcanalyzer

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

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

Examples The following example displays configured hosts:

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

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

statistics interface	(optional) Displays FCC statistics for a specified interface.
fc *slot*/*port*	(optional) Specifies a Fibre Channel interface.
fcip *fcip-id*	(optional) Specifies an FCIP interface. The range is 1 to 255.
iscsi *slot*/*port*	(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
```

show fcdomain

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

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

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

interface {**bay** *port* | **ext** *port*}

Syntax Description

address-allocation	(Optional) Displays statistics for the FC ID allocation.
cache	(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.
allowed	Displays a list of allowed domain IDs.
domain-list	Displays a list of domain IDs granted by the principal switch.
fcid persistent	Displays persistent FC IDs (across reboot).
unused pending	Displays the pending configuration.
vsan *vsan-id*	Specifies a VSAN ID. The range is 1 to 4093.
pending-diff	Displays the difference between the running configuration and the pending configuration.
session-status	Displays the last action performed by FC domain.
statistics	Displays the statistics of FC domain.
interface	Specifies an interface.
fc *slot*/*port*	Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay *port* **| ext** *port*	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9124 Fabric Switch, a Cisco Fabric Switch for HP c-Class BladeSystem, and a Cisco Fabric Switch for IBM BladeCenter.
fcip *fcip-id*	Specifies an FCIP interface. The range is 1 to 255.
iscsi *slot*/*port*	Specifies an iSCSI interface.
port-channel	Specifies a PortChannel interface. The range is 1 to 128.
status	Displays all VSAN-independent information in FC domain.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(3)	Added the Optimized mode: Disabled, in the command output.
1.0(2)	This command was introduced.
2.1(1a)	The **domain-list** display was modified to include a virtual IVR description.
3.0(1)	Added the **pending**, **pending-diff**, s**ession-status**, and **status** 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) ß 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
       Optimize Mode: Disabled
        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.

Table 22-1 show fcdomain Field Descriptions

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

The following example displays the allowed domain ID lists:

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

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

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

The following example displays pending configuration changes:

```
switch# show fcdomain pending vsan 10

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

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

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

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

The following example displays the status of the distribution session:

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

Related Commands

Command	Description
fcdomain	Configures the Fibre Channel domain feature.

show fcdroplatency

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

show fcdroplatency [**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 fcdroplatency
switch latency value:4000 milliseconds
network latency value:5000 milliseconds
```

show fcflow stats

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

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

Syntax Description

aggregated	(optional) Displays aggregated fcflow statistics.
usage	(optional) Displays flow index usage.
module *slot*	Displays fcflow statistics for a module in the specified slot.
index *flow-index*	(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
```

show fcfwd

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

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

Syntax Description

idxmap	Displays the FC forward index tables.
interface-to-port	(Optional) Displays the interface index to port index table.
port-to-interface	(Optional) Displays the port index to interface index table.
statistics	(Optional) Displays index table statistics.
pcmap	Displays the FC forward PortChannel table.
interface	(Optional) Displays PortChannel tables for an interface.
sfib	Displays software forwarding tables.
multicast	(Optional) Displays multicast software forwarding tables.
statistics	(Optional) Displays software forwarding statistics.
unicast	(Optional) Displays unicast software forwarding tables.
spanmap	Displays SPAN map tables.
rx	(Optional) Displays SPAN map tables in the ingress -rx direction.
tx	(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
```

show fcid-allocation

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

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

Syntax Description

area	Selects the auto area list of company IDs.
company-id	Selects company ID list.
company-id	(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.

show fcip counters

To display FCIP tunnel statistics, use the **show fcip counters** command in privileged EXEC mode. This command also displays the statistics for all TCP connections present in an FCIP tunnel.

show fcip counters

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.
6.2(11c)	This command was modified to display statistics for all TCP connections in an FCIP tunnel.

Usage Guidelines

None.

Examples

The following example shows statistics for an FCIP tunnel with 4 data and 1 control TCP connections:

```
switch# show fcip counters
fcip5
    TCP Connection Information
      5 Active TCP connections
        30 Attempts for active connections, 1 close of connections
        Path MTU 2500 bytes
        Current retransmission timeout is 200 ms
        Current Send Buffer Size: 66648 KB, Requested Send Buffer Size: 65536 KB
        CWM Burst Size: 50 KB
        Measured RTT : 500000 us Min RTT: 7640 us Max RTT: 0 us
        Round trip time: Smoothed 8 ms, Variance: 4 Jitter: 150 us
 CONN<0>
    Data connection: Local 10.10.9.1:65433, Remote 10.10.9.2:5000
    TCP Parameters
      Advertized window: Current: 1112 KB, Maximum: 24580 KB, Scale: 6
      Peer receive window: Current: 4095 KB, Maximum: 4095 KB, Scale: 6
      Congestion window: Current: 873 KB, Slow start threshold: 1840 KB
    TCP Connection Rate
      Input Bytes: 0.00 MB/sec, Output Bytes: 0.00 MB/sec
      Input Frames: 0/sec, Output Frames: 0/sec
 CONN<1>
    Data connection: Local 10.10.9.1:65431, Remote 10.10.9.2:5000
    TCP Parameters
      Advertized window: Current: 1116 KB, Maximum: 24580 KB, Scale: 6
      Peer receive window: Current: 4095 KB, Maximum: 4095 KB, Scale: 6
      Congestion window: Current: 876 KB, Slow start threshold: 1842 KB
```

```
    TCP Connection Rate
      Input Bytes: 0.00 MB/sec, Output Bytes: 0.00 MB/sec
      Input Frames: 0/sec, Output Frames: 0/sec
CONN<2>
   Data connection: Local 10.10.9.1:65429, Remote 10.10.9.2:5000
   TCP Parameters
     Advertized window: Current: 1117 KB, Maximum: 24580 KB, Scale: 6
     Peer receive window: Current: 4095 KB, Maximum: 4095 KB, Scale: 6
     Congestion window: Current: 877 KB, Slow start threshold: 1842 KB
   TCP Connection Rate
     Input Bytes: 0.00 MB/sec, Output Bytes: 0.00 MB/sec
     Input Frames: 0/sec, Output Frames: 0/sec
CONN<3>
   Data connection: Local 10.10.9.1:65427, Remote 10.10.9.2:5000
   TCP Parameters
     Advertized window: Current: 1118 KB, Maximum: 24580 KB, Scale: 6
     Peer receive window: Current: 4095 KB, Maximum: 4095 KB, Scale: 6
     Congestion window: Current: 878 KB, Slow start threshold: 1843 KB
   TCP Connection Rate
     Input Bytes: 0.00 MB/sec, Output Bytes: 0.00 MB/sec
     Input Frames: 0/sec, Output Frames: 0/sec
CONN<4>
   Control connection: Local 10.10.9.1:65425, Remote 10.10.9.2:5000
   TCP Parameters
     Advertized window: Current: 1107 KB, Maximum: 24580 KB, Scale: 6
     Peer receive window: Current: 4089 KB, Maximum: 4089 KB, Scale: 6
     Congestion window: Current: 50 KB, Slow start threshold: 2070 KB
   TCP Connection Rate
     Input Bytes: 0.00 MB/sec, Output Bytes: 0.00 MB/sec
     Input Frames: 0/sec, Output Frames: 0/sec
   5 minutes input rate 120 bits/sec, 15 bytes/sec, 0 frames/sec
   5 minutes output rate 160 bits/sec, 20 bytes/sec, 0 frames/sec
     1060823 frames input, 2307076112 bytes
        4675 Class F frames input, 448880 bytes
        1056148 Class 2/3 frames input, 2306627232 bytes
        0 Reass frames
        0 Error frames timestamp error 0
     2788188 frames output, 6079611624 bytes
        4691 Class F frames output, 454176 bytes
        2783497 Class 2/3 frames output, 6079157448 bytes
0 Error frames
```

Related Commands

Command	Description
show fcip	Displays FCIP profile information.
show ips stats	Displays IP storage statistics.

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
show fc-redirect active-configs	Displays all active configurations on a switch.

show fc-management

To display the Fibre Channel Common Transport (FC-CT) management security information, use the **show fc-management** command.

show fc-management database | status

Syntax Description

database	Displays the FC-CT management security database.
status	Displays the management security information.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(9)	This command was introduced.

Usage Guidelines

None

Examples

The following example shows how to display the FC-CT management security database:

```
switch(config)# show fc-management database
Fc-Management Security Database
---------------------------------------------------------------
VSAN       PWWN              FC-CT Permissions per FC services
---------------------------------------------------------------
1    01:01:01:01:01:01:01:01   Zone(RW), Unzoned-NS(RW), FCS(RW), FDMI(RW)

---------------------------------------------------------------
Total 1 entries

switch(config)#
```

The following example shows how to display the management security information**:**

```
switch(config)# show fc-management status
Mgmt Security Enabled
switch(config)#
```

Related Commands

Command	Description
fc-management database	Configures the FC-CT management security database.

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

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

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

Related Commands

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

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.

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.

show fcip

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

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

Syntax Description

host-map *fcip-id*	Displays the information for a specified map. The range is 1 to 255.
profile	Displays the information for a profile.
profile-id	(Optional) Specifies the profile ID. The range is 1 to 255.
all	(Optional) Specifies all profile IDs.
summary	Displays summary information.
tape-session	Displays tape session information.
tunnel *tunnel-id*	Displays information for a specified FCIP tunnel ID. The range is 1 to 255.
host-end	Displays information for the host end.
target-end	Displays information for the target end.
target-map *fcip-id*	Displays information for a specified target map. The range is 1 to 255.
wa-login-list *tunnel-id*	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
6.2(5)	Added the command output for FCIP Profiles for Cisco MDS 9250i Multiservice Fabric Switch.
1.1(1)	This command was introduced.
2.0(x)	Added the **host-map**, **summary**, and **target-map** keywords.
3.0(1)	Added the **tape-session**, **tunnel**, **host-end**, **target-end**, and **wa-login-list** keywords.

Usage Guidelines

None.

Examples

The following example displays FCIP Profiles for SSN-16/18+4

```
switch# show fcip profile
-------------------------------------------------------------------------------
ProfileId Ipaddr TcpPort
-------------------------------------------------------------------------------
1 10.10.100.150 3225
```

```
2 10.10.100.150 3226
40 40.1.1.2 3225
100 100.1.1.2 3225
200 200.1.1.2 3225
```

The following example displays FCIP Profiles for Cisco MDS 9250i Multiservice Fabric Switch:

```
switch# show fcip profile
-------------------------------------------------------------------------------
ProfileId Ipaddr TcpPort
-------------------------------------------------------------------------------
1 20.1.1.1 3225
2 20.1.1.1 2000
3 20.1.1.1 3000
4 20.1.1.1 4000
5 20.1.1.1 5000
6 20.1.1.1 6000
7 30.1.1.1 3225
8 31.1.1.1 3225
9 32.1.1.1 3225
10 33.1.1.1 3225
11 34.1.1.1 3225
12 35.1.1.1 3225
```

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
6               46.1.1.2        3225
7               47.1.1.2        3225
```

The following example displays information for a specified FCIP profile for SSN-16/18+4:

```
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 information for the Specified FCIP Profile Information for Cisco MDS 9250i Multiservice Fabric Switch:

```
switch# show fcip profile 1
FCIP Profile 1
Internet Address is 20.1.1.1 (interface IPStorage1/1)
Tunnels Using this Profile: fcip1
Listen Port is 3225
TCP parameters
SACK is enabled
```

```
PMTU discovery is enabled, reset timeout is 3600 sec
Keep alive is 60 sec
Minimum retransmission timeout is 200 ms
Maximum number of re-transmissions is 4
Send buffer size is 16384 KB
Maximum allowed bandwidth is 5000000 kbps
Minimum available bandwidth is 4000000 kbps
Configured round trip time is 1000 usec
Congestion window monitoring is enabled, burst size is 50 KB
Auto jitter detection is enabled
```

The following example displays the FCIP Summary information (SSN-16/18+4):

```
switch# show fcip summary
--------------------------------------------------------------------------------
Tun prof Eth-if peer-ip Status T W T Enc Comp Bandwidth rtt
E A A max/min (us)
--------------------------------------------------------------------------------
10 91 GE4/1 3.3.3.2 UP N N N N N 1000M/1000M 2000
11 11 GE3/1.601 30.1.1.2 DOWN N N N N N 1000M/500M 1000
12 12 GE3/1.602 30.1.2.2 DOWN N N N N N 1000M/500M 1000
13 0 0.0.0.0 DOWN N N N N N
14 0 0.0.0.0 DOWN N N N N N
15 0 0.0.0.0 DOWN N N N N N
16 0 0.0.0.0 DOWN N N N N N
17 0 0.0.0.0 DOWN N N N N N
18 0 0.0.0.0 DOWN N N N N N
19 0 0.0.0.0 DOWN N N N N N
20 92 GE4/2 3.3.3.1 UP N N N N N 1000M/1000M 2000
21 21 GE3/2.601 30.1.1.1 DOWN N N N N N 1000M/500M 1000
22 22 GE3/2.602 30.1.2.1 DOWN N N N N N 1000M/500M 1000
```

The following example displays the FCIP Summary (Cisco MDS 9250i Multiservice Fabric Switch):

```
switch# show fcip summary
--------------------------------------------------------------------------------
Tun prof IPS-if peer-ip Status T W T Enc Comp Bandwidth rtt
E A A max/min (us)
--------------------------------------------------------------------------------
1 1 IPS1/1 20.1.1.2 TRNK Y N N N A 5000M/4000M 1000
2 2 IPS1/1 20.1.1.2 TRNK Y N N N A 1000M/800M 1000
3 3 IPS1/1 20.1.1.2 DOWN N N N N N 1000M/800M 1000
4 4 IPS1/1 20.1.1.2 DOWN N N N N N 1000M/800M 1000
5 5 IPS1/1 20.1.1.2 DOWN N N N N N 1000M/800M 1000
6 6 IPS1/1 20.1.1.2 DOWN N N N N N 1000M/800M 1000
7 7 IPS1/2.1 30.1.1.2 TRNK Y N N N M2 1000M/800M 1000
8 8 IPS1/2.2 31.1.1.2 TRNK Y N N N M2 1000M/800M 1000
9 9 IPS1/2.3 32.1.1.2 DOWN N N N N N 1000M/800M 1000
10 10 IPS1/2.4 33.1.1.2 DOWN N N N N N 1000M/800M 1000
11 11 IPS1/2.5 34.1.1.2 DOWN N N N N N 1000M/800M 1000
12 12 IPS1/2.6 35.1.1.2 DOWN N N N N N 1000M/800M 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.

Table 22-4 show fcip summary Field Descriptions

Field	Description
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 (**Y**es or **N**o).
WA	Write acceleration enabled (**Y**es or **N**o).
TA	Tape acceleration enabled (**Y**es or **N**o).
Enc	Encryption enabled (**Y**es or **N**o).
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.

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.
vsan *vsan-id*	(Optional) Displays entries for a specified VSAN ID. The range is 1 to 4093.
domain *domain-id*	Displays entries in a domain.
vsan *vsan-range*	Displays the VSAN range. The range is 1 to 4093.
fcid *fcid-id*	Displays entry for the given port.
local	Displays local entries.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
NX-OS 4.2(1)	Changed the command output for **show fcns database** and **show fcns database detail.** (Two attributes are added to the command output **Connected Interface :fc3/4** **Switch Name (IP address) :rbadri-vegas11 (10.64.66.50)**
NX-OS 4.1(3)	Changed the command output for **show fcns database detail**.
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
```

```
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
```

```
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
```

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

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#
```

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

distance	Displays FC route preference.
label *label*	Displays label routes.
vsan *vsan-id*	Specifies the ID of the VSAN (from 1 to 4093).
multicast	Displays FC multicast routes.
fc-id	Specifies the Fibre Channel ID.
summary	Displays the FC routes summary.
unicast	Displays FC unicast routes.
vsan *vsan-id*	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:

```
switch# show fcroute multicast
VSAN FC ID    # Interfaces
---- -------- ------------
1    0xffffff 0
2    0xffffff 1
3    0xffffff 1
4    0xffffff 0
5    0xffffff 0
6    0xffffff 0
7    0xffffff 0
8    0xffffff 0
9    0xffffff 0
10   0xffffff 0
```

The following example displays FCID information for a specified VSAN:

```
switch# show fcroute multicast vsan 3

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

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

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

VSAN FC ID    # Interfaces
---- -------- ------------
2    0xffffff 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 0xffffff 0x00 0x00 D P A 1      10
static   2    0x111211 0xffffff 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 0xffffff 0x00 0x00 R P A 1      103
static   4    0x040102 0xffffff 0x00 0x00 R P A 1      103
static   4    0x040103 0xffffff 0x00 0x00 R P A 1      103
static   4    0x040104 0xffffff 0x00 0x00 R P A 1      103
static   4    0x111211 0xffffff 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 0xffffff 0x00 0x00 R P A 1      103
static   4    0x040102 0xffffff 0x00 0x00 R P A 1      103
static   4    0x040103 0xffffff 0x00 0x00 R P A 1      103
static   4    0x040104 0xffffff 0x00 0x00 R P A 1      103
static   4    0x111211 0xffffff 0x00 0x00 D P A 1      10
```

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

```
switch# show fcroute unicast 0x040101 0xffffff 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 0xffffff 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
```

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

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

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays FCS database information:

```
switch# show fcs database

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

```
Switch Ports:
--------------------------------------------------------------------
Interface  pWWN                      Type     Attached-pWWNs
--------------------------------------------------------------------
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)                   0xfffc7f
20:01:00:05:30:00:20:df  Switch (Adjacent)                0xfffc64
[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 = 0xfffc7f
Fabric-Name = 20:01:00:05:30:00:16:df
Logical-Name = 172.22.92.58
Management Address List =
        snmp://172.22.92.58/eth-ip
        http://172.22.92.58/eth-ip
Information List:
        Vendor-Name = Cisco Systems
        Model Name/Number = DS-C9509
        Release-Code = 0
```

This command displays platform information:

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

```
        1.1.1.1
```

This command displays platform information within a specified VSAN:

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

This command displays FCS port information within a specified VSAN:

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

20:51:00:05:30:00:16:de  TE_Port   SFP with Serial Id      Shortwave Laser

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

20:0a:00:05:30:00:20:de  TE_Port   SFP with Serial Id      Shortwave Laser

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

This command displays ports within a specified WWN:

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

This command displays FCS statistics:

```
switch# show fcs statistics

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

```
FCS Statistics for VSAN: 30
---------------------------
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
```

show fcsp

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

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

Syntax Description

asciiwwn *ascii-wwn*	(Optional) Displays the ASCII representation of the WWN used with AAA server.
dhchap	(Optional) Displays the DHCHAP hash algorithm status.
database	(Optional) Displays the contents of the local DHCHAP database.
interface	(Optional) Displays the FC-SP settings for a FC or FCIP interface.
fc *slot/port*	(Optional) Displays the Fibre Channel interface in the specified slot and port.
statistics	(Optional) Displays the statistics for the specified interface.
wwn	(Optional) Displays the FC-SP identity of the other device.
fcip *interface-number*	(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:
```

```
        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 he ASCII representation of the device WWN:

```
switch# show fcsp asciiwwn 30:11:bb:cc:dd:33:11:22
Ascii representation of WWN to be used with AAA servers:Ox_3011bbccdd331122
```

Related Commands

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

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

fc *slot/port*	Specifies FC slot number and port number.
fcip *slot/port*	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
fcsp enable	Enables FC-SP.

show fctimer

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

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

Syntax Description

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

Usage Guidelines

None.

Examples

The following example displays configured global TOVs:

```
switch# show fctimer
F_S_TOV   D_S_TOV   E_D_TOV   R_A_TOV
---------------------------------------:
```

```
5000 ms   5000 ms   2000 ms   10000 ms
```

The following example displays configured TOVs for a specified VSAN:

```
switch# show fctimer vsan 10
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.

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

database	Displays the FDMI database contents.
detail	(Optional) Specifies detailed FDMI information.
hba-id	(Optional) Displays detailed information for the specified HBA entry.
hba-id	(Optional) Displays detailed information for the specified HBA entry.
vsan *vsan-id*	(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
```

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

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

show ficon

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

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

Syntax Description

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

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
1.3(1)	This command was introduced.
3.0(1)	• Added the **port-numbers** and **stat** options. • Added the **portnumber** keyword.
3.0(2)	Added the **port default-state** option.

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

Examples The following example displays configured FICON information:

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

The following example displays the default prohibit state:

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

The following example displays assigned FICON port numbers:

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

The following example displays port address information:

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

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

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

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

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

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

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

```
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
```

```
    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 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
```

```
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
```

show file

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

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

Syntax Description

filename	Specifies a filename.
cksum	(Optional) Displays CRC checksum for a file.
md5sum	(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
```

show flex-attach

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

show flex-attach

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History

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

Usage Guidelines None.

Examples The following example displays the FlexAttach distribution status:

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

Related Commands

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

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
```

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

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

------------------------------------------------------------
                OXID INFO
------------------------------------------------------------
vsan       sid          did          oxid       els-cmd      phy-pwwn
       vpwwn
------------------------------------------------------------
Number of outstanding ELS frames = 0

-------------------------------------------------------------------------------
                srv fcid to srv ifindex map
-------------------------------------------------------------------------------
--
vsan    srvfcid  srvif  pwwn                    vpwwn                    flogi?
-------------------------------------------------------------------------------
--
Number of logged-in devices = 0
```

Related Commands

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

show flex-attach merge status

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

show flex-attach merger status

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes Exec mode

Command History

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

Usage Guidelines None.

Examples The following example displays the FlexAttach merge status:

```
switch# show flex-attach merge status
Flex-Attach merge status
----------------

Status         : Success
Failure reason :
```

Related Commands

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

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
```

```
--------------------------------------------------------------------------------
-----
PWWN                      VIRTUAL-PWWN              LAST-CHANGE
--------------------------------------------------------------------------------
-----
20:14:00:05:30:01:71:11   20:14:00:05:30:01:71:99  Sat Mar  1 14:56:07 2008

20:14:00:05:30:01:71:44   20:14:00:05:30:01:71:88  Sat Mar  1 14:56:07 2008

Number of virtual pwwn assigned to real pwwns = 2
```

Related Commands

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

show flogi

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

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

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

interface {**bay** *port* | **ext** *port*}

Syntax Description

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

Defaults

None.

Command Modes

EXEC mode.

Command History

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

Usage Guidelines

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

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
```

```
--------------------------------------------------------------------------
fc9/13      1     0xef02e2  22:00:00:20:37:18:d2:45  20:00:00:20:37:18:d2:45

Total number of flogi = 1.
```

Related Commands

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

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

fa *slot/port*	Specifies the FA port interface to configure by slot and port number on all switches.
fc *slot/port*	Specifies the Fibre Channel interface to configure by slot and port number on an MDS 9000 Family switch.
fv *module-number*	Specifies the Fibre Channel virtualization interface by module on all switches.
port-channel	Specifies the PortChannel interface.
port-channel number	Specifies the PortChannel number. The range is from 1 to 256.
details	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
show fcns database	Displays all the local and remote name server entries.

show fspf

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

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

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

interface [**bay** *port* | **ext** *port*]

Syntax Description

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

```
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
```

```
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
```

show hardware

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

show hardware [**ipc-channel status**]

Syntax Description		
	ipc-channel status	(Optional) Displays the status of the interprocess communication (IPC) channels.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
1.2(1)	This command was introduced.
NX-OS 4.1(1b)	Changed the command output from SAN-OS to NX-OS.

Usage Guidelines 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")
```

```
  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 secon

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
```

```
  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
```

```
  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#
```

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
show hardware	Displays brief information about the list of field replacable units (FRUs) in the switch.

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 configures 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
```

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

bootflash:	(Optional) Source or destination location for internal bootflash memory.
slot0:	(Optional) Source or destination location for the CompactFlash memory or PCMCIA card.
volatile:	(Optional) Source or destination location for the volatile directory.
image-filename	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
```

```
Capability requirement : STRICT
Disable command : no device-alias distribute
```

show install all failure-reason

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

show install all failure-reason

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

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

Examples

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

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

Install is in progress, please wait.

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

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

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

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

Related Commands

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

show install all impact

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

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

Syntax Description

asm-sfn	(Optional) Specifies the ASM SFN boot variable.
image-filename	(Optional) Specifies the name of an image.
kickstart	(Optional) Specifies the kickstart boot variable.
ssi	(Optional) Specifies the SSI boot variable.
system	(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
```

```
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).
```

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
```

```
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 nondisrtuptive 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.
```

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
```

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 performance interval** *interval* **module mod-num all | brief**] **| description | transceiver** [**calibrations | details**] **| trunk vsan** [*vsan-id*]]

Syntax Description

interface-range	(Optional) Displays the type of interface.
bbcredit	(Optional) Displays buffer-to-buffer credit information.
brief	(Optional) Displays brief information.
capabilities	(Optional) Displays hardware port capabilities for a specified interface.
counters	(Optional) Displays the interface counter information.
performance	(Optoponal) Specifies the performance counter values for all the ports in all the modules with default interval of 20.
interval	(Optional) Specifies the performance counter values for all the ports in all the modules for a given time interval.
interval	The range is from 0 to 300
module	(Optional) Specifies the performance statistics counter modules.
mod-num	(Optional) Specifies the module number. The range is from 1 to 16.
all	(Optional) Specifies the performance statistics counters for all the ports in a particular module or ports in all the modules.
description	(Optional) Displays the interface description.
transceiver	(Optional) Displays the transceiver information for a specified interface.
calibrations	(Optional) Displays transceiver calibration information for the specified interface.
details	(Optional) Displays detailed transceiver diagnostics information for the specified interface.
trunk vsan	(Optional) Displays the trunking status of all VSANs.
vsan-id	(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
6.2(7)	Added **fec** related command output.
6.2(5)	Added the Cisco MDS 9250i Multiservice Fabric Switch output to the "**show interface capabilities**"command.

Release	Modification
6.2(5)	Added the command output for detailed FCIP Interface Standard Counter Information, FCIP Interface Summary of Counters for a Specified Interface, brief FCIP Interface Counter Information for Cisco MDS 9250i Multiservice Fabric Switch.
6.2(3)	Deprecated the **show interface counters performance** command.
6.2(1)	Added the **performance**, **module** and **interval** keywords to the syntax description.
1.0(2)	This command was introduced.
1.3(1)	Added the **bbcredit** keyword and support for cpp and fv interfaces.
3.0(1)	Added the **capabilities** option for Fibre Channel interfaces.
3.1(2)	Added the **bay** | **ext** interface.
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.

Note **show interface counter** command will not display any output, if FCoE plug-in is not installed.

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
bay *port* | **ext** *port*	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.
cpp *slot/port*	Displays information for a virtualization interface.
fc *slot/port*	Displays the Fibre Channel interface in the specified slot/port.
fc-tunnel *tunnel-id*	Displays description of the specified FC tunnel from 1 to 4095.
fcip *interface-number*	Specifies a FCIP interface. The range is 1 to 255.
fv *slot/dpp-number/fv-port*	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.
gigabitethernet *slot/port*	Displays information for a Gigabit Ethernet interface at the specified slot and port.
gigabitethernet *slot/port*. *subinterface-number*	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.

Table 22-5 Interface Types for the show interface Command (continued)

Interface Type	Description
iscsi *slot/port*	Displays the description of the iSCSI interface in the specified slot and port.
mgmt 0	Displays the description of the management interface.
port-channel *port-channel-number*	Displays the PortChannel interface specified by the PortChannel number. The range is 1 to 128.
port-channel *port-channel-number* **.***subinterface-number*	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.
sup-fc 0	Displays the in-band interface details.
vsan *vsan-id*	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 16 Gbps
    Rspan tunnel is fc-tunnel 100
    Beacon is turned off
    admin fec state is up
    oper fec state is down
    5 minutes input rate 248 bits/sec, 31 bytes/sec, 0 frames/sec
    5 minutes output rate 176 bits/sec, 22 bytes/sec, 0 frames/sec
      6862 frames input, 444232 bytes
        0 discards, 0 errors
        0 CRC, 0 unknown class
        0 too long, 0 too short
      6862 frames output, 307072 bytes
        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
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
fcAnl

sup-fc0 is up

mgmt0 is up

vsan1 - IPFC interface
```

```
port-channel 15
no description

port-channel 98
no description
```

The following example shows how to display brief information for a range of interfaces:

```
switch# show interface fc2/1 - 5 brief
-------------------------------------------------------------------------------
Interface  Vsan   Admin  Admin   Status          Oper  Oper   Port-channel
                  Mode   Trunk                   Mode  Speed
                         Mode                          (Gbps)
-------------------------------------------------------------------------------
fc1/1      1      auto   on      down            --    --     --
fc1/2      1      auto   on      fcotAbsent      --    --     --
fc1/3      1      F      --      notConnected    --    --     --
fc1/4      1      auto   on      fcotAbsent      --    --     --
fc1/5      1      F      --      up              F     2      --
fc1/6      1      auto   on      fcotAbsent      --    --     --
fc1/7      1      auto   on      down            --    --     --
fc1/8      1      auto   on      fcotAbsent      --    --     --
fc1/9      1      auto   on      fcotAbsent      --    --     --
fc1/10     1      auto   on      fcotAbsent      --    --     --
fc1/11     1      auto   on      down            --    --     --
fc1/12     1      auto   on      fcotAbsent      --    --     --
fc1/13     1      auto   on      down            --    --     --
fc1/14     1      auto   on      fcotAbsent      --    --     --
fc1/15     1      auto   on      down            --    --     --
fc1/16     1      auto   on      fcotAbsent      --    --     --
-------------------------------------------------------------------------------
Interface          Status   IP Address              Speed        MTU
-------------------------------------------------------------------------------
sup-fc0            up       --                      1 Gbps       2596
-------------------------------------------------------------------------------
Interface          Status   IP Address              Speed        MTU
-------------------------------------------------------------------------------
mgmt0              up       173.95.112/24         100 Mbps     1500
-------------------------------------------------------------------------------
Interface          Status   IP Address              Speed        MTU
-------------------------------------------------------------------------------
vsan1                 up    10.1.1.1/24             1 Gbps       1500
```

The following example shows how to display counter information for a FCIP interface:

```
switch# show interface fcip 3 counters
fcip3
    TCP Connection Information
      2 Active TCP connections
        Control connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65532
        Data connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65534
      30 Attempts for active connections, 0 close of connections
    TCP Parameters
      Path MTU 1500 bytes
      Current retransmission timeout is 300 ms
      Round trip time: Smoothed 10 ms, Variance: 5
      Advertised window: Current: 122 KB, Maximum: 122 KB, Scale: 1
      Peer receive window: Current: 114 KB, Maximum: 114 KB, Scale: 1
      Congestion window: Current: 2 KB, Slow start threshold: 1048560 KB
    5 minutes input rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
    5 minutes output rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
      910 frames input, 84652 bytes
         910 Class F frames input, 84652 bytes
```

```
      0 Class 2/3 frames input, 0 bytes
      0 Error frames timestamp error 0
    908 frames output, 84096 bytes
      908 Class F frames output, 84096 bytes
      0 Class 2/3 frames output, 0 bytes
      0 Error frames 0 reass frames
```

The following example displays Detailed FCIP Interface Standard Counter Information (Cisco MDS 9250i Multiservice Fabric Switch):

```
switch# show interface fcip 1 counters
fcip1
TCP Connection Information
4 Active TCP connections
Local 20.1.1.1:3225, Remote 20.1.1.2:65461
0 host table full 0 target entries in use
9 Attempts for active connections, 1 close of connections
TCP Parameters
Path MTU 2500 bytes
Current retransmission timeout is 200 ms
Round trip time: Smoothed 1 ms, Variance: 1 Jitter: 160 us
Advertized window: Current: 21 KB, Maximum: 24580 KB, Scale: 5
Peer receive window: Current: 22 KB, Maximum: 23 KB, Scale: 5
Congestion window: Current: 50 KB, Slow start threshold: 1950 KB
Current Send Buffer Size: 16406 KB, Requested Send Buffer Size: 16384 KB
CWM Burst Size: 50 KB
Measured RTT : 14 us Min RTT: 14 us Max RTT: 123 us
5 minutes input rate 1606526656 bits/sec, 200815832 bytes/sec, 91936 frames/sec
5 minutes output rate 1895239000 bits/sec, 236904875 bytes/sec, 108473 frames/sec
1153194273 frames input, 2518904877636 bytes
5307 Class F frames input, 703296 bytes
1153188966 Class 2/3 frames input, 2518904174340 bytes
45778 Reass frames
0 Error frames timestamp error 0
1360260711 frames output, 2970799627892 bytes
4652 Class F frames output, 516420 bytes
1360256059 Class 2/3 frames output, 2970799111472 bytes
0 Error frames
IP compression statistics
3487446379048 rxbytes
43870538612 rxbytes compressed, 53208 rxbytes non-compressed
79.49 rx compression ratio
2762188144144 txbytes
34388048802 txbytes compressed, 39096 txbytes non-compressed
80.32 tx compression ratio
34391222079 txbytes compressed
IP compression flow control statistics
0 bytes queued for hw compression
0 queued for hardware compression
4294967280 queued for hardware decompression
2182 slowed tcp flow control
101547965 accelerated tcp flow control
127206019 side band flow control ON
7048198 side band flow control OFF
```

The following exaple displays brief FCIP Interface Counter Information (SSN-16/18+4)

```
switch# show interface fcip 3 counters brief
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```

```
--------------------------------------------------------------------------------
Interface Input (rate is 5 min avg) Output (rate is 5 min avg)
------------------------------ ------------------------------
Rate Total Rate Total
Mbits/s Frames Mbits/s Frames
--------------------------------------------------------------------------------
fcip3 9 0 9 0
```

The following example displays brief FCIP Interface Counter Information (Cisco MDS 9250i Multiservice Fabric Switch):

```
switch# show interface fcip 1-12 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
--------------------------------------------------------------------------------
fcip1 191 1155974124 225 1363537690
fcip2 173 1046686124 227 1372311228
fcip3 0 0 0 0
fcip4 0 0 0 0
fcip5 0 0 0 0
fcip6 0 0 0 0
fcip7 189 1143612956 221 1339130294
fcip8 194 1167499884 218 1317700800
fcip9 0 0 0 0
fcip10 0 0 0 0
```

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)
                   ------------------------------ ------------------------------
                   Rate     Total                 Rate     Total
                   MB/s     Frames                MB/s     Frames
--------------------------------------------------------------------------------

port-channel 100   0        0                     0        0

--------------------------------------------------------------------------------
Interface          Input (rate is 5 min avg)      Output (rate is 5 min avg)
                   ------------------------------ ------------------------------
                   Rate     Total                 Rate     Total
                   Mbits/s  Frames                Mbits/s  Frames
--------------------------------------------------------------------------------

fcip2              0        0                     0        0
fcip3              9        0                     9        0

fcip6              8        0                     8        0
fcip7              8        0                     8        0
```

The following example displays the FCIP Interface Summary of Counters for a Specified Interface (SSN-16/18+4):

```
switch# show interface fcip 10
fcip10 is up
Hardware is GigabitEthernet
Port WWN is 20:d0:00:0c:85:90:3e:80
Peer port WWN is 20:d4:00:0c:85:90:3e:80
Admin port mode is auto, trunk mode is on
Port mode is E, FCID is 0x720000
Port vsan is 91
Speed is 1 Gbps
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Using Profile id 91 (interface GigabitEthernet4/1)
Peer Information
Peer Internet address is 3.3.3.2 and port is 3225
Write acceleration mode is off
Tape acceleration mode is off
Tape Accelerator flow control buffer size is 256 KBytes
IP Compression is disabled
Special Frame is disabled
Maximum number of TCP connections is 2
Time Stamp is disabled
QOS control code point is 0
QOS data code point is 0
B-port mode disabled
TCP Connection Information
50529025 Active TCP connections
Local 0.0.0.7:6, Remote 0.0.0.200:0
0 host table full 0 target entries in use
211419104 Attempts for active connections, 1500 close of connections
TCP Parameters
Path MTU 124160 bytes
Current retransmission timeout is 124160 ms
Round trip time: Smoothed 127829 ms, Variance: 14336
Advertized window: Current: 0 KB, Maximum: 14 KB, Scale: 14336
Peer receive window: Current: 0 KB, Maximum: 0 KB, Scale: 51200
Congestion window: Current: 14 KB, Slow start threshold: 49344 KB
Current Send Buffer Size: 206463 KB, Requested Send Buffer Size: 429496728
```

```
3 KB
CWM Burst Size: 49344 KB
5 minutes input rate 491913172779207224 bits/sec, 61489146597400903 bytes/se
c, 0 frames/sec
5 minutes output rate 491913175298921320 bits/sec, 61489146912365165 bytes/s
ec, 14316551 frames/sec
5702 frames input, 482288 bytes
5697 Class F frames input, 481736 bytes
5 Class 2/3 frames input, 552 bytes
0 Reass frames
0 Error frames timestamp error 0
5704 frames output, 482868 bytes
5698 Class F frames output, 482216 bytes
6 Class 2/3 frames output, 652 bytes
0 Error frames
```

The following example displays the FCIP Interface Summary of Counters for a Specified Interface (Cisco MDS 9250i Multiservice Fabric Switch)

```
switch# show interface fcip 1
fcip1 is trunking
Hardware is IPStorage
Port WWN is 20:2b:54:7f:ee:1c:2f:a0
Peer port WWN is 20:2b:00:2a:6a:1b:4f:90
Admin port mode is auto, trunk mode is on
snmp link state traps are enabled
Port mode is TE
Port vsan is 1
Speed is 5 Gbps
Trunk vsans (admin allowed and active) (1-2)
Trunk vsans (up) (1)
Trunk vsans (isolated) (2)
Trunk vsans (initializing) ()
Interface last changed at Fri Sep 15 05:23:27 2000
Using Profile id 1 (interface IPStorage1/1)
Peer Information
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Peer Internet address is 20.1.1.2 and port is 3225
Write acceleration mode is configured off
Tape acceleration mode is configured off
Tape Accelerator flow control buffer size is automatic
FICON XRC Accelerator is configured off
Ficon Tape acceleration configured off for all vsans
IP Compression is enabled and set for auto
Maximum number of TCP connections is 4
QOS control code point is 0
QOS data code point is 0
TCP Connection Information
4 Active TCP connections
Local 20.1.1.1:3225, Remote 20.1.1.2:65461
0 host table full 0 target entries in use
9 Attempts for active connections, 1 close of connections
TCP Parameters
Path MTU 2500 bytes
Current retransmission timeout is 200 ms
Round trip time: Smoothed 2 ms, Variance: 3 Jitter: 157 us
Advertized window: Current: 21 KB, Maximum: 24580 KB, Scale: 5
Peer receive window: Current: 22 KB, Maximum: 23 KB, Scale: 5
Congestion window: Current: 50 KB, Slow start threshold: 1950 KB
Current Send Buffer Size: 16406 KB, Requested Send Buffer Size: 16384 KB
```

```
CWM Burst Size: 50 KB
Measured RTT : 14 us Min RTT: 14 us Max RTT: 118 us
5 minutes input rate 1606903776 bits/sec, 200862972 bytes/sec, 91958 frames/sec
5 minutes output rate 1895828792 bits/sec, 236978599 bytes/sec, 108506 frames/sec
1150774702 frames input, 2513619834588 bytes
5299 Class F frames input, 702192 bytes
1150769403 Class 2/3 frames input, 2513619132396 bytes
45778 Reass frames
0 Error frames timestamp error 0
1357408380 frames output, 2964570149576 bytes
4646 Class F frames output, 515904 bytes
1357403734 Class 2/3 frames output, 2964569633672 bytes
0 Error frames
```

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
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
```

Note The maximum credit can be configured only if we move other ports to out of service.

```
switch(config-if)# show interface capabilities
fc1/1
Min Speed is 2 Gbps
Max Speed is 16 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)                                 (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)        (1/64/64)
ISL mode Receive BB Credit (min/max/default)       (2/64/64)

Performance buffer modification supported           no
Out of Service capable                               yes
Beacon mode configurable                             yes
Extended B2B credit capable                           no
On demand port activation license supported          yes
fc1/2
Min Speed is 2 Gbps
Max Speed is 16 Gbps
```

The following example shows how to display information about a Fibre Channel interface on a Cisco Fabric Switch for HP c-Class BladeSystem:

```
switch# show interface bay 11
bay11 is down (Externally Disabled)
    Hardware is Fibre Channel
    Port WWN is 20:0c:00:05:30:01:f9:f2
    Admin port mode is auto, trunk mode is on
    snmp link state traps are enabled
    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
```

The following example shows how to display the performance counter values for all the ports in all the modules with default interval of 20.

```
switch# show interface counters performance module 1 interval 20
switch#
```

show interface sme

To display the information about Cisco SME interface, use the **show interface sme** command.

show interface sme *slot/port* **{brief | counters | description}**

Syntax Description

slot	Identifies the number of the MPS-18/4 module slot.
port	Identifies the number of the Cisco SME port.
brief	Displays the brief information about Cisco SME interface.
counters	Displays the interface counters.
description	Displays the description of the interface.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.2(2)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the brief description of the Cisco SME interface:

```
switch# show interface sme 3/1 brief

--------------------------------------------------------------------------------
Interface          Status        Cluster
--------------------------------------------------------------------------------
sme3/1             up            c2
```

The following example displays the counters of the interface:

```
switch# show interface sme 3/1 description
sme3/1
    5 minutes input rate 0 bits/sec, 0 bytes/sec, 0.00 KB/sec
    5 minutes output rate 0 bits/sec, 0 bytes/sec, 0.00 KB/sec
    SME statistics
      input 0 bytes, 5 second rate 0 bytes/sec, 0.00 KB/sec
        clear 0 bytes, encrypt 0 bytes, decrypt 0
        compress 0 bytes, decompress 0 bytes
      output 0 bytes, 5 second rate 0 bytes/sec, 0.00 KB/sec
        clear 0 bytes, encrypt 0 bytes, decrypt 0
        compress 0 bytes, decompress 0 bytes
          compression ratio 0:0
      flows 0 encrypt, 0 clear
      clear luns 0, encrypted luns 0
      errors
```

```
0 CTH, 0 authentication
0 key generation, 0 incorrect read
0 incompressible, 0 bad target responses
```

Related Commands

Command	Description
interface sme	Configures Cisco SME interface on the switch.

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

cluster name	Specifies IOA cluster name. The maximum size is 31 characters.

Defaults

None.

Command Modes

Cluster Configuration submode.

Command History

Release	Modification
6.2(5)	Added the **show ioa cluster tape_vault flows** command output. (with and without delice alias).
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
--------------------------------------------------------------------------------
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
--------------------------------------------------------------------------------
10:00:00:00:00:00:00:01 SJC 100
11:00:00:00:00:00:00:01 RTP 100
10:00:00:00:00:00:00:02 SJC 100
10:00:00:00:00:00:00:02 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 without device alias:

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

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

```
sjc-sw2# show ioa cluster tape_vault flows
--------------------------------------------------------------------------------
Host WWN,                VSAN     WA  TA  Comp  Status    Switch,Interface
```

```
Target WWN                                                      Pair
-------------------------------------------------------------------------------
host-1                  , 100      Y    Y    N   online    172.23.144.97, ioa2/1
target-1                , 100                               172.23.144.98, ioa2/1
host-2                  , 100      Y    Y    Y   online    172.23.144.97, ioa2/2
target-2                , 100                               172.23.144.98, ioa2/2
```

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

```
switch# show ioa cluster tape_vault flows detail
Host 10:00:00:00:00:00:00:01, Target 11:00:00:00:00:00:00:01, VSAN 100
  Is online
  Belongs to flowgroup fg1
  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 10:00:00:00:00:00:00:02, Target 11:00:00:00:00:00:00:02, VSAN 100
  Is online
  Belongs to flowgroup fg1
  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

Command	Description
interface ioa	Configures the IOA interface.

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
interface ioa	Configures the IOA interface.

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

slot number	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.
els-table	Specifies the IOA ELS table.
errors	Specifies IOA errors.
init-pwwn *pwwn*	Specifies the initiator PWWN.
targ-pwwn *pwwn*	Specifies the target PWWN.
vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.
counters	Specifies interface counters.
brief	Specifies brief information about the interface.
plogi-info	Specifies PLOGI counters for IOA interface.
stats	Specifies the IOA statistics.
summary	Specifies the IOA host map table.
trace log	Specifies the IOA stats
vit-table	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
```

```
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
```

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
```

```
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 10:00:00:00:00:00:03:00 targ-pwwn
11:00:00:00:00:00:03:00 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 reass-order 0 reass-wait 0 dup-drop
160768162 app deliver 160768162 frags rcvd
75879 pure acks rx 160768162 data pkts rx 0 old data pkts
0 remove reass node, 0 cleanup reass 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
```

```
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 10:00:00:00:00:00:03:00 targ-pwwn
11:00:00:00:00:00:03:00 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#
```

show interface ioa

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

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

Syntax Description

slot /port	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.
brief	Specifies brief information about the interface.
counters	Specifies the interface counters.
description	Specifies the interface description.

Defaults

None.

Command Modes

Configuration mode.

Command History

Release	Modification
NX-OS 6.2(5)	Added the **show interface ioa 1/1 counters brief** command to show the average for 5minutes , 12 hour and 24 hour respectively.
NX-OS 4.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to displayan 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
------------------------------------------------------------------------------
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

switch(config-if)# show interface ioa 1/1 counters brief

------------------------------------------------------------------------------
Interface          Rate          Rate          Rate          Total
                        MB/s          MB/s          MB/s          Bytes
                       (5min)        (12hr)        (24hr)         (MB)
------------------------------------------------------------------------------
                       To  Device (Average)
ioa1/1             0.00        0.00             0.00             0.02
                       To  Peer   (Average)
                        0.00             0.00         0.00             0.05
```

Related Commands

Command	Description
show ioa cluster summary	Displays the summary of all the IOA clusters.

show interface transceiver

To display the SFP and X2 digital monitoring information for a transceiver, use the **show interface transceiver details** command.

show interface *fc-id* **transceiver details**

Syntax Description

fc-id	Specifies the Fiber Channel interface ID.
transceiver details	

Defaults

None.

Command Modes

Exec mode

Command History

Release	Modification
3.0	This command was introduced.

Usage Guidelines

This command displays the attributes of a transceiver such as, the vendor, the kind of laser it emits and receives, compatible fiber-optic cable, distances supported, vendor's firmware revision, faults the unit experienced since the last insertion or since the last linecard boot (whichever is the latest) and the diagnostics information (if supported by the unit).

Examples

The following example displays the SFP digital monitoring information for a transceiver (DOM unsupported SFP):

```
switch#show interface fc4/1 transceiver details
fc4/1 sfp is present
    name is CISCO-FINISAR
    part number is FTRJ8519P1BNL-C1
    revision is A
    serial number is FNS0838B0CX
    fc-transmitter type is short wave laser w/o OFC (SN)
    fc-transmitter supports intermediate distance link length
    media type is multi-mode, 62.5m (M6)
    Supported speed is 200 MBytes/sec
    Nominal bit rate is 2100 MBits/sec
    Link length supported for 50/125mm fiber is 500 m(s)
    Link length supported for 62.5/125mm fiber is 300 m(s)
    cisco extended id is unknown (0x0)

    no tx fault, rx loss, no sync exists, Diag mon type 136
    Digital diagnostics feature not supported in SFP
```

The following example displays the X2 digital monitoring information for a transceiver:

```
switch# show interface fc1/1 transceiver details
fc1/1 sfp is present
```

```
  name is CISCO
  part number is FTLX8541E2-C1
  revision is C
  serial number is FNS11151B0V
  FC Transceiver Type is X2 Medium
  FC Connector Type is SC
  Bit Encoding is NRZ
  Protocol Type is 10GbE
  Standards Compliance Codes :
  10GbE Code Byte 0 : 10GBASE-SR
  Fiber type Byte 0 : MM-Generic
  Fiber type Byte 1 : Unspecified
  Transmission Range is 30 (in 10m increments)
  cisco extended id is Unknown (0x0)

  no tx fault, rx loss, no sync exists, Diag mon type 193
  SFP Detail Diagnostics Information
------------------------------------------------------------------------------
                                    Alarms                  Warnings
                                 High        Low         High          Low
------------------------------------------------------------------------------
Temperature  41.35 C         74.00 C     -4.00 C     70.00 C        0.00 C
Voltage       0.00 V          0.00 V      0.00 V      0.00 V        0.00 V
Current       8.10 mA        12.00 mA     4.00 mA    11.00 mA       5.00 mA
Tx Power     -2.58 dBm        3.00 dBm  -11.30 dBm   -1.00 dBm     -7.30 dBm
Rx Power    -28.54 dBm --     3.00 dBm  -13.90 dBm   -1.00 dBm     -9.90 dBm
Transmit Fault Count = 7
------------------------------------------------------------------------------
Note: ++  high-alarm; +  high-warning; --  low-alarm; -  low-warning
```

Related Commands

Command	Description
show interface	Displays the status of an interface.

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
```

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		
	list-number	(Optional) Specifies the IP-ACL. The range is 1 to 256.
	usage	(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)
```

show ip arp

To display IP neighbors for the system, use the **show ip arp** command.

show ip arp [**interface** {**cpp** *module-number* | **gigabitethernet** *slot/port* | **mgmt** | **vsan** ***vsan-id***}]

Syntax Description

interface	(Optional) Displays the IP neighbors for a specified interface.
cpp *module-number*	(Optional) Specifies the virtualization IP over Fibre Channel (IPFC) interface by control plane processor (CPP) module number. The range is 1 to 6.
gigabitethernet *slot/port*	(Optional) Specifies the Gigabit Ethernet interface by slot and port number. The range is 1 to 6.
mgmt	(Optional) Specifies the management interface.
vsan *vsan-id*	(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
show ip interface	Displays IP interface status and configuration information.
show ip traffic	Displays IP protocol statistics for the system.

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

cpp *module-number*	(Optional) Specifies the virtualization IP over Fibre Channel (IPFC) interface by CPP module number. The range is 1 to 6.
gigabitethernet *slot/port*	(Optional) Specifies the Gigabit Ethernet interface by slot and port number. The range is 1 to 6.
mgmt	(Optional) Specifies the management interface.
port-channel *number*	(Optional) Specifies the PortChannel interface. The range is 1 to 256.
vsan *vsan-id*	(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
```

Related Commands

Command	Description
show ip arp	Displays IP neighbors for the system.
show ip traffic	Displays IP protocol statistics for the system.

show ip route

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

show ip route [**configured**]

Syntax Description		
	configured	(Optional) Displays configured IP routes.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays active IP routes:

```
switch# show ip route

Codes: C - connected, S - static

Default gateway is 172.22.95.1

C 10.0.0.0/24 is directly connected, vsan1
C 172.22.95.0/24 is directly connected, mgmt0
```

The following example displays configured IP routes.

```
switch# show ip route configured
         default      172.22.31.1          0.0.0.0      0            mgmt0
      10.10.11.0       10.10.11.1    255.255.255.0      0 GigabitEthernet1/1
      10.10.50.0       10.10.50.1    255.255.255.0      0 GigabitEthernet1/2.1
      10.10.51.0       10.10.51.1    255.255.255.0      0 GigabitEthernet1/2.2
      10.10.60.0       10.10.60.1    255.255.255.0      0 GigabitEthernet1/2
     172.22.31.0    172.22.31.110    255.255.255.0      0            mgmt0
```

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
```

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.
	gigabitethernet *slot/port*	(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 unreachables, 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 unreachables, 0 time exceeded
         0 echo, 0 echo reply, 0 mask requests, 0 mask replies
         0 redirects, 0 timestamp requests, 0 timestamp replies
```

Related Commands	Command	Description
	show ip arp	Displays IP neighbors for the system.
	show ip interface	Displays IP interface status and configuration information.

show ips arp

To display the IP storage ARP cache information, use the **show ips arp** command.

show ips arp interface gigabitethernet *slot/port*

Syntax Description		
	interface gigabitethernet *slot/port*	Specifies a Gigabit Ethernet interface by the slot and port.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines Use the **show ips 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
...
```

show ips ip route

To show the IP storage route table information, use the **show ips ip route** command.

show ips ip route interface gigabitethernet *slot/port*

Syntax Description

interface gigabitethernet *slot/port*	Specifies a Gigabit Ethernet interface by the slot and port.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

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
```

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

neighbors	Displays the IPv6 neighbors table.
interface	Displays the interface status and configuration.
gigabitethernet	Displays a Gigabit Ethernet interface.
slot/port	Specifies the slot and port number.
prefix-list	Displays the IPv6 prefix-list table.
route	Displays the IPv6 route table.
routers	Displays the IPv6 routers table.
traffic	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
```

```
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
         unreach: 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
         unreach: 0 routing, 0 admin, 0 neighbor, 0 address, 0 port
         parameter: 0 error, 0 header, 0 option
         0 hopcount expired, 0 reassembly timeout,0 too big
         0 echo request, 0 echo reply
         0 group query, 6 group report, 0 group reduce
         2 router solicit, 0 router advert, 0 redirects
         0 neighbor solicit, 12 neighbor advert
```

Related Commands

Command	Description
ipv6 enable	Enables IPv6 processing.
show ipv6 route	Displays IPv6 routes configured on the system.

show ips netsim

To display a summary of the IP Network Simulator interface status currently operating, use the **show ips netsim** command.

show ips netsim

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC.

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines None**.**

Examples The following example shows the IP Network Simulator interfaces operating in network simulation mode:

```
switch# show ips netsim
Following ports operate in network simulator mode
GigabitEthernet2/3 and GigabitEthernet2/4
```

Related Commands

Command	Description
ips netsim enable	Enables two Gigabit Ethernet interfaces to operate in network simulation mode.

show ips stats

To display IP storage statistics, use the **show ips stats** command.

show ips stats {**buffer** | **dma-bridge** | **icmp** | **ip** | **mac**} **interface gigabitethernet** *slot*/*port*

show ips stats {**hw-comp** | **tcp**} {**all** | **interface gigabitethernet** *slot*/*port*}

Syntax Description

buffer	Displays IP storage buffer information.
dma-bridge	Displays the direct memory access (DMA) statistics.
icmp	Displays ICMP statistics.
ip	Displays IP statistics.
mac	Displays MAC statistics.
hw-comp	Displays hardware compression statistics.
tcp	Displays TCP statistics
all	Displays statistical information for all interfaces.
interface gigabitethernet *slot*/*port*	Specifies a Gigabit Ethernet interface by the slot and port.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

Use the **show ips stats icmp interface gigabitethernet** command to obtain ICMP statistics for the selected interface.

Use the **show ips stats ip interface gigabitethernet 2/1** command to obtain IP statistics for the selected interface.

Use the **show ips stats mac interface gigabitethernet** command to obtain Ethernet statistics for the selected interface.

Use the **show ips stats tcp interface gigabitethernet** command to obtain TCP 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
```

```
    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
```

```
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
```

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 linecared, use the **show ips stats fabric interface** command.

show ips stats fabric interface [iscsi *slot/port* **| fcip** *N***]**

Syntax Description

iscsi *slot/port*	(Optional) Displays Data Path Processor (DPP) fabric statistics for the iSCSI interface.
fcip *N*	(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)
```

The following example shows the statistics for FCIP on the specified interface:

```
switch# show ips stats fabric fcip iscsi 1
DPP Fabric Statistics for fcip1
Hardware Egress Counters
0 Good, 0 bad protocol, 0 bad header cksum, 0 bad FC CRC
Hardware Ingress Counters
0 Good, 0 protocol error, 0 header checksum error
0 FC CRC error, 0 iSCSI CRC error, 0 parity error
Software Egress Counters
0 good frames, 0 bad header cksum, 0 bad FIFO SOP
0 parity error, 0 FC CRC error, 0 timestamp expired error
0 unregistered port index, 0 unknown internal type
0 RDL ok, 0 RDL drop (too big), 0 RDL ttl_1
0 idle poll count, 0 loopback
0 FCC PQ, 0 FCC EQ, 0 FCC generated
Flow Control: 0 [0], 0 [1], 0 [2], 0 [3]
Software Ingress Counters
0 Good frames, 0 header cksum error, 0 FC CRC error
0 iSCSI CRC error, 0 descriptor SOP error, 0 parity error
0 frames soft queued, 0 current Q, 0 max Q, 0 low memory
0 out of memory drop, 0 queue full drop
0 RDL ok, 0 RDL drop (too big)
Flow Control: 0 [0], 0 [1], 0 [2], 0 [3]
Flow Control: 0 [0], 0 [1], 0 [2], 0 [3]
```

Related Commands

Command	Description
clear ips stats fabric interface	Clears the statistics for the given iSCSI or FCIP interface on a Cisco MDS 9000 18/4-Port Multi Service Module IPS linecard.

show ips stats netsim

To display IP Network Simulator interface statistics, use the **show ips stats netsim** command.

show ips stats netsim ingress gigabitethernet *slot/port*

Syntax Description

ingress	Specifies the ingress direction.
gigabitethernet *slot/port*	Specifies the the slot and port number of the Gigabit Ethernet interface.

Defaults

None.

Command Modes

EXEC.

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

The parameters displayed by default are delay, bandwidth, queue size, and queue delay. The network statistics displayed are number of packets dropped, queue size, number of packets reordered, and average speed.

Examples

The following example shows the IP Network Simulator statistics for interface 2/3:

```
switch# show ips stats netsim ingress gigabitethernet 2/3
Network Simulator Configuration for Ingress on GigabitEthernet2/3
Delay : 50000 microseconds
Rate : 1000000 kbps
Max_q : 100000 bytes
Max_qdelay : 600000 clocks
Random Drop % : 1.00%
Network Simulator Statistics for Ingress on GigabitEthernet2/3
Dropped (tot) = 28
Dropped (netsim) = 14
Reordered (netsim) = 0
Max Qlen(pkt) = 7
Qlen (pkt) = 0
Max Qlen (byte) = 326
Qlen (byte) = 0
Mintxdel(poll) = 852
Mintxdel(ethtx) = 360
empty = 757
txdel = 8
late = 617
Average speed = 0 Kbps
```

Related Commands

Command	Description
ips netsim enable	Enables two Gigabit Ethernet interfaces to operate in the network simulation mode.

show ips status

To display the IP storage status, use the **show ips status** command.

show ips status [**module** *slot*]

Syntax Description		
	module *slot*	(Optional) Identifies the module in the specified slot.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the IP storage status for all modules on the switch:

```
switch# show ips status
        Port 8/1 READY
        Port 8/2 READY
        Port 8/3 READY
        Port 8/4 READY
        Port 8/5 READY
        Port 8/6 READY
        Port 8/7 READY
        Port 8/8 READY
```

The following example displays the IP storage status for the module in slot 9:

```
switch# show ips status module 9
        Port 9/1 READY
        Port 9/2 READY
        Port 9/3 READY
        Port 9/4 READY
        Port 9/5 READY
        Port 9/6 READY
        Port 9/7 READY
        Port 9/8 READY
```

show ipv6 access-list

To display a summary of IPv6 access control lists (ACLs), use the **show ipv6 access-list** command.

show ipv6 access-list [*list-name*]

Syntax Description		
	list-name	(Optional) Specifies the name of the ACL. The maximum size is 64.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.1(0)	This command was introduced.

Usage Guidelines None**.**

Examples The following example displays an IPv6 access control list:

```
switch# show ipv6 access-list
Access List Name/Number          Filters IF   Status    Creation Time
-------------------------------- ------- ---- --------- -------------
abc                              3       7    active    Tue Jun 24 17:51:40 2003
x1                               3       1    active    Tue Jun 24 18:32:25 2003
x3                               0       1    not-ready Tue Jun 24 18:32:28 2003
```

Related Commands	Command	Description
	ipv6 access-list	Configures an IPv6-ACL.

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

gigabitethernet *slot/port*	(Optional) Displays a Gigabit Ethernet interface.
mgmt 0	(Optional) Displays the management interface.
port-channel	(Optional) Displays a PortChannel interface.
port-channel-number	(Optional) Specifies the PortChannel number. The range is 1 to 128.
vsan	(Optional) Displays an IPFC VSAN interface.
vsan-id	(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
```

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

Related Commands

Command	Description
ipv6 address	Configures an IPv6 address.
ipv6 nd	Configures IPv6 neighbor discovery commands.
ipv6 route	Configures an IPv6 static route.
show ipv6 neighbors	Displays information about IPv6 neighbors for the system.
show ipv6 route	Displays the IPv6 routes configured on the system.

show ipv6 neighbours

To display IPv6 neighbors configuration information, use the **show ipv6 neighbours** command.

show ipv6 neighbours [**interface** {**gigabitethernet** *slot/port* | **mgmt 0** | **vsan** *vsan-id*}]

Syntax Description

interface	(Optional) Displays the IP interface status and configuration.
gigabitethernet *slot/port*	(Optional) Displays a Gigabit Ethernet interface slot and port number.
mgmt 0	(Optional) Displays the management interface.
vsan *vsan-id*	(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
ipv6 nd	Configures IPv6 neighbor discovery commands.

show ipv6 route

To display the IPv6 routes configured on the system, use the **show ipv6 route** command.

show ipv6 route

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.1(0)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays information about an IPv6 route:

```
switch# show ipv6 route
IPv6 Routing Table
Codes: C - Connected, L - Local, S - Static G - Gateway
C    5000::/64
     via fe80::205:30ff:fe01:a6bf, GigabitEthernet1/2
C    6000::/64
     via fe80::205:30ff:fe00:a413, GigabitEthernet2/2
L    fe80::/10
     via ::
L    ff00::/8
     via ::
```

Related Commands

Command	Description
ipv6 route	Configures an IPv6 route.

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
ipv6 routing	Enables IPv6 unicast routing.

show ipv6 traffic

To display IPv6 protocol statistics for the system, use the **show ipv6 traffic** command.

show ipv6 traffic [**interface** {**gigabitethernet** *slot/port* | **mgmt 0** | **port-channel** *number* | **vsan** *vsan-id*}]

Syntax Description

interface	(Optional) Displays the IP interface status and configuration.
gigabitethernet *slot/port*	(Optional) Displays a Gigabit Ethernet interface slot and port number.
mgmt 0	(Optional) Displays the management interface.
port-channel *number*	(Optional) Dispalys the PortChannel interface. The range is 1 to 256.
vsan *vsan-id*	(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 unreachables, 0 time exceeded
         0 too big, 0 param probs, 0 admin prohibs
         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 unreachables, 0 time exceeded
         0 too big, 0 param probs, 0 admin prohibs
         0 echos, 0 echo reply, 0 redirects
```

```
        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 unreachables, 0 time exceeded
         0 too big, 0 param probs, 0 admin prohibs
         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 unreachables, 0 time exceeded
         0 too big, 0 param probs, 0 admin prohibs
         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
```

show isapi dpp

To obtain a list of ITLs for a specific Data Path Processor (DPP), use the **show isapi dpp** command.

show isapi dpp *dpp-number*

Syntax Description

dpp-number	Specifies the slot along with the DPP number.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the ISAPI infomation 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:
```

Related Commands

Command	Description
show isapi dpp all queue	Displays ITLs for all DPPs on the SSM.

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*]

Syntax Description

name	(Optional) Specifies the name of the file. The file is stored on modflash.

Defaults

None.

Command Modes

Configuration mode.

Command History

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.

Examples

The following example shows how to display the ISAPI infomation 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

Command	Description
show isapi dpp all queue	Displays ITLs for all DPPs on the SSM.

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:
```

show iscsi initiator

To display information about all the iSCSI nodes that are remote to the switch, use the **show iscsi initiator** command.

show iscsi initiator [**configured** [*initiator-name*] | **detail** | **fcp-session** [**detail**] | **iscsi-session** [**detail**] | **summary** [**name**]]

Syntax Description

configured	(Optional) Displays the configured information for the iSCSI initiator.
initiator-name	(Optional) Specifies the name of an initiator.
detail	(Optional) Displays detailed iSCSI initiator information.
fcp-session	(Optional) Displays the Fibre Channel session details.
iscsi-session	(Optional) Displays iSCSI session details.
summary	(Optional) Displays summary information.
name	(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
```

```
        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
...
```

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

incoming	(Optional) Displays incoming iSCSI sessions.
initiator *name*	(Optional) Displays specific iSCSI initiator session information. Maximum length is 80 characters.
outgoing	(Optional) Displays outgoing iSCSI sessions
target *name*	(Optional) Displays specific iSCSI target session information. Maximum length is 80 characters.
detail	(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
...
```

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
```

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

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

```
      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
```

```
        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
```

```
...
```

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
```

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.
name	(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
```

```
                trespass support is  enabled S
```

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
show islb initiator	Displays iSLB initiator information.
show islb merge status	Displays iSLB merge status information.
show islb pending	Displays iSLB pending configurations.
show islb pending-diff	Displays iSLB pending configuration differences.
show islb session	Displays iSLB session information.
show islb status	Displays iSLB CFS status information.
show islb virtual-target	Displays iSLB virtual target information.
show islb vrrp	Displays iSLB VRRP load balancing information.

show islb initiator

To display iSCSI server load balancing (iSLB) Cisco Fabric Services information, use the **show islb initiator** command.

show islb initiator [**name** *node-name* [**detail** | **fcp-session** [**detail**] | **iscsi-session** [**detail**]] | **configured** [**name** *initiator-name*] | **detail** | **fcp-session** [**detail**] | **iscsi-session** [**detail**] | **summary** [**name**]]

Syntax Description

name *node-name*	Displays the initiator node name. The maximum size is 80.
detail	Displays more detailed information.
fcp-session	Displays Fibre Channel session details.
iscsi-session	Displays iSLB session details.
configured	Displays iSLB initiator configured information.
name *initiator-name*	Displays the configured initiator name. The maximum size is 223.
summary	Displays iSLB initiator summary information.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows iSLB initiator configuration information:

```
switch# show islb initiator configured
iSCSI Node name is 1.1.1.1

    No. of PWWN: 2
      Port WWN is 23:01:00:0c:85:90:3e:82
      Port WWN is 23:02:00:0c:85:90:3e:82
    Load Balance Metric: 1000
    Number of Initiator Targets: 0

iSCSI Node name is 2.2.2.2

    Load Balance Metric: 1000
    Number of Initiator Targets: 0
```

Related Commands

Command	Description
show islb cfs-session status	Displays iSLB session status and status information.
show islb merge status	Displays iSLB merge status information.
show islb pending	Displays iSLB pending configurations.
show islb pending-diff	Displays iSLB pending configuration differences.
show islb session	Displays iSLB session information.
show islb status	Displays iSLB CFS status information.
show islb virtual-target	Displays iSLB virtual target information.
show islb vrrp	Displays iSLB VRRP load balancing information.

show islb merge status

To display iSCSI server load balancing (iSLB) merge status information, use the **show islb merge status** command.

show islb merge status

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows iSLB merge status information:

```
switch# show islb merge status
Merge Status: SUCCESS
```

Related Commands

Command	Description
show islb cfs-session status	Displays iSLB session information.
show islb initiator	Displays iSLB initiator information.
show islb pending	Displays iSLB pending configurations.
show islb pending-diff	Displays iSLB pending configuration differences.
show islb session	Displays iSLB session information.
show islb status	Displays iSLB CFS status information.
show islb virtual-target	Displays iSLB virtual target information.
show islb vrrp	Displays iSLB VRRP load balancing information.

show islb pending

To display iSCSI server load balancing (iSLB) pending configurations, use the **show islb pending** command.

show islb pending

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows iSLB pending configuration information:

```
switch# show islb pending
iscsi initiator idle-timeout 10
islb initiator ip-address 10.1.1.1
static pWWN 23:01:00:0c:85:90:3e:82
static pWWN 23:06:00:0c:85:90:3e:82
username test1
islb initiator ip-address 10.1.1.2
static nWWN 23:02:00:0c:85:90:3e:82
```

Related Commands

Command	Description
show islb initiator	Displays iSLB initiator information.
show islb cfs-session status	Displays iSLB session information.
show islb merge status	Displays iSLB merge status information.
show islb pending-diff	Displays iSLB pending configuration differences.
show islb session	Displays iSLB session information.
show islb status	Displays iSLB CFS status information.
show islb virtual-target	Displays iSLB virtual target information.
show islb vrrp	Displays iSLB VRRP load balancing information.

show islb pending-diff

To display iSCSI server load balancing (iSLB) pending configuration differences, use the **show islb pending-diff** command.

show islb pending-diff

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows iSLB pending configuration differences:

```
switch# show islb pending-diff
+iscsi initiator idle-timeout 10
islb initiator ip-address 10.1.1.1
+ static pWWN 23:06:00:0c:85:90:3e:82
+islb initiator ip-address 10.1.1.2
+ static nWWN 23:02:00:0c:85:90:3e:82
```

Related Commands

Command	Description
show islb cfs-session status	Displays iSLB session information.
show islb initiator	Displays iSLB initiator information.
show islb merge status	Displays iSLB merge status information.
show islb pending	Displays iSLB pending configurations.
show islb session	Displays iSLB session information.
show islb status	Displays iSLB CFS status information.
show islb virtual-target	Displays iSLB virtual target information.
show islb vrrp	Displays iSLB VRRP load balancing information.

show islb session

To display iSLB session information, use the **show islb session** command.

show islb session [**detail | incoming | initiator** *initiator-node-name* **| iscsi** *slot-number* **| outgoing | target** *target-node-name*]

Syntax Description

detail	(Optional) Displays detailed iSLB session information.
incoming	(Optional) Displays incoming iSLB sessions.
initiator *initiator-node-name*	(Optional) Displays session information for a specific iSLB initiator. The maximum size for the initiator node name is 80.
iscsi *slot-port*	(Optional) Specifies the iSCSI interface.
outgoing	(Optional) Displays outgoing iSLB sessions.
target	(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
```

Related Commands

Command	Description
show islb cfs-session status	Displays iSLB session information.
show islb initiator	Displays iSLB initiator information.
show islb merge status	Displays iSLB merge status information.
show islb pending	Displays iSLB pending configurations.
show islb pending-diff	Displays iSLB CFS pending configuration differences.
show islb status	Displys iSLB CFS status information.
show islb virtual-target	Displays iSLB virtual target information.
show islb vrrp	Displays iSLB VRRP load-balancing information.

show islb status

To display iSCSI server load balancing (iSLB) Cisco Fabric Services status, use the **show islb status** command.

show islb status

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows iSLB CFS status:

```
switch# show islb status
iSLB Distribute is enabled
iSLB CFS Session does not exist
```

Related Commands

Command	Description
show islb cfs-session status	Displays iSLB session information.
show islb initiator	Displays iSLB initiator information.
show islb merge status	Displays iSLB merge status information.
show islb pending	Displays iSLB pending configurations.
show islb pending-diff	Displays iSLB CFS pending configuration differences.
show islb session	Displays iSLB session information.
show islb virtual-target	Displays iSLB virtual target information.
show islb vrrp	Displays iSLB VRRP load balancing information.

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		
	name	(Optional) Specifies the iSLB virtual target name. The range is 16 bytes to 223 bytes.
	configured	(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 fromtarget1234567890 is permitted
    All initiator permit is enabled
    Trespass support is  disabled
    Revert to primary support is  disabled
```

The following example shows all configured iSLB virtual targets:

```
switch# show islb virtual-target configured
target: testtarget1234567

    Configured node (iSLB)
    No. of initiators permitted: 1
      initiator trespass is permitted
    All initiator permit is disabled
    Trespass support is  disabled
    Revert to primary support is  disabled

target: testertarget987654321
    Port WWN 10:20:30:40:50:60:70:80
    Configured node (iSLB)
    No. of initiators permitted: 1
      initiator mytargetdevice is permitted
```

```
    All initiator permit is disabled
    Trespass support is  disabled
    Revert to primary support is  disabled

target: newtarget0987654321

    Configured node (iSLB)
    No. of initiators permitted: 1
      initiator fromtarget1234567890 is permitted
    All initiator permit is enabled
    Trespass support is  disabled
    Revert to primary support is  disabled

target: mytargetdevice123

    Configured node (iSLB)
    All initiator permit is disabled
    Trespass support is  enabled
    Revert to primary support is  disabled
```

Related Commands

Command	Description
show islb cfs-session status	Displays iSLB session information.
show islb initiator	Displays iSLB initiator information.
show islb merge status	Displays iSLB merge status information.
show islb pending	Displays iSLB pending configurations.
show islb pending-diff	Displays iSLB CFS pending configuration differences.
show islb session	Displays iSLB session information.
show islb status	Displays iSLB CFS status information.
show islb vrrp	Displays iSLB VRRP load-balancing information.

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

assignment	(Optional) Displays iSLB VRRP initiator to interface assignment.
initiator *node-name*	(Optional) Displays a specific iSLB initiator's interface assignment. The maximum is 80.
vr *group-number*	(Optional) Displays information for a specific VR group. The range is 1 to 255.
interface	(Optional) Displays iSLB VRRP interface information.
switch *WWN*	(Optional) Displays a interface information for a specific switch. The format of WWN is *hh:hh:hh:hh:hh:hh:hh:hh*.
summary	(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
```

```
    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
```

```
--------------------------------------------------------------------------------
                  41                              IPv4                       Enabled
                  42                              IPv4                       Enabled

                       -- Interfaces For Load Balance --
--------------------------------------------------------------------------------
 VR Id         VRRP IP              Switch WWN                 Ifindex      Load
--------------------------------------------------------------------------------
    41   10.10.122.112 20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441      3000
    41   10.10.122.112 20:00:00:0d:ec:02:cb:00  GigabitEthernet1/2.441      2000
    41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.441      2000
M   41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/2.441      1000
    41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.441      2000
M   42   10.10.142.111 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.442      2000
    42   10.10.142.111 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/2.442      1000
    42   10.10.142.111 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.442      2000

                     -- Initiator To Interface Assignment --
--------------------------------------------------------------------------------
Initiator  VR Id         VRRP IP              Switch WWN                 Ifindex
--------------------------------------------------------------------------------
iqn.1987-05.com.cisco:01.09ea2e99c97
              41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.441
iqn.1987-05.com.cisco:01.5ef81885f8d
              41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.441
iqn.1987-05.com.cisco:01.8fbdb3fdf8
              41   10.10.122.112 20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441
iqn.1987-05.com.cisco:01.99eddd9b134
              41   10.10.122.112 20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441
iqn.1987-05.com.cisco:01.a1398a8c6bc6
              41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.441
iqn.1987-05.com.cisco:01.e15c63d09d18
              41   10.10.122.112 20:00:00:0d:ec:02:cb:00  GigabitEthernet1/2.441
iqn.1987-05.com.cisco:01.e9aab57a51e0
              41   10.10.122.112 20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441
iqn.1987-05.com.cisco:01.ecc2b77b6086
              41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/2.441
iqn.1987-05.com.cisco:01.f047da798a44
              41   10.10.122.112 20:00:00:0d:ec:02:cb:00  GigabitEthernet1/2.441
iqn.1987-05.com.cisco:01.f686f5cd11f
              41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.441
```

The following example shows iSLB VRRP summary information for vr 41:

```
switch# show islb vrrp summary vr 41

                       -- Groups For Load Balance --
--------------------------------------------------------------------------------
               VR Id             VRRP Address Type             Configured Status
--------------------------------------------------------------------------------
                  41                              IPv4                       Enabled

                       -- Interfaces For Load Balance --
--------------------------------------------------------------------------------
 VR Id         VRRP IP              Switch WWN                 Ifindex      Load
--------------------------------------------------------------------------------
    41   10.10.122.112 20:00:00:0d:ec:02:cb:00  GigabitEthernet1/1.441      3000
    41   10.10.122.112 20:00:00:0d:ec:02:cb:00  GigabitEthernet1/2.441      2000
    41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/1.441      2000
M   41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/2.441      1000
    41   10.10.122.112 20:00:00:0d:ec:0c:6b:c0  GigabitEthernet2/3.441      2000

                     -- Initiator To Interface Assignment --
--------------------------------------------------------------------------------
```

```
Initiator  VR Id         VRRP IP              Switch WWN                  Ifindex
--------------------------------------------------------------------------------
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 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
```

```
    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
```

```
            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:01.8fbdb3fdf8
        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
```

```
    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
show islb cfs-session status	Displays iSLB session information.
show islb initiator	Displays iSLB initiator information.
show islb merge status	Displays iSLB merge status information.
show islb pending	Displays iSLB pending configurations.
show islb pending-diff	Displays iSLB CFS pending configuration differences.
show islb session	Displays iSLB session information.
show islb status	Displays iSLB CFS status information.
show islb virtual-target	Displays iSLB virtual target information.

show isns

To display Internet Storage Name Service (iSNS) information, use the **show isns** command.

show isns {**config** | **database** [**full** | **virtual-targets** [**local** | **switch** *switch-wwn*]] | **entity** [**all** [**detail**] | **id** *entity-id*] | **iscsi global config** [**all** | **switch** *switch-wwn*]] | **node** [**all** [**detail**] | **configured** | **detail** | **name** *node-name* | **virtual** [**switch** *switch-wwn* [**detail**]]] | **portal** [**all** [**detail**] | **detail** | **ipaddress** *ip-address* **port** *tcp-port* | **virtual** [**switch** *switch-wwn* [**detail**]]] | **profile** [*profile-name* [**counters**] | **counters**] | **query** *profile-name* {**gigabitethernet** *slot*/*port* | **port-channel** *port*} | **stats**}

Syntax Description

config	Displays iSNS server configuration.
database	Displays the iSNS database contents.
full	(Optional) Specifies all virtual targets or registered nodes in database.
virtual-targets	(Optional) Specifies just virtual targets.
local	(Optional) Specifies only local virtual targets.
switch *switch-wwn*	(Optional) Specifies a specific switch WWN. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*, where *h* is a hexadecimal number.
entity	Displays entity attributes.
all	(Optional) Specifies all information.
detail	(Optional) Specifies detailed information.
id *entity-id*	(Optional) Specifies an entity ID. Maximum length is 255.
iscsi global config	Displays iSCSI global configuration for import of Fibre Channel targets.
node	Displays node attributes.
configured	Specifies configured nodes with detailed information.
name *node-name*	(Optional) Specifies the node name. Maximum length is 255.
virtual	Specifies virtual targets.
portal	Displays portal attributes.
ipaddress *ip-address*	Specifies the IP address for the portal.
port *tcp-port*	(Optional) Specifies the TCP port for the portal. The range is 1 to 66535.
profile	(Optional) Displays iSNS profile information.
profile-name	Specifies a profile name. Maximum length is 64 characters.
counters	(Optional) Specifies statistics for the interfaces.
query *profile-name*	Specifies a query to send to the iSNS server.
gigabitethernet *slot*/*port*	Specifies a Gigabit Ethernet interface.
port-channel *port*	Specifies a PortChannel interface. The range is 1 to 128.
stats	Displays iSNS server statistics.

Defaults

None.

Command Modes EXEC mode.

Command History

Release	Modification
1.3(1)	This command was introduced.
2.0(x)	Added **config**, **database**, **entity**, **iscsi**, **node**, **portal**, and **stats** options.

Usage Guidelines To access all but the **profile** and **query** options for this command, you must perform the **isns-server enable** command.

Examples The following example shows how to display the iSNS configuration:

```
switch# show isns config
Server Name: ips-hac1(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
```

The following example displays iSNS PDU statistics for all iSNS profiles:

```
switch# show isns profile counters

iSNS profile name ABC
tagged interface GigabitEthernet2/3
iSNS statistics
  Input 54 pdus (registration/deregistration pdus only)
    Reg pdus 37,  Dereg pdus 17
  Output 54 pdus (registration/deregistration pdus only)
    Reg pdus  37,  Dereg pdus 17
iSNS Server  10.10.100.204


iSNS profile name NBV
tagged interface GigabitEthernet2/5
iSNS statistics
  Input 54 pdus (registration/deregistration pdus only)
    Reg pdus 37,  Dereg pdus 17
  Output 54 pdus (registration/deregistration pdus only)
    Reg pdus  37,  Dereg pdus 17
iSNS Server  10.10.100.201
```

Related Commands

Command	Description
isns-server enable	Enables the iSNS server.

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

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

Usage Guidelines

To access this command, you must perform the **ivr enable** command.

Examples

The following example displays the status of the IVR virtual domain configuration:

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

```
(As well as to VSANs in interoperability mode 2 or 3)
```

The following example displays IVR-enabled switches for a specified VSAN:

```
switch# show ivr enabled-switches vsan 2
AFID    VSAN    DOMAIN      CAPABILITY  SWITCH WWN
-------------------------------------------------------------------
   1      2     0x62( 98)    00000001    20:00:00:05:30:01:1b:c2 *

Total:   1 ivr-enabled VSAN-Domain pair>
```

The following example displays the status of the IVR session:

```
switch# show ivr session status
Last Action                : None
Last Action Result         : None
Last Action Failure Reason : None
```

The following example displays the configured IVR VSAN topology:

```
switch# show ivr vsan-topology
AFID  SWITCH WWN                 Active   Cfg. VSANS
-------------------------------------------------------------
   1  20:00:00:05:30:00:3c:5e     yes     yes  3,2000
   1  20:00:00:05:30:00:58:de     yes     yes  2,2000
   1  20:00:00:05:30:01:1b:c2 *   yes     yes  1-2
   1  20:02:00:44:22:00:4a:05     yes     yes  1-2,6
   1  20:02:00:44:22:00:4a:07     yes     yes  2-5

Total:   5 entries in active and configured IVR VSAN-Topology

Current Status: Inter-VSAN topology is ACTIVE
Last activation time: Sat Mar 22 21:46:15 1980
```

The following example displays the active IVR VSAN topology:

```
switch# show ivr vsan-topology active
AFID  SWITCH WWN                 Active   Cfg. VSANS
-------------------------------------------------------------
   1  20:00:00:05:30:00:3c:5e     yes     yes  3,2000
   1  20:00:00:05:30:00:58:de     yes     yes  2,2000
   1  20:00:00:05:30:01:1b:c2 *   yes     yes  1-2
   1  20:02:00:44:22:00:4a:05     yes     yes  1-2,6
   1  20:02:00:44:22:00:4a:07     yes     yes  2-5

Total:   5 entries in active IVR VSAN-Topology

Current Status: Inter-VSAN topology is ACTIVE
Last activation time: Sat Mar 22 21:46:15
```

The following example displays the configured IVR VSAN topology:

```
switch# show ivr vsan-topology configured
AFID  SWITCH WWN                 Active   Cfg. VSANS
-------------------------------------------------------------
   1  20:00:00:05:30:00:3c:5e     yes     yes  3,2000
   1  20:00:00:05:30:00:58:de     yes     yes  2,2000
   1  20:00:00:05:30:01:1b:c2 *   yes     yes  1-2
   1  20:02:00:44:22:00:4a:05     yes     yes  1-2,6
   1  20:02:00:44:22:00:4a:07     yes     yes  2-5

Total:   5 entries in configured IVR VSAN-Topology
```

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

```
switch(config)# show ivr vsan-topology

AFID  SWITCH WWN                 Active   Cfg. VSANS
-----------------------------------------------------------
   1  20:00:00:0d:ec:04:99:00     yes      no  1-4
   1  20:00:00:0d:ec:0e:9c:80 *   yes      no  2,6-7,9
   1  20:00:00:0d:ec:0e:b0:40     yes      no  1-3,5,8
   1  20:00:00:0d:ec:04:99:00      no     yes  1-4
   1  20:00:00:0d:ec:0e:9c:80 *    no     yes  2,6-7,9
   1  20:00:00:0d:ec:0e:b0:40      no     yes  1-3,5,8


Total:   6 entries in active and configured IVR VSAN-Topology
```

Table 22-6 describes the significant fields shown in the **show ivr vsan-topology** display.

Table 22-6 show ivr vsan-topology Field Descriptions

Field	Description
AFID	Autonomous fabric ID (AFID)
Switch WWN	Switch world wide number
Active	Automatically discovered
Cfg.	Manually configured
VSANS	VSANs configured

The following example displays the IVZ configuration:

```
switch# show ivr zone
zone name Ivz_vsan2-3
    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:

```
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
```

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

Related Commands

Command	Description
ivr distribute	Enables IVR CFS distribution.
ivr enable	Enables IVR.

show ivr aam

To display IVR AAM status, use the **show ivr aam** command.

show ivr aam

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display IVR AAM status:

```
switch(config)# show ivr aam
AAM mode status
-------------------------
AAM is disabled
switch(config)#
```

Related Commands

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

show ivr aam pre-deregister-check

To display IVR pre de-register check status, use the **show ivr amm 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 with check entries:

```
switch(config)# show ivr aam pre-deregister-check
AAM pre-deregister check status
--------------------------
FAILURE
There are merged entries or AAM has not been enabled with the following switches:
switch swwn 20:00:00:05:30:00:15:de
User has two options:
1. User can go ahead to issue ivr commit, but the above switches in the fabric may fail to
deregister.
2. User may also run "ivr abort", then resolve above switches and re-issue the ivr aam
deregister.
Warning: IVR AAM pre-deregister-check status may not be up-to-date. Please issue the
command "ivr aam pre-deregi
ster-check" to get updated status.
switch(config)#
```

The following example shows how to display IVR deregister without check status entries:

```
switch(config)# ivr aam pre-deregister-check
switch(config)# show ivr aam pre-deregister-check
AAM pre-deregister check status
--------------------------
SUCCESS
Warning: IVR AAM pre-deregister-check status may not be up-to-date. Please issue the
command "ivr aam pre-deregister
-check" to get updated status.
switch(config)#
```

Related Commands

Command	Description
ivr enable	Enables the inter-VSAN Routing (IVR) feature.

show ivr fcdomain database

To display the IVR fcdomain database that contains the persistent FC ID mapping, use the **show ivr fcdomain database** command.

show ivr fcdomain database [**autonomous-fabric-num** *afid-num* **vsan** *vsan-id*]

Syntax Description

autonomous-fabric-num *afid-num*	(Optional) Specifies the AFID. The range is 1 to 64.
vsan *vsan-id*	(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
```

```
-------------------------------------------------
  AFID  Vsan          Pwwn           Virtual-fcid
-------------------------------------------------
   21    22  11:22:33:44:55:66:77:88  0x114466
   21    22  21:22:33:44:55:66:77:88  0x0c4466
   21    22  21:22:33:44:55:66:78:88  0x0c4466

Number of Virtual-fcid entries: 3
```

Related Commands

Command	Description
ivr fcdomain database autonomous-fabric-num	Creates IVR persistent FC IDs.

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.
	configured	(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
	clear ivr service-group database	Clears an IVR service group database.
	ivr service-group name	Configures an IVR service group.

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
ivr virtual-fcdomain-add2	Configures the RDI mode in a specific AFID and VSAN for all IVR-enabled switches.

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

native-switch-wwn *switch-wwn*	Specifies the sWWN of the native switch. The format is in dotted hex.
native-vsan *vsan-id*	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
show ivr	Displays IVR information.

show kernel core

To display kernel core configuration information, use the **show kernel core** command.

show kernel core {**limit** | **module** *slot* | **target**}

Syntax Description

limit	Displays the configured line card limit.
module *slot*	Displays the kernel core configuration for a module in the specified slot.
target	Displays the configured target IP address.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following examples display kernel core settings:

```
switch# show kernel core limit
2

switch# show kernel core target
10.50.5.5

switch# show kernel core module 5
module 5 core is enabled
         level is header
         dst_ip is 10.50.5.5
         src_port is 6671
         dst_port is 6666
         dump_dev_name is eth1
         dst_mac_addr is 00:00:0C:07:AC:01
```

show license

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

show license [**brief** | **default** | **file** *filename* | **host-id** *license-name* | **usage**]

Syntax Description

brief	(Optional) Displays a list of license files installed on a switch.
default	Optional) Displays services using a default license.
file *filename*	Optional) Displays information for a specific license file.
host-id *license-name*	Optional) Displays host ID used to request node-locked license.
usage	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 **default** keyword.

Usage Guidelines

None.

Examples

The following example displays a specific license installed on a switch:

```
switch# show license file fcports.lic
fcports.lic:
SERVER this_host ANY
VENDOR cisco
FEATURE fcports cisco 1.000 permanent 30 HOSTID=VDH=4C0AF664 \
        SIGN=24B2B68AA676 <------------------------ fcport license
```

The following example displays a list of license files installed on a switch:

```
switch# show license brief
fcports.lic
ficon.lic
```

The following example displays all licenses installed on a switch:

```
switch# show license
fcports.lic:
SERVER this_host ANY
VENDOR cisco
FEATURE fcports cisco 1.000 permanent 30 HOSTID=VDH=4C0AF664 \
        SIGN=24B2B68AA676 <------------------------fcport license
ficon.lic:
```

```
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                Grace Period 57days15hrs
ENTERPRISE_PKG          Yes         -       InUse    never        -
SAN_EXTN_OVER_IP        No          0       Unused                -
SAN_EXTN_OVER_IP_IPS4   No          0       Unused
--------------------------------------------------------------------------------------------
```

The following example displays services using a default license:

```
switch# show license default
Feature                          Default License Count
-------------------------------------------------------------------------------
FM_SERVER_PKG                    -
ENTERPRISE_PKG                   -
PORT_ACTIVATION_PKG              12
10G_PORT_ACTIVATION_PKG          0
-------------------------------------------------------------------------------
```

show line

To configure a virtual terminal line, use the **show line** command.

show line [**com1** [**user-input-string**] | **console** [**connected** | **user-input-string**]]

Syntax Description

com1	(Optional) Displays auxiliary line configuration.
user-input-string	(Optional) Displays the user-input initial string.
console	(Optional) Displays console line configuration.
connected	(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
```

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
clear line	Deleted configured line sessions.
line aux	Configures the auxiliary COM 1 port.
line console	Configures primary terminal line.

show locator-led status

To show the status of locator LEDs on the system, use the **show locator-led status** command.

show locator-led status

Syntax Description This command has no arguments or keywords.

Defaults None

Command Modes Any command mode

SupportedUserRoles network-admin
network-operator
vdc-admin
vdc-operator

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples The following example shows the locator LED status for the system:

```
switch# show locator-led status

----------------------------------
Component        Locator LED Status
----------------------------------
Chassis                  off
Module  1                off
Module  2                off
Module  3                off
Module  4                off
Module  5                off
Module  6                off
Xbar 2                   off
Xbar 3                   off
Xbar 5                   off
Xbar 6                   off
PowerSupply  1           off
PowerSupply  2           off
PowerSupply  3           off
Fan 1                    off
Fan 2                    off
Fan 3                    off
```

Related Commands

Command	Description
locator-led	Blinks an LED on the system.

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** | **nvram** [**last** *lines*] | **onboard** *information* | **pending** | **pending-diff** | **server** | **status**]

Syntax Description

console	(Optional) Displays console logging configuration.
info	(Optional) Displays logging configuration.
last *lines*	(Optional) Displays last few lines of the log file. The range is 1 to 9999.
level *facility*	(Optional) Displays facility logging configuration. Facility values include **aaa**, **acl**, **auth**, **authpriv**, **bootvar**, **callhome**, **cdp**, **cfs**, **cimserver**, **cron**, **daemon**, **device-alias**, **dstats**, **ethport**, **fc2d**, **fcc**, **fcd**, **fcdomain**, **fcns**, **fcsp-mgr**, **fdmi**, **ficon**, **flogi**, **fspf**, **ftp**, **ike**, **ipacl**, **ipconf**, **ipfc**, **ips**, **ipsec**, **isns**, **kernel**, **license**, **local***n*, **lpr**, **mail**, **mcast**, **module**, **news**, **platform**, **port**, **port-security**, **qos**, **radius**, **rdl**, **rib**, **rlir**, **rscn**, **scsi-target**, **security**, **syslog**, **sysmgr**, **systemhealth**, **tacacs**, **tlport**, **user**, **uucp**, **vni**, **vrrp-cfg**, **vsan**, **vshd**, **wwm**, **xbar**, **zone**.
logfile	(Optional) Displays contents of the log file.
module	(Optional) Displays module linecard logging configuration.
monitor	Displays monitor logging configuration.
nvram	Displays NVRAM log.
onboard *information*	(Optional) Displays onboard failure logging (OBFL) information. The types of information include **boot-uptime**, **cpu-hog**, **device-version**, **endtime**, **environmental-history**, **error-stats**, **exception-log**, **interrupt-stats**, **mem-leak**, **miscellaneous-error**, **module**, **obfl-history**, **obfl-logs**, **register-log**, **stack-trace**, **starttime**, **status**, **system-health**.
pending	(Optional) Displays the server address pending configuration.
pending-diff	(Optional) Displays the server address pending configuration differences with the active configuration.
server	(Optional) Displays server logging configuration.
status	(Optional) Displays the status of the last operation.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
5.2(1)	Added a new comment.
1.3(1)	This command was introduced.
2.0(x)	Added the **pending**, **pending-diff**, and **status** keywords.
3.0(1)	Added the **onboard** keyword.

Usage Guidelines None.

Examples The following example displays module linecard logging configuration:

```
switch# show logging module
Logging linecard:                enabled (Severity: notifications)
switch#
```

The following example displays level for module linecard manager logging configuration:

```
switch# show logging level module
Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
module                  5                       1

0(emergencies)          1(alerts)       2(critical)
3(errors)               4(warnings)     5(notifications)
6(information)          7(debugging)
switch#
```

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 fcmpls at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfwd at SAP 38
Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
kern                    6                       4
user                    3                       3
mail                    3                       3
daemon                  7                       7
auth                    0                       0
syslog                  3                       3
lpr                     3                       3
news                    3                       3
uucp                    3                       3
cron                    3                       3
authpriv                3                       3
ftp                     3                       3
local0                  3                       3
local1                  3                       3
local2                  3                       3
local3                  3                       3
local4                  3                       3
local5                  3                       3
local6                  3                       3
local7                  3                       3
fspf                    3                       3
```

```
fcdomain                2                       2
module                  5                       5
zone                    2                       2
vni                     2                       2
ipconf                  2                       2
ipfc                    2                       2
xbar                    3                       3
fcns                    2                       2
fcs                     2                       2
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)

Nov  8 16:48:04 excal-113 %LOG_VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console
from pts/1 (171.71.58.56)
Nov  8 17:44:09 excal-113 %LOG_VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console
from pts/0 (171.71.58.72)
```

The following example displays console logging status:

```
switch# show logging console
Logging console:                enabled (Severity: notifications)
```

The following example displays logging facility status:

```
switch# show logging facility
syslog_get_levels :: Error(-1) querying severity values for fcmpls at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfwd at SAP 38
Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
kern                    6                       4
user                    3                       3
mail                    3                       3
daemon                  7                       7
auth                    0                       0
syslog                  3                       3
lpr                     3                       3
news                    3                       3
uucp                    3                       3
cron                    3                       3
authpriv                3                       3
ftp                     3                       3
local0                  3                       3
```

```
local1                  3                       3
local2                  3                       3
local3                  3                       3
local4                  3                       3
local5                  3                       3
local6                  3                       3
local7                  3                       3
fspf                    3                       3
fcdomain                2                       2
module                  5                       5
zone                    2                       2
vni                     2                       2
ipconf                  2                       2
ipfc                    2                       2
xbar                    3                       3
fcns                    2                       2
fcs                     2                       2
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 fcmpls at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfwd at SAP 38
Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
kern                    6                       4
```

```
user                    3                       3
mail                    3                       3
daemon                  7                       7
auth                    0                       0
syslog                  3                       3
lpr                     3                       3
news                    3                       3
uucp                    3                       3
cron                    3                       3
authpriv                3                       3
ftp                     3                       3
local0                  3                       3
local1                  3                       3
local2                  3                       3
local3                  3                       3
local4                  3                       3
local5                  3                       3
local6                  3                       3
local7                  3                       3
fspf                    3                       3
fcdomain                2                       2
module                  5                       5
zone                    2                       2
vni                     2                       2
ipconf                  2                       2
ipfc                    2                       2
xbar                    3                       3
fcns                    2                       2
fcs                     2                       2
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 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
```

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)
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
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:                                    Enabled
    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
----------------------------
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
-------------------------------------------------------------------------------
                                  |        |        |   Time Stamp    |In|Port
   Interrupt Counter Name         | Count  | Thresh |MM/DD/YY HH:MM:SS|st|Rang
                                  |        |        |                 |Id|e
-------------------------------------------------------------------------------
FCP_LAF_MISC_INT_DT_IN_OBUF       |7       |0       |11/09/05 12:06:00|00|1
FCP_MAC_SR1_LR_DETECTED           |1       |0       |11/09/05 12:06:00|00|1
FCP_MAC_SR1_LRR_DETECTED          |1       |0       |11/09/05 12:06:00|00|1
FCP_MAC_SR1_OLS_DETECTED          |1       |0       |11/09/05 12:06:00|00|1
FCP_MAC_SR2_LRR_IDLE_RECEIVED     |1       |0       |11/09/05 12:06:00|00|1
FCP_MAC_SR2_AL_NON_F8_LIP_RECEIVED|2       |0       |11/09/05 12:06:00|00|1
FCP_MAC_SR2_AL_LIP_RECEIVED       |1       |0       |11/09/05 12:06:00|00|1
FCP_MAC_SR2_AL_ARB_F0_RECEIVED    |1       |0       |11/09/05 12:06:00|00|1
FCP_LAF_MISC_INT_DT_IN_OBUF       |2       |0       |11/09/05 12:06:00|00|2
FCP_MAC_SR1_OLS_DETECTED          |1       |0       |11/09/05 12:06:00|00|2
FCP_MAC_SR2_AL_NON_F8_LIP_RECEIVED|2       |0       |11/09/05 12:06:00|00|2
FCP_MAC_SR2_AL_LIP_RECEIVED       |3       |0       |11/09/05 12:06:00|00|2
FCP_LAF_MISC_INT_DT_IN_OBUF       |b       |0       |11/09/05 12:06:00|00|3
FCP_MAC_SR1_LR_DETECTED           |3       |0       |11/09/05 12:06:00|00|3
```

```
FCP_MAC_SR1_LRR_DETECTED           |2       |0       |11/09/05 12:06:00|00|3
FCP_MAC_SR1_OLS_DETECTED           |2       |0       |11/09/05 12:06:00|00|3
FCP_MAC_SR2_LR_IDLE_RECEIVED       |1       |0       |11/09/05 12:06:00|00|3
FCP_MAC_SR2_LRR_IDLE_RECEIVED      |2       |0       |11/09/05 12:06:00|00|3
FCP_MAC_SR2_AL_NON_F8_LIP_RECEIVED |3       |0       |11/09/05 12:06:00|00|3
FCP_MAC_SR2_AL_LIP_RECEIVED        |1       |0       |11/09/05 12:06:00|00|3
FCP_MAC_SR2_AL_ARB_F0_RECEIVED     |2       |0       |11/09/05 12:06:00|00|3
FCP_LAF_MISC_INT_DT_IN_OBUF        |2       |0       |11/09/05 12:06:00|00|4
FCP_MAC_SR1_LRR_DETECTED           |1       |0       |11/09/05 12:06:00|00|4
FCP_MAC_SR1_OLS_DETECTED           |3       |0       |11/09/05 12:06:00|00|4
FCP_MAC_SR2_LRR_IDLE_RECEIVED      |1       |0       |11/09/05 12:06:00|00|4
FCP_MAC_SR2_AL_NON_F8_LIP_RECEIVED |3       |0       |11/09/05 12:06:00|00|4
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:
----------------------------
    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.


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
 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
 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
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
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
 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  Rresend
-------------------------------------------------------------
   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
 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
 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
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
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
 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
----------------------------


OBFL: Register Log:
----------------------------
    Module:  5
----------------------------
register-log: This option not supported on SUP.


OBFL: Miscellaneous Error Logs:
----------------------------
    Module:  5
----------------------------.
```

Related Commands

Command	Description
logging	Configures logging parameters.

show logging onboard flow-control request-timeout

To display the Onboard Fault Logging (OBFL) request timeout for a source-destination pair per module with the timestamp information, use the **show logging onboard flow-control request-timeout** command.

show logging onboard flow-control request-timeout

Syntax Description

This command has no argument or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines

None.

Examples

This example shows how to display the request timeout for a source-destination pair per module with the timestamp information for the supervisor CLI:

```
switch# show logging onboard flow-control request-timeout
----------------------------
    Module:  1
----------------------------

----------------------------
    Module:  2
----------------------------
-------------------------------------------------------------------------------
|  Dest   |   Source   |Events|      Timestamp         |       Timestamp        |
|  Intf   |    Intf    | Count|       Earliest         |         Latest         |
-------------------------------------------------------------------------------
|sup-fc0 |fc2/48,     |    24|Wed Oct 31 14:31:35 2012|Wed Oct 31 14:31:36 2012|
-------------------------------------------------------------------------------
|sup-fc0 |fc2/9,      |  7158|Mon Feb  7 10:49:20 2011|Mon Feb  7 10:52:59 2011|
|        |fc2/23,     |      |                        |                        |
|        |fc2/24,     |      |                        |                        |
-------------------------------------------------------------------------------
|sup-fc0 |fc2/9,      |  7907|Mon Feb  7 10:45:17 2011|Mon Feb  7 10:49:20 2011|
|        |fc2/23,     |      |                        |                        |
-------------------------------------------------------------------------------
|sup-fc0 |fc2/23,     |     2|Mon Feb  7 10:45:17 2011|Mon Feb  7 10:45:17 2011|
-------------------------------------------------------------------------------
```

Related Commands

Command	Description
logging	.Configures logging parameters.

show ldap-server

To display the configured parameters for all the LDAP servers, use the **show ldap-server** command.

show ldap-server

Syntax Description

This command has no argument or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display the configured parameters for all the LDAP servers:

```
switch# show ldap-server
timeout : 3
        port : 65534
    deadtime : 5
total number of servers : 2

following LDAP servers are configured:
    a:
                idle time:0
                test user:test
                test password:********
        timeout: 3    port: 1    rootDN:
        enable-ssl: true
    ipaddress:
                idle time:0
                test user:test
                test password:********
        timeout: 3    port: 65534    rootDN:
        enable-ssl: false
switch#
```

Related Commands

Command	Description
ldap-server host	Displays LDAP server Ip address.

show ldap-search-map

To display LDAP configuration information, use the **show ldap-search-map** command.

show ldap-search-map

Syntax Description This command has no argument or keywords.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display LDAP configuration information:

```
switch# show ldap-search-map
total number of search maps : 0
switch#
```

Related Commands

Command	Description
ldap-server host	Displays LDAP server Ip address.

show ldap-server groups

To display the configured parameter for all the LDAP server groups, use the **show ldap-server groups** command.

show ldap-server groups

Syntax Description This command has no argument or keywords.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display the configured parameters for all the LDAP server groups:

```
switch# show ldap-server groups
total number of groups: 3
following LDAP server groups are configured:
    group ldap:
Authentication: Search and Bind
        Authentication Mech: Default(PLAIN)
    group a:
Authentication: Bind and Search
        CERT-DN match enabled
        Group validation enabled
        Authentication Mech: PLAIN
    group name:
Authentication: Search and Bind
        Authentication Mech: Default(PLAIN)
switch#
```

Related Commands

Command	Description
ldap-server host	Displays LDAP server Ip address.

show mcast

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

show mcast [**vsan** *vsan-id*]

Syntax Description		
	vsan *vsan-id*	(Optional) Specifies the number of the VSAN. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines None.

Examples The following example displays multicast information:

```
switch# show mcast
Multicast root for VSAN 1
        Configured root mode : Principal switch
        Operational root mode : Principal switch
        Root Domain ID : 0x15(21)


Multicast root for VSAN 73
        Configured root mode : Principal switch
        Operational root mode : Principal switch
        Root Domain ID : 0x65(101)


Multicast root for VSAN 99
        Configured root mode : Principal switch
        Operational root mode : Principal switch
        Root Domain ID : 0xe4(228)


Multicast root for VSAN 4001
        Configured root mode : Principal switch
        Operational root mode : Principal switch
        Root Domain ID : 0xe9(233)


Multicast root for VSAN 4002
        Configured root mode : Principal switch
        Operational root mode : Principal switch
        Root Domain ID : 0x78(120)
```

```
Multicast root for VSAN 4003
        Configured root mode : Principal switch
        Operational root mode : Principal switch
        Root Domain ID : 0xe0(224)


Multicast root for VSAN 4004
        Configured root mode : Principal switch
        Operational root mode : Lowest domain switch
        Root Domain ID : 0x01(1)
```

Related Commands

Command	Description
mcast root	Configures the multicast root VSAN.

show module

To verify the status of a module, use the **show module** command.

show module [*slot* [**recovery-steps**] | **diag** | **uptime** | **xbar** *number*]

Syntax Description

slot	(Optional) Specifies the slot number for the module.
recovery-steps	(Optional) Displays information about modules and the steps to recover a module.
diag	(Optional) Displays module-related information.
uptime	(Optional) Displays the length of time that the modules have been functional in the switch.
xbar *number*	(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 **recovery-steps and xbar** 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 **show module xbar**.

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.

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:

```
switch# show module 1 resources

                          BB_Credit   Bandwidth   Rate
                                      (Gbps)      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   Rate
                                      (Gbps)      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   Rate
                                      (Gbps)      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
```

```
      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
```

```
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 |      Alloted indices info            |
     |  range* | Total |          Index values        |
-----|---------|-------|------------------------------|
 1   |   0-  31|   48  | 160-187,192-207,220-223      | (Slot 2 shares 28-31)
     |         |       |(Slot 3 shares 16-27) (Slot 7 shares 0-15)|
 2   |  32-  63|   48  | 28-63,240-251                |
 3   |  64-  95|   48  | 16-27,64-95,188-191          |
 4   |  96- 127|   48  | 96-127,224-239               |
 7   | 128- 159|   48  | 0-15,128-159                 |
 8   | 160- 191|   -   | (None)                       | (Slot 1 shares 160-187
     |         |       |) (Slot 3 shares 188-191)     |
 9   | 192- 223|   -   | (None)                       | (Slot 1 shares 192-207
     |         |       |,220-223)                     |
SUP  | 253-255 |   3   | 253-255                      |

*Allowed range applicable only for Generation-1 modules

switch# show module 9 recovery-steps
Failure Reason:
Insufficient indices in range 0-255. Module cannot be powered up
```

The following example uses the show port index-allocation command on the Cisco MDS 9124 switch:

```
switch# show port index-allocation

Module index distribution:
-----------------------------------------------------+
Slot | Allowed |      Allotted indices info           |
     |  range* | Total |          Index values        |
-----|---------|-------|------------------------------|
 1   |   0- 255|   24  | 0-23                         |
SUP  |  -----  |   -   | (None)                       |

*Allowed range applicable only for Generation-1 modules
```

The following example uses the **show module**, **show port index-allocation**, and **show module recovery-steps** commands to display a Generation 1 module that is powered down because indices are not available in its slot. Specifically, indices 28 through 31 are taken by a 48-port card in slot 2:

```
switch# show module
Mod  Ports  Module-Type                       Model
Status
---  -----  -------------------------------- ------------------ --
1    32     1/2 Gbps FC Module                          powered-dn
2    48     1/2/4 Gbps FC Module             DS-X9148           ok
4    48     1/2/4 Gbps FC Module             DS-X9148           ok
6    0      Supervisor/Fabric-1              DS-X9530-SF1-K9    active *

Mod  Power-Status  Power Down Reason
---  ------------  --------------------------
1    powered-dn    Insufficient resources (dest Index)

switch# show port index-allocation
```

```
Module index distribution:
-----------------------------------------------------+
Slot | Allowed |      Alloted indices info            |
     |  range* | Total |          Index values        |
-----|---------|-------|------------------------------|
 1   |   0-  31|   -   | (None)                       | (Slot 2 shares 28-31)
 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                      |

*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 |      Alloted indices info            |
     |  range  | Total |          Index values        |
-----|---------|-------|------------------------------|
 1   |   0-1023|   48  | 160-207                      |
 2   |   0-1023|   48  | 3-50                         |
 3   |   0-1023|   48  | 0-2,208-252                  |
 4   |   0-1023|   48  | 51-98                        |
 7   |   0-1023|   48  | 99-146                       |
 8   |   0-1023|   24  | 147-159,256-266              |
 9   |  -----  |   -   | (None)                       |
SUP  | 253-255 |   3   | 253-255                      |

switch# show module 9 recovery-steps
Failure Reason:
```

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

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
```

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
```

show ntp

To display the configured Network Time Protocol (NTP) server and peer associations, use the **show ntp** command.

show ntp {**peers** | **pending peers** | **pending-diff** | **session-status** | **statistics** [**io** | **local** | **memory** | **peer** {**ipaddr** *ip-address* | **name** *peer-name*}] | **timestamp-status**}

Syntax Description

peers	Displays all the peers.
pending peers	Displays pending NTP configuration changes on all peers.
pending-diff	Displays the differences between the pending NTP configuration changes and the active NTP configuration.
session-status	Displays the Cisco Fabric Services (CFS) session status.
statistics	Displays the NTP statistics
io	(Optional) Displays the input/output statistics.
local	(Optional) Displays the counters maintained by the local NTP.
memory	(Optional) Displays the statistics counters related to memory code.
peer	(Optional) Displays the per-peer statistics counter of a peer.
ipaddr *ip-address*	(Optional) Displays the peer statistics for the specified IP address.
name *peer-name*	(Optional) Displays the peer statistics for the specified peer name.
timestamp-status	Displays if the timestamp check is enabled.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
2.0(x)	Added the **pending**, **pending-diff**, and **session-status** keywords.

Usage Guidelines

None.

Examples

The following example displays the NTP peer information:

```
switch# show ntp peers
-----------------------------------------
  Peer IP Address               Serv/Peer
-----------------------------------------
  10.20.10.2                    Server
  10.20.10.0                    Peer
```

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
ntp	Configures NTP parameters.

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.

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:
```

```
  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 txbbscn: 0
  bbscn_capable: FALSE bbscn_max: 0,  port_bbscn: 0
Statistics:
  number of FLOGIs: 0
```

Related Commands

Command	Description
debug npv	Enables debugging NPV configurations.
show debug npv	Displays the NPV debug commands configured on the switch.

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
show npv traffic-map	Displays NPV traffic map.

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
show npv flogi-table	Displays information about NPV FLOGI sessions.
show npv internal info traffic-map	Displays internal information about the traffic map.

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
show npv flogi-table	Displays the information about NPV FLOGI session.

show port index-allocation

To display port index allocation information, use the **show port index-allocation** command.

show port {**index-allocation startup** | **naming**}

Syntax Description		
	index-allocation	Displays port index allocation information.
	startup	Displays port index allocation information at startup.
	naming	Displays port naming information.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.
	3.1(2)	Added the **naming** keyword.

Usage Guidelines All software releases prior to Cisco SAN-OS Release 3.0(1) support Generation 1 hardware. Cisco SAN-OS Release 3.0(1) and later support Generation 2 hardware. You can combine Generation 1 and Generation 2 switching modules, with either Supervisor-1 modules or Supervisor-2 modules. However, combining switching modules and supervisor modules has the following limitations:

- Supervisor-1 modules only support a maximum of 256 port indexes, regardless of type of switching modules.
- Supervisor-2 modules support a maximum of 1024 port indexes when all switching modules in the chassis are Generation 2.
- Supervisor-2 modules only support a maximum of 256 port indexes when both Generation 1 and Generation 2 switching modules are installed in the chassis.

Note The Cisco MDS 9124 switch does not support the **show port index-allocation startup** command; however, it does support the show **port index-allocation** command.

Note On a switch where the maximum number of port indexes is 256, any module that exceeds that limit does not power up.

Examples The following example displays port index allocation information at startup on a Cisco MDS switch with only Generation 1 switching modules installed:

```
switch# show port index-allocation startup
```

```
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)                       |
```

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

compatibility-parameters	Displays compatibility parameters.
consistency	Displays the database consistency information of all modules.
detail	Displays detailed database consistency information.
database	Displays PortChannel database information.
interface port-channel *port-channel-number*	Specifies the PortChannel number. The range is 1 to 256.
summary	Displays PortChannel summary.
usage	Displays PortChannel number usage.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
3.0(1)	• Increased the **interface port-channel** range to 256. • Modified the output of the **compatibility-parameters** option.

Usage Guidelines

None.

Examples

The following example displays the PortChannel summary:

```
switch# show port-channel summary
NEW
```

The following example displays the PortChannel compatibility parameters:

```
switch# show port-channel compatibility-parameters
Parameters that have to be consistent across all members in a port-channel.

1. physical port layer

Members must have the same interface type, such as fibre channel, ethernet
or fcip.

2. port mode
```

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.

```
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:
============================================
```

```
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
```

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

interface	Specifies the PortChannel interface.
port-channel	Specifies the PortChannel.
port-channel number	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
show port-channel consistency	Displays PortChannel distributed database consistency.

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
```

```
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 indeces 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.
```

```
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--
```

Related Commands

Command	Description
show port-channel summary	Displays PortChannel summary.

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
show port-channel compatibity-parameters	Displays PortChannel compatibility parameters.

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

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

```
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=0xfffe,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=0xfffe


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_wwn(244): wwn 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): pcallocpc 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_wwn(244): wwn 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): pcallocpc 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_wwn(244): wwn request setting pinfo->bundle=0x4
```

```
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
```

```
    [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): pcallocpc 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
```

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
show port-channel database	Displays PortChannel database.

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
show port-channel internal	Displays the PortChannel internal status.

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
show port-channel summary	Displays the PortChannel usage.

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
show port-group-monitor	Displays Port Group Monitor information.

show port-group-monitor active

To display Port Group Monitor active policies along with the counters information, use the **show port-group-monitor active** command.

show port-group-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(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display Port Group Monitor active policies:

```
Policy Name  : pgmon
Admin status : Active
Oper status  : 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
show port-group-monitor status	Displays Port Group Monitor status.

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*}

Syntax Description

name	Displays a policy name.

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 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
------- --------- -------- -------------------- ---------------------- ------
```

```
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
show port-group-monitor status	Displays Port Group Monitor status.

show port-license

To display the licensing usage on a Cisco MDS 9124, use the **show port-license** command.

show port-license

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the default port activation license configuration for the Cisco MDS 9124 switch:

```
switch# show port-license
 Available port activation licenses are 0
-----------------------------------------
  Interface    Port Activation License
-----------------------------------------
  fc1/1             acquire
  fc1/2             acquire
  fc1/3             acquire
  fc1/4             acquire
  fc1/5             acquire
  fc1/6             acquire
  fc1/7             acquire
  fc1/8             acquire
  fc1/9             eligible
  fc1/10            eligible
  fc1/11            eligible
  ...
  fc1/24            eligible
```

Related Commands

Command	Description
port-license	Makes a port eligible or ineligible to receive a license. Also used to acquire a license for a port.

show port-monitor

To configure the counter details of the policy, use the **show port-monitor** command.

show port-monitor [*name*]

Syntax Description

name	Displays a policy name.

Defaults

None.

Command Modes

Configuration mode.

Command History

Release	Modification
4.1(1b)	This command was introduced.

Usage Guidelines

The **show port-monitor** command can also take a string name of policy and displays the details of that policy only.

Examples

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

```
switch# show port-monitor
--------------------------------------------------------------------------------
-----------
Port Monitor : enabled
--------------------------------------------------------------------------------
-----------

Policy Name  : pgmon
Admin status : Active
Oper status  : Active
Port type    : All Access Ports
--------------------------------------------------------------------------------
------------------------
Counter                   Threshold  Interval Rising Threshold event Falling Thre
shold  event Portguard
-------                   ---------  -------- ---------------- ----- ------------
------ ----- --------------
Link Loss                 Delta      60       5                4     1
       4     Not enabled
Sync Loss                 Delta      60       5                4     1
       4     Not enabled
ASIC Error Pkt from Port Delta      300      5                4     0
       4     Not enabled
ASIC Error Pkt to xbar   Delta      60       3                4     0
       4     Not enabled
ASIC Error Pkt from xbar Delta      300      5                4     0
--More--
```

```
switch#
```

Related Commands

Command	Description
show port-monitor	Shows port monitor policies.

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.

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
4.2.6	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  : pgmon
Admin status : Active
Oper status  : Active
Port type    : All Access Ports
------------------------------------------------------------------------------
-------------------------
Counter                  Threshold  Interval Rising Threshold event Falling Thre
shold  event Portguard
-------                  ---------  -------- ---------------- ----- ------------
------ ----- --------------
Link Loss                Delta      60       5                4     1
       4     Not enabled
Sync Loss                Delta      60       5                4     1
       4     Not enabled
ASIC Error Pkt from Port Delta      300      5                4     0
       4     Not enabled
ASIC Error Pkt to xbar   Delta      60       3                4     0
       4     Not enabled
ASIC Error Pkt from xbar Delta      300      5                4     0
       4     Not enabled
------------------------------------------------------------------------------
-------------------------
--More--
switch(config)#
```

Related Commands

Command	Description
show port-monitor status	Shows the current status of the port monitor.

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

slot	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(config-if)# show port-resources module 1
Module 1
  Available dedicated buffers for global buffer #0 [port-group 1] are 2150
  Available dedicated buffers for global buffer #1 [port-group 2] are 2150
  Available dedicated buffers for global buffer #2 [port-group 3] are 2150
  Available dedicated buffers for global buffer #3 [port-group 4] are 2148
  Available dedicated buffers for global buffer #4 [port-group 5] are 2150
  Available dedicated buffers for global buffer #5 [port-group 6] are 2150
  Available dedicated buffers for global buffer #6 [port-group 7] are 2150
  Available dedicated buffers for global buffer #7 [port-group 8] are 650
  Available dedicated buffers for global buffer #8 [port-group 9] are 2150
  Available dedicated buffers for global buffer #9 [port-group 10] are 2150
  Available dedicated buffers for global buffer #10 [port-group 11] are 2150
  Available dedicated buffers for global buffer #11 [port-group 12] are 2150


 Port-Group 1
  Total bandwidth is 64.0 Gbps
  Allocated dedicated bandwidth is 64.0 Gbps
  --------------------------------------------------------------------
  Interfaces in the Port-Group       B2B Credit  Bandwidth  Rate Mode
                                        Buffers     (Gbps)
  --------------------------------------------------------------------
  fc1/1                                   500       16.0  dedicated
  fc1/2                                   500       16.0  dedicated
  fc1/3                                   500       16.0  dedicated
  fc1/4                                   500       16.0  dedicated
```

```
Port-Group 6
  Total bandwidth is 64.0 Gbps
  Allocated dedicated bandwidth is 64.0 Gbps
  ------------------------------------------------------------------
  Interfaces in the Port-Group       B2B Credit  Bandwidth  Rate Mode
                                        Buffers     (Gbps)
  ------------------------------------------------------------------
  fc4/21                                  4090       16.0  dedicated
  fc4/22                                    10       16.0  dedicated
  fc4/23                                    10       16.0  dedicated
  fc4/24                                    10       16.0  dedicated

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
fc2/8                                16       4.0 shared
fc2/9                                16       4.0 shared
fc2/10                               16       4.0 shared
fc2/11                               16       4.0 dedicated
fc2/12                               16       4.0 dedicated

Port-Group 3
 Total bandwidth is 12.8 Gbps
 Total shared bandwidth is 4.8 Gbps
 Allocated dedicated bandwidth is 8.0 Gbps
------------------------------------------------------------------
Interfaces in the Port-Group B2B Credit Bandwidth Rate Mode
                               Buffers (Gbps)
------------------------------------------------------------------
fc2/13                               16       4.0 shared
fc2/14                               16       4.0 shared
fc2/15                               16       4.0 shared
fc2/16                              250       4.0 dedicated
fc2/17                               16       2.0 dedicated
fc2/18                               16       2.0 dedicated

Port-Group 4
 Total bandwidth is 12.8 Gbps
 Total shared bandwidth is 0.8 Gbps
```

```
 Allocated dedicated bandwidth is 12.0 Gbps
--------------------------------------------------------------------
Interfaces in the Port-Group B2B Credit Bandwidth Rate Mode
                                Buffers (Gbps)
--------------------------------------------------------------------
fc2/19                                16       1.0 shared
fc2/20                                16       1.0 shared
fc2/21                                16       1.0 shared
fc2/22                                16       4.0 dedicated
fc2/23                                16       4.0 dedicated
fc2/24                                16       4.0 dedicated
```

Related Commands

Command	Description
show module	Verifies the status of a module.

show port-security

To display configured port security feature information, use the **show port-security database** command.

show port-security {**database** [**active** [**vsan** *vsan-id*]] | **fwwn** *fwwn-id* **vsan** *vsan-id* | **interface** {**fc** *slot/port* | **port-channel** *port*} **vsan** *vsan-id* | **vsan** *vsan-id*] | **pending** [**vsan** *vsan-id*] | **pending-diff** [**vsan** *vsan-id*] | **statistics** [**vsan** *vsan-id*] | **status** [**vsan** *vsan-id*] | **violations** [**last** *count* | **vsan** *vsan-id*]}

Syntax Description

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

Usage Guidelines

The access information for each port can be individually displayed. If you specify the FWWN or interface options, all devices that are paired in the active database (at that point) with the given FWWN or the interface are displayed.

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

Examples

The following example displays the contents of the port security database:

```
switch# show port-security database
-------------------------------------------------------------------------------------
VSAN    Logging-in Entity             Logging-in Point(     Interface)
-------------------------------------------------------------------------------------
1       21:00:00:e0:8b:06:d9:1d(pwwn) 20:0d:00:05:30:00:95:de(fc1/13)
1       50:06:04:82:bc:01:c3:84(pwwn) 20:0c:00:05:30:00:95:de(fc1/12)
2       20:00:00:05:30:00:95:df(swwn) 20:0c:00:05:30:00:95:de(port-channel 128)
3       20:00:00:05:30:00:95:de(swwn) 20:01:00:05:30:00:95:de(fc1/1)
[Total 4 entries]
```

The following example displays the output of the active port security database in VSAN 1:

```
switch# show port-security database vsan 1
-------------------------------------------------------------------------------
Vsan   Logging-in Entity              Logging-in Point        (Interface)
-------------------------------------------------------------------------------
1                  *                  20:85:00:44:22:00:4a:9e (fc3/5)
1      20:11:00:33:11:00:2a:4a(pwwn)  20:81:00:44:22:00:4a:9e (fc3/1)
[Total 2 entries]
```

The following example displays the active database.

```
switch# show port-security database active
-------------------------------------------------------------------------------------------
VSAN    Logging-in Entity             Logging-in Point(     Interface)     Learnt
-------------------------------------------------------------------------------------------
1       21:00:00:e0:8b:06:d9:1d(pwwn) 20:0d:00:05:30:00:95:de(fc1/13)          Yes
1       50:06:04:82:bc:01:c3:84(pwwn) 20:0c:00:05:30:00:95:de(fc1/12)          Yes
2       20:00:00:05:30:00:95:df(swwn) 20:0c:00:05:30:00:95:de(port-channel 128)Yes
3       20:00:00:05:30:00:95:de(swwn) 20:01:00:05:30:00:95:de(fc1/1)
[Total 4 entries]
```

The following example displays the wildcard fwwn port security in VSAN 1:

```
switch# show port-security database fwwn 20:85:00:44:22:00:4a:9e vsan 1
Any port can login thru' this fwwn
```

The following example displays the configured FWWN port security in VSAN 1:

```
switch# show port-security database fwwn 20:01:00:05:30:00:95:de vsan 1
20:00:00:0c:88:00:4a:e2(swwn)
```

The following example displays the interface port information in VSAN 2:

```
switch# show port-security database interface fc 1/1 vsan 2
20:00:00:0c:88:00:4a:e2(swwn)
```

The following example displays the port security statistics:

```
switch# show port-security statistics
Statistics For VSAN: 1
-----------------------
Number of pWWN permit: 2
Number of nWWN permit: 2
Number of sWWN permit: 2
Number of pWWN deny  : 0
Number of nWWN deny  : 0
Number of sWWN deny  : 0

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

```
Number of pWWN permit: 0
Number of nWWN permit: 0
Number of sWWN permit: 2
Number of pWWN deny  : 0
Number of nWWN deny  : 0
Number of sWWN deny  : 0
...
```

The following example displays the status of the active database and the autolearn configuration:

```
switch# show port-security status
VSAN 1 :Activated database, auto-learning is enabled
VSAN 2 :No Active database, auto-learning is disabled
...
```

The following example displays the previous 100 violations:

```
switch# show port-security violations

-------------------------------------------------------------------------------------
VSAN    Interface      Logging-in Entity             Last-Time              [Repeat count]
-------------------------------------------------------------------------------------
1       fc1/13         21:00:00:e0:8b:06:d9:1d(pwwn) Jul  9 08:32:20 2003   [20]
                       20:00:00:e0:8b:06:d9:1d(nwwn)
1       fc1/12         50:06:04:82:bc:01:c3:84(pwwn) Jul  9 08:32:20 2003   [1]
                       50:06:04:82:bc:01:c3:84(nwwn)
2       port-channel 1 20:00:00:05:30:00:95:de(swwn) Jul  9 08:32:40 2003   [1]
[Total 2 entries]
```

Related Commands

Command	Description
port-security	Configures port security parameters.

show processes

To display general information about all the processes, use the **show processes** command.

show processes [**cpu** | **log** [**details** | **pid** *process-id*] | **memory**]

Syntax Description

cpu	(Optional) Displays processes CPU information.
log	(Optional) Displays information about process logs.
details	(Optional) Displays detailed process log information.
pid *process-id*	(Optional) Displays process information about a specific process ID. The range is 0 to 2147483647.
memory	(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
```

```
    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  wwn
 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  7ffffcd0/7fffefe4  xbar_client
 1278     56800  7ffffce0/7ffffb5c  wwn
 1279   1210220  7ffffce0/7ffffbac  vsan
 1293    386144  7ffffcf0/7fffebd4  span
 1294   1396892  7ffffce0/7fffdff4  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.
```

```
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     7FFFFD20
    TOTAL     23764 KB

Register Set:

    EBX 00000005         ECX 7FFFF8CC         EDX 00000000
    ESI 00000000         EDI 7FFFF6CC         EBP 7FFFF95C
    EAX FFFFFDFE         XDS 8010002B         XES 0000002B
    EAX 0000008E (orig)  EIP 2ACE133E         XCS 00000023
    EFL 00000207         ESP 7FFFF654         XSS 0000002B

Stack: 1740 bytes. ESP 7FFFF654, TOP 7FFFFD20

0x7FFFF654: 00000000 00000008 00000003 08051E95 ................
0x7FFFF664: 00000005 7FFFF8CC 00000000 00000000 ................
0x7FFFF674: 7FFFF6CC 00000001 7FFFF95C 080522CD ........\....".."
0x7FFFF684: 7FFFF9A4 00000008 7FFFFC34 2AC1F18C ........4......*
```

show process creditmon credit-loss-event-history

To display the credit loss event history, use the **show processes creditmon credit-loss-event-history** command.

show process creditmon credit-loss-event-history module *module-number*

Syntax Description

module	Displays credit loss event history for a module.
module-number	Displays the module number.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(1)	This command is not supported for new MDS NG products but no changes made for the old MDS.
NX-OS 5.x	This command was introduced.

Usage Guidelines

None.

Examples

The following examples displays the credit loss event history for a module:

```
switch# show process creditmon credit-loss-event-history module 1
switch#
```

The following examples displays the credit loss event history:

```
switch# show process creditmon credit-loss-event-history

Module: 01


Module: 02


Module: 03


Module: 04

CLI is not supported on module 5

Module: 06


Module: 07
```

Related Commands

Command	Description
show process creditmon credit-loss-events	Displays the credit loss information.

show process creditmon credit-loss-events

To display the credit loss events information, use the **show processes creditmon credit-loss-events** command.

show process creditmon credit-loss-events module *module-number*

Syntax Description

module	Displays credit loss events information for a module.
module-number	Displays the module number.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(9)	This command is supported in MDS NG products but no changes made for the old MDS.
6.2(1)	This command is not supported for new MDS NG products but no changes made for the old MDS.
NX-OS 5.x	This command was introduced.

Usage Guidelines

In Cisco MDS 9710, 9706, 9250i and 9148S Series Switches, this command can be executed from configuration terminal mode itself. There are no changes in the old MDS, attach the module and execute the command.

Examples

The following examples displays the credit loss events information for a module:

```
switch# show process creditmon credit-loss-events module 9
Module: 09      Credit Loss Events: NO

switch#
```

The following examples displays the credit loss events information for a module:

Related Commands

Command	Description
show process creditmon credit-loss-event-history	Displays the credit monitor event history information.

show process creditmon event-history

To display the credit monitor event history information, use the **show processes creditmon event-history** command.

show process creditmon event-history

Syntax Description

This command has no argument or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(9)	This command is supported for new MDS NG products but no changes made for the old MDS.
6.2(1)	This command is not supported for new MDS NG products but no changes made for the old MDS.
NX-OS 5.x	This command was introduced.

Usage Guidelines

None.

Examples

The following examples displays the credit monitor event history information:

```
switch# attach module 2
switch# show process creditmon credit event-history

1) Event:CREDITMON_EVENT_MONITOR_OFF, length:4, at 10202 usec
s after Tue Apr 16 00:06:05 2013
interface =


2) Event:CREDITMON_EVENT_MONITOR_OFF, length:4, at 10199 usec
s after Tue Apr 16 00:06:05 2013
interface =


3) Event:CREDITMON_EVENT_MONITOR_OFF, length:4, at 10197 usec
s after Tue Apr 16 00:06:05 2013
interface =


4) Event:CREDITMON_EVENT_MONITOR_OFF, length:4, at 10194 usec
s after Tue Apr 16 00:06:05 2013
interface =
Module: 09      Credit Loss Events: NO
```

```
switch#
```

Related Commands

Command	Description
show process creditmon credit-loss-events	Displays the credit loss event information.

show process creditmon slowport-monitor-events

To display the credit monitor slow port statistics information, use the **show process creditmon slowport-monitor-events** command.

show process creditmon slowport-monitor-events module ***module-number***

Syntax Description

module	Displays slowport monitor events for a module.
module-number	Displays the module number.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(9)	This command was introduced.

Usage Guidelines

None.

Examples

The following examples displays the creditmon slowport monitor statistics information for platform MDS 9710, 9706, 9250i and MDS 9148S:

```
switch# show process creditmon slowport-monitor-events
Module: 01 Slowport Detected: YES
================================================================================
Interface = fc1/37
----------------------------------------------------------------
| admin | slowport | oper | Timestamp |
| delay | detection | delay | |
| (ms) | count | (ms) | |
----------------------------------------------------------------
| 1 | 2 | 4 | 1. Mon Jun 30 16:19:06.068 2014 |
----------------------------------------------------------------
================================================================================
Interface = fc1/39
----------------------------------------------------------------
| admin | slowport | oper | Timestamp |
| delay | detection | delay | |
| (ms) | count | (ms) | |
----------------------------------------------------------------
| 1 | 2 | 4 | 1. Thu Jul 3 11:26:15.876 2014 |
----------------------------------------------------------------
================================================================================
Interface = fc1/40
----------------------------------------------------------------
| admin | slowport | oper | Timestamp |
| delay | detection | delay | |
```

```
| (ms) | count | (ms) | |
-----------------------------------------------------------------
| 1 | 2 | 2 | 1. Thu Jul 3 11:26:15.537 2014 |
-----------------------------------------------------------------
```

Related Commands

Command	Description
system timeout slowport-monitor	Configures the system timeout values for the hardware slow port monitoring.

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
```

```
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

Command	Description
setup sme	Sets up the Cisco SME administrator and Cisco SME recovery roles.

show qos

To display the current QoS settings along with a the number of frames marked high priority, use the **show qos** command.

show qos {**class-map** [**name** *class-name*] | **dwrr** | **policy-map** [**name** *policy-name*] | **service policy** [**interface fc** *slot*/*port* | **vsan** *vsan-id*] | **statistics**}

Syntax Description

class-map	Displays QoS class maps.
name *class-name*	(Optional) Specifies a class map name. The maximum length is 63 alphanumeric characters.
dwrr	Displays deficit weighted round robin queue weights.
policy-map	Displays QoS policy-maps.
name *policy-name*	(Optional) Specifies a policy map name. The maximum length is 63 alphanumeric characters.
service policy	Displays QoS service policy associations.
interface fc *slot*/*port*	(Optional) Specifies a Fibre Channel interface.
vsan *vsan-id*	(Optional) Specifies a VSAN ID. The range is 1 to 4093.
statistics	Displays QoS related statistics.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(1)	This command was introduced.

Usage Guidelines

To access all but the **statistics** option for this command, you must perform the **qos enable** command.

Examples

The following example displays the contents of all class maps:

```
switch# show qos class-map
qos class-map MyClass match-any
    match dest-wwn 20:01:00:05:30:00:28:df
    match src-wwn 23:15:00:05:30:00:2a:1f
    match src-intf fc2/1
qos class-map Class2 match-all
    match src-intf fc2/14
qos class-map Class3 match-all
    match src-wwn 20:01:00:05:30:00:2a:1f
```

The following example displays the contents of a specified class map:

```
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)
```

show radius

To display the RADIUS Cisco Fabric Services (CFS) distribution status and other details, use the **show radius** command.

show radius {**distribution status** | **pending** | **pending-diff**}

Syntax Description

distribution status	Displays the status of the RADIUS CFS distribution.
pending	Displays the pending configuration that is not yet applied.
pending-diff	Displays the difference between the active configuration and the pending configuration.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the RADIUS distribution status:

```
switch# show radius distribution status
session ongoing: no
session db: does not exist
merge protocol status: merge activation done

last operation: none
last operation status: none
```

Related Commands

Command	Description
radius distribute	Enables RADIUS CFS distribution.

show running-config callhome

To display the Call Home configuration, use the **show running-config callhome** command.

show running-config callhome

Syntax Description

This command has no arguments or keywords.

Defaults

Enabled.

Command Modes

EXEC mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display the Call Home configuration:

```
switch# show running-config callhome
version 5.0(1a)
callhome
transport email from isola-77@cisco.com
transport email reply-to someone@cisco.com
transport email smtp-server 72.163.129.201 port 1
transport email mail-server 10.64.74.94 port 25 priority 4
transport email mail-server 192.168.1.10 port 25 priority 50
transport email mail-server mail-server-1.cisco.com port 25 priority 100
switch#
```

Related Commands

Command	Description
callhome	Configures the Call Home function.

show running-config fcsp

To display the detailed run time information relevent to FC-SP, use the **show running-config fcsp** command.

show running-config fcsp

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 the FC-SP details:

```
switch# show running-config fcsp
feature fcsp
fcsp esp sa 300
  key 0x00000000000000000000000000123456
  salt 0x123456

interface fc8/48
  fcsp off
  fcsp esp manual
    ingress-sa 300
    egress-sa 300version 4.1(2)
feature fcsp
fcsp esp sa 300
```

Related Commands

Command	Description
fcsp enable	Enables FC-SP.

show running radius

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

show running radius {**all**}

Syntax Description		
	all	Displays running config with defaults.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
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 accoun
ting
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
```

```
    deadtime 0
switch#
```

Related Commands

Command	Description
radius distribute	Enables RADIUS CFS distribution.

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

server-name	(Optional) Specifies the RADIUS server DNS name. The maximum character size is 256.
ipv4-address	(Optional) Specifies the RADIUS server IP address in the format *A.B.C.D*.
ipv6-address	(Optional) Specifies the RADIUS server IP address in the format *X:X::X*.
directed-request	(Optional) Displays an enabled directed request RADIUS server configuration.
groups	(Optional) Displays configured RADIUS server group information.
sorted	(Optional) Displays RADIUS server information sorted by name.
statistics	(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)	• Added the *server-name*, *ipv4-address*, and *ipv6-address* arguments. • Added the **directed-request** and **statistics** options.

Usage Guidelines

Only administrators can view the RADIUS preshared key.

Examples

The following example shows the output of the **show radius-server** command:

```
switch# show radius-server
Global RADIUS shared secret:Myxgqc
retransmission count:5
timeout value:10

following RADIUS servers are configured:
        myradius.cisco.users.com:
                available for authentication on port:1812
                available for accounting on port:1813
        172.22.91.37:
                available for authentication on port:1812
                available for accounting on port:1813
                RADIUS shared secret:23MHcUnD
```

```
10.10.0.0:
        available for authentication on port:1812
        available for accounting on port:1813
       RADIUS shared secret:hostkey----> for administrators only
```

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

erl	Displays Established Registration List (ERL) information.
vsan *vsan-id*	(Optional) Specifies a VSAN ID. The range is 1 to 4093.
history	Displays link incident history.
recent	Displays recent link incident.
interface	(Optional) Specifies an interface.
fc *slot/port*	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay *port* | **ext** *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.
portnumber *port-number*	(Optional) Specifies a port number for the link incidents. The range is 1 to 224.
statistics	Displays RLIR statistics.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(2)	This command was introduced.
3.0(3)	Modified the **show rlir erl** command.
3.1(2)	Added the **bay** *port* | **ext** *port* keywords and arguments.

Usage Guidelines

If available, the host timestamp (marked by the *) is printed along with the switch timestamp. If the host timestamp is not available, only the switch timestamp is printed.

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
```

```
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
```

```
 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 rlir 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 rlir 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
```

show rmon

To display the remote monitoring (RMON) configuration or onboard log, use the **show rmon** command.

show rmon {**alarms** | **events** | **hcalarms** | **logs**}

Syntax Description

alarms	Displays the configured 32-bit RMON alarms.
events	Displays the configured RMON events.
hcalarms	Displays the configured 64-bit high-capacity (HC) RMON alarms.
logs	Displays the RMON event logs.

Defaults

None.

Command Modes

EXEC mode

Command History

Release	Modification
2.0(x)	This command was introduced.
2.1(2)	Added the **logs** option.
3.0(1)	Added the **hcalarms** option.

Usage Guidelines

None.

Examples

The following example displays the configured RMON alarms:

```
switch# show rmon alarms
Alarm 20 is active, owned by test
Monitors 1.3.6.1.2.1.2.2.1.16.30 every 30 second(s)
 Taking delta samples, last value was 17
 Rising threshold is 15, assigned to event 1
 Falling threshold is 0, assigned to event 0
 On startup enable rising or falling alarm
```

The following example displays the configured RMON events:

```
switch# show rmon events
Event 4 is active, owned by administrator@london_op_center
Description is WARNING(4)
Event firing causes log and trap to community public, last fired 03:32:43
```

The following example displays the configured high-capacity RMON alarms:

```
switch# show rmon hcalarms
High Capacity Alarm 1 is active, owned by cseSysCPUUtilization.0@test
 Monitors 1.3.6.1.4.1.9.9.305.1.1.1.0 every 10 second(s)
 Taking absolute samples, last value was 0
 Rising threshold is 60, assigned to event 4
 Falling threshold is 59, assigned to event 4
 On startup enable rising alarm
 Number of Failed Attempts is 0
```

The following example displays the RMON event log located on the switch:

```
switch# show rmon logs
Event 4
    1 WARNING(4)Falling alarm 1, fired at 0 days 0:02:23 uptime
      iso.3.6.1.4.1.9.9.305.1.1.1.0=17 <= 59
Event 5
    1 INFORMATION(5)Startup Falling alarm 1, fired at 0 days 0:02:23 uptime
      iso.3.6.1.4.1.9.9.305.1.1.1.0=17 <= 59
    2 INFORMATION(5)Falling alarm 1, fired at 0 days 0:02:33 uptime
      iso.3.6.1.4.1.9.9.305.1.1.1.0=17 <= 59
```

Related Commands

Command	Description
rmon alarm	Configures the 32-bit RMON alarm.
rmon event	Configures an RMON event.
rmon hcalarm	Configures the 64-bit RMON alarm.
show snmp host	Displays the SNMP trap destination information.

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
show rmon alarms	Displays the RMON alarm table.
show rmon hcalarms	Displays the RMON hcalarm table.
show rmon events	Displays the RMON event table.
show rmon logs	Displays the RMON event log table.

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

name *string*	(Optional) Specifies a name of the role.
pending	(Optional) Displays uncommitted role configuration for fabric distribution.
pending-diff	(Optional) Displays the differences between the pending configuration and the active configuration.
session status	(Optional) Displays the session status for a role.
status	(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 **pending**, **pending-diff**, **session**, and **status** options.

Usage Guidelines

The rules are displayed by rule number and are based on each role. All roles are displayed even if role name is not specified.

Only network-admin role can access this command.

Examples

The following example shows how to display information for all roles:

```
switch# show role
Role: network-admin
Description: Predefined Network Admin group. This role cannot be modified
Access to all the switch commands

Role: network-operator
Description: Predefined Network Operator group. This role cannot be modified
Access to Show commands and selected Exec commands

Role: svc-admin
Description: Predefined SVC Admin group. This role cannot be modified
Access to all SAN Volume Controller commands

Role: svc-operator
Description: Predefined SVC Operator group. This role cannot be modified
```

```
Access to selected SAN Volume Controller commands

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
role abort	Enables authorization role CFS distribution.
role commit	Enables authorization role CFS distribution.
role distribute	Enables authorization role CFS distribution.
role name	Configures authorization roles.

show rscn

To display Registered State Change Notification (RSCN) information, use the **show rscn** command.

show rscn {**event-tov vsan** *vsan-id* | **pending vsan** *vsan-id* | **pending-diff vsan** *vsan-id* | **scr-table** [**vsan** *vsan-id*] | **statistics** [**vsan** *vsan-id*]}

Syntax Description

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

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
3.0(1)	Added the **event-tov**, **pending**, and **pending-diff** options.

Usage Guidelines

The SCR table cannot be configured. It is only populated if one or more Nx ports send SCR frames to register for RSCN information. If the **show rscn scr-table** command does not return any entries, no Nx port is interested in receiving RSCN information.

Examples

The following example displays RSCN information:

```
switch# show rscn scr-table vsan 1
SCR table for VSAN: 1
---------------------------------------------
FC-ID         REGISTERED FOR
---------------------------------------------
0x1b0300      fabric detected rscns

Total number of entries = 1
```

The following example displays RSCN statistics.

```
switch# show rscn statistics vsan 1

Statistics for VSAN: 1
-------------------------

Number of SCR received         = 0
```

```
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#
```

show running-config

To display the running configuration file, use the **show running-config** command.

show running-config [**diff** | **interface** [**cpp** | **fc** | **fc** *slot/port* | **fc-tunnel** *tunnel-id* | **fcip** *fcip-number* | **gigabitethernet** *slot/port* | **iscsi** *slot/port* | **mgmt 0** | **port-channel** | **svc** | **vsan** *vsan-id*] |**vsan** *vsan-id*]

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

interface {**bay** *port* | **ext** *port*}

Syntax Description

diff	(Optional) Displays the difference between the running and startup configurations.
interface	(Optional) Displays running configuration information for a range of interfaces.
cpp	(Optional) Displays the virtualization interface.
fc *slot/port*	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay *port* **| ext** *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.
fc-tunnel *tunnel-id*	(Optional) Displays description of the specified FC tunnel from 1 to 4095.
fcip *fcip-number*	Displays the description of the specified FCIP interface from 1 to 255.
gigabitethernet *slot/port*	Displays the description of the Gigabit Ethernet interface in the specified slot and port.
iscsi *slot/port*	Displays the description of the iSCSI interface in the specified slot and port.
mgmt 0	Displays the description of the management interface.
port-channel	Displays the description of the PortChannel interface.
sup-fc	Displays the inband interface details.
svc	Displays the virtualization interface specific to the CSM module.
vsan *vsan-id*	Displays VSAN-specific information. The ID ranges from 1 to 4093.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

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
```

```
  all-initiator-permit
```

The following example displays running configuration information for a span destination interface—in this case, the management interface:

```
switch(config)# show running-config interface fc1/16
!Time: Tue Mar 26 22:52:27 2013

version 6.2(1)

interface fc1/1
  switchport speed 4000
  switchport mode SD
  no shutdown
switch(config)#
```

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
```

show san-ext-tuner

To display SAN extension tuner information, use the **show san-ext-tuner** command.

show san-ext-tuner {**interface gigabitethernet** *slot*/*port* [**nport pwwn** *pwwn-id* **vsan** *vsan-id* **counters**] | **nports**}

Syntax Description

interface	Displays SAN extension tuner information for a specific Gigabit Ethernet interface.
gigabitethernet *slot*/*port*	Specifies a Gigabit Ethernet interface.
nport	(Optional) Specifies an N port.
pwwn *pwwn-id*	(Optional) Specifies a pWWN ID. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*, where *h* is a hexadecimal number.
vsan *vsan-id*	(Optional) Specifies a VSAN ID. The range is 1 to 4093.
counters	(Optional) Specifies SAN extension tuner counters.
nports	Displays SAN extension tuner information for all nports.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display SAN extension tuner N port information:

```
switch# show san-ext-tuner nports
```

Related Commands

Command	Description
san-ext-tuner	Enters SAN extension tuner configuration mode.

show santap module

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

show santap module *slot* {**avt** [*name* | **brief**] | **avtlun** | **cvt** *[cvt-id* | **brief**] | **dvt** [*name* | **brief**] | **dvtlun** | **rvt** [*name* | **brief**] | **rvtlun** | **session** [*session-id* | **brief**] | **tech-support**}

Syntax Description

slot	Displays SANTap configuration for a module in the specified slot.
avt	Displays the appliance virtual target (AVT) configuration.
name	(Optional) Specifies the user name.
brief	(Optional) Displays a brief format version of the display.
avtlun	Displays the appliance AVT LUN configuration.
cvt	Displays the control virtual target (CVT) configuration.
cvt-id	(Optional) Specifies a user configured CVT ID. The range is 1 to 65536.
dvt	Displays the data virtual target (DVT) configuration.
dvtlun	Displays the DVT LUN configuration.
rvt	Displays the remote virtual target (AVT) configuration.
rvtlun	Displays the RVT LUN configuration.
session	Displays the SANTap session information.
session-id	(Optional) Specifies a user configured session ID. The range is 1 to 65536.
tech-support	Displays information for technical support.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.1(1a)	This command was introduced.
3.1(2)	Added the **tech-support** option.

Usage Guidelines

None.

Examples

The following example displays the SANTap AVT configuration:

```
switch# show santap module 2 avt

 AVT Information :
        avt pwwn     = 2a:4b:00:05:30:00:22:25
        avt nwwn     = 2a:60:00:05:30:00:22:25
        avt id       = 12
```

```
        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
```

```
        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
```

```
        dvt if_index = 0x1186000
        dvt fp_port  = 7
        dvt name     = MYDVT3
        dvt tgt-vsan = 2
        dvt io timeout             = 10 secs
        dvt lun size handling      = 1
        dvt app iofail behaviour   = 0
        dvt quiesce behavior       = 0
        dvt tgt iofail behavior    = 0
        dvt appio failover time    = 0 secs
        dvt inq data behavior      = 0

 DVT Information :
        dvt pwwn     = 22:00:00:20:37:39:87:70
        dvt nwwn     = 20:00:00:20:37:39:87:70
        dvt id       = 0x8405b2c
        dvt mode     = 3
        dvt vsan     = 3
        dvt if_index = 0x118c000
        dvt fp_port  = 13
        dvt name     = MYDVT3
        dvt tgt-vsan = 2
        dvt io timeout             = 10 secs
        dvt lun size handling      = 1
        dvt app iofail behaviour   = 0
        dvt quiesce behavior       = 0
        dvt tgt iofail behavior    = 0
        dvt appio failover time    = 0 secs
        dvt inq data behavior      = 0

 CVT Information :
        cvt pwwn     = 29:5d:33:33:33:33:33:36
        cvt nwwn     = 29:5e:33:33:33:33:33:36
        cvt id       = 0x83b11e4
        cvt xmap_id  = 0x83b1204
        cvt vsan     = 2
        cvt name     =

--------------------------------------------------------------------------
VSAN                 USAGE COUNT
--------------------------------------------------------------------------
2                    4
switch#
```

Table 22-7 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 pwwn	Displays the appliance port world wide name.
app vsan	Displays the appliance VSAN number.
avt id	Displays the AVT ID number.
avt if_index	Displays the AVT interface index number.
avt lun	Displays the AVT LUN.
avt nwwn	Displays the AVT Node port world wide name.
avt pwwn	Displays the AVT port world wide name.

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
santap module	Configures the mapping between the SSM and the VSAN where the appliance is configured.

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

slot	Specifies the module number. The range is from 1 to 9.
name	Specifies the user name for DVT.
brief	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
show santap vttbl	Displays the SANTap VTTBL configuration.

show santap module dvt brief

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

show santap module dvt brief *slot*

Syntax Description		
	slot	Displays SANTap configuration for a module in the specified slot.

Defaults None.

Command Modes EXEC mode.

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

Usage Guidelines None.

Examples The following example displays the SANTap module DVT brief infomation 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
```

The following example displays the SANTap vttbl DVT host configuration:

```
switch# show santap vttbl dvt 50:00:1f:e1:50:0c:3b:09 host 10:00:00:00:c9:3f:90:21
HI-LIST Entry  :
        State               : PRLI
        UA Power On         : 1
        FIT Created         : 1
        NVP Index           : 0x10000000c93f9021

    HI-LUNS Entry  :
        Number of LUNs    : 4
        DVT ID              : 0x83f978c
        HI Index            : 0
        LUNs Installed      : TRUE
        Target Lun, DVT Lun pairs :

        (0, 0)(1, 1)(2, 2)(3, 3)
```

Related Commands

Command	Description
show santap vttbl	Displays the SANTap VTTBL configuration.

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.
brief	Displays SANTap DVT LUN configuration in a brief format.
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 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
show santap vttbl	Displays the SANTap VTTBL configuration.

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.

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

dvt-pwwn	Displays the DVT port world wide name (pWWN).
host pwwn	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
show santap vttbl	Displays the SANTap VTTBL configuration.

show scheduler

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

show scheduler {**config** | **job** [**name** *jobname*] | **logfile** | **schedule** [**name** *schedulename*]}

Syntax Description

config	Displays command scheduler configuration information.
job	Displays job information.
name *jobname*	(Optional) Restricts the output to a specific job name. Maximum length is 31 characters.
logfile	Displays the log file.
schedule	Displays schedule information.
name *schedulename*	(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 configure the e-mail transport:

```
switch# config t
   Enter configuration commands, one per line. End with CNTL/Z.
   switch(config)# scheduler transport email from sw2@sjtac.cisco.com
   switch(config)# scheduler transport email reply-to sw2@sjtac.cisco.com
   switch(config)# scheduler transport email smtp-server  13.7.3.2
```

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
-----------------------------------
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
  feature scheduler
  scheduler logfile size 16
  scheduler transport email from sw2@sjtac.cisco.com
  scheduler transport email reply-to  sw2@sjtac.cisco.com
  scheduler transport email smtp-server 13.7.3.2
end

config terminal
 scheduler job name backup_config
copy running-config startup-config
 show interface mgmt0
 copy startup-config tftp://13.7.3.2/

end

config terminal
  scheduler schedule name test
    time daily 11:23
    job name backup_config
    email-addr zawoo@cisco.com
end
config terminal
  scheduler schedule name te
    end
```

Related Commands

Command	Description
scheduler enable	Enables the command scheduler.
scheduler job name	Configures command scheduler jobs.
scheduler schedule name	Configures command schedules.

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
```

```
    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: 1. The target switch sees the proper name server and zone server information for the initiator. 2. The target switch sees the proper name server, FLOGI server and zone server information for the target. 3. The target is connected to an SSM and if DPP provisioning is enabled for that module.

The following example displays SCSI flow services configuration for a specific SCSI flow identifier:

```
switch# show scsi-flow flow-id 3
Flow Id: 3
        Initiator VSAN: 101
        Initiator WWN: 21:00:00:e0:8b:05:76:28
        Target VSAN: 102
        Target WWN: 21:00:00:20:37:38:7f:7d
        Target LUN: ALL LUNs
        Flow Verification Status:
        -------------------------
           Initiator Verification Status:   success
           Target Verification Status:      success
           Initiator Linecard Status:       success
           Target Linecard Status:          success
        Feature Status:
        ---------------
          Write-Acceleration enabled
            Write-Acceleration Buffers: 1024
            Configuration Status:  success
          Statistics enabled
            Configuration Status:  success
```

The following example displays SCSI flow services statistics for all SCSI flow identifiers:

```
switch# show scsi-flow statistics

Stats for flow-id 4 LUN=0x0000
------------------------------
 Read Stats
  I/O Total count=2
```

```
  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
```

```
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
```

show scsi-target

To display information about existing SCSI target configurations, use the **show scsi-target** command.

show scsi-target {**auto-poll** | **custom-list** | **devices** [**vsan** *vsan-id*] [**fcid** *fcid-id*] | **disk** [**vsan** *vsan-id*] [**fcid** *fcid-id*] | **lun** [**vsan** *vsan-id*] [**fcid** *fcid-id*] [**os** [**aix** | **all** | **hpux** | **linux** | **solaris** | **windows**] | **pwwn** | **status** | **tape** [**vsan** *vsan-id*] [**fcid** *fcid-id*]}

Syntax Description

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

```
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
```

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

```
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
```

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

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

```
----------------------------
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
sdv enable	Enables the SAN device virtualization feature.
sdv virtual-device	Specifies the virtual target.

show secure-erase algorithm

To display the list of all Secure Erase algorithms, use the **show secure-erase algorithm** command.

show secure-erase module *module-id* **algorithm** *algorithm name*

Syntax Description

module *module-id*	Displays the slot number of the SSM on which Secure Erase is provisioned.
algorithm name	Displays the algorithm name.

Defaults

None.

Command Modes

Exec mode

Command History

Release	Modification
6.2(1)	This command was deprecated.
3.3(1a)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the list of Secure Erase algorithms:

```
switch# show secure-erase module 4 algorithm name 1
switch# Algorithm : 1
Step 0:
faa8bd6c1e838b6b9b0818f30d48f5eecc7e7f572d9d8ac50a9a78b73bf128eb7a71ff40a7c07f55dda1d31f87
5bca26b170d6b3c0735
55e06d6229f6a5dedeaa0583f0d1ebe28fca8a7cac936d6f0a453af4174fbbcba29f711047cb48e984a3c09751
9138a628bc6e662bd3d28237d09
1f68a8df05f50effc55390a12ee2c6
Step 1:
05574293e17c749464f7e70cf2b70a11338180a8d262753af5658748c40ed714858e00bf583f80aa225e2ce078
a435d94e8f294c3f8ca
aa1f929dd6095a212155fa7c0f2e141d70357583536c9290f5bac50be8b044345d608eefb834b7167b5c3f68ae
6ec759d7439199d42c2d7dc82f6
e0975720fa0af1003aac6f5ed11d39
Step 2:
123456789876543567890987654567123456789876543567890987654567123456789876543567890987654567
1234567898765435678
909876545671234567898765435678909876545671234567898765435678909876545671234567898765435678
909876545671234567898765435
678909876545671234567898765435
```

The following example displays all available Secure Erase algorithms on a module:

```
switch# show secure-erase module 4 algorithm
```

Related Commands

Command	Description
show secure-erase job	Displays the contents of a particular Secure Erase job.

show secure-erase job

To display the contents of a particular job, use the **show secure-erase job** command.

show secure-erase module *module-id* **job** *job-id*

Syntax Description		
	module *module-id*	Displays the slot number of the SSM on which Secure Erase is provisioned.
	job-id	Displays the unique number to identify a Secure Erase job.

Defaults None.

Command Modes Exec mode

Command History	Release	Modification
	6.2(1)	This command was deprecated.
	3.3(1a)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the contents of a particular Secure Erase job:

```
switch# show secure-erase module 4 job 2
```

The following example displays the contents of all Secure Erase jobs configured on a module:

```
switch# show secure-erase module 16 job
```

Related Commands	Command	Description
	show secure-erase algorithm	Displays the list of Secure Erase algorithms.

show secure-erase job detail

To display the contents of a particular job in detail, use the **show secure-erase job detail** command.

show secure-erase module *module-id* **job** *job-id* **detail**

Syntax Description

module *module-id*	Displays the slot number of the SSM on which Secure Erase is provisioned.
job-id	Displays the unique number to identify a Secure Erase job.

Defaults

None.

Command Modes

Exec mode

Command History

Release	Modification
6.2(1)	This command was deprecated.
3.3(1a)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the contents of a Secure Erase job in a brief form:

```
switch# show secure-erase module 4 job 2 detail
```

Related Commands

Command	Description
show secure-erase job	Displays the contents of a Secure Erase job.

show secure-erase vsan

To display a list of all VIs in the VSAN, use the **show secure-erase vsan** command.

show secure-erase module *module-id* **vsan** *vsan-id*

Syntax Description

module *module-id*	Displays the slot number of the SSM on which Secure Erase is provisioned.
vsan-id	Displays the VSAN ID of the target.

Defaults

None.

Command Modes

Exec mode

Command History

Release	Modification
6.2(1)	This command was deprecated.
3.3(1a)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the list of all VIs in the VSAN:

```
switch# show secure-erase module 4 vsan 1
```

Related Commands

Command	Description
show secure-erase algorithm	Displays the list of Secure Erase algorithms.
show secure-erase job	Displays the contents of a particular Secure Erase job.

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

cluster *cluster name*	Displays Cisco SME cluster information. The maximum length is 32 characters.
detail	Displays Cisco SME cluster details.
interface	Displays information about Cisco SME cluster interface.
node	Display information about Cisco SME cluster remote interface.
A.B.C.D	Specifies the IP address of the remote switch in IPv4 format.
X:X::X	Specifies the IP address of the remote switch in IPv6 format.
DNS name	Specifies the name of the remote database.
sme	Specifies the Cisco SME interface.
slot	Identifies the MPS-18/4 module slot.
port	Identifies the Cisco SME port.
interface summary	Displays Cisco SME cluster interface summary.
it-nexus	Displays the initiator to target connections (IT-nexus) in the Cisco SME cluster.
key database	Shows the Cisco SME cluster key database.
detail	Shows the Cisco SME cluster key database details.
guid *guid name*	Displays Cisco SME cluster key database guid. The maximum length is 64.
summary	Displays Cisco SME cluster key database summary.
load-balancing	Displays the load balancing status of the cluster.
lun	Displays the logical unit numbers (LUNs) in a cluster.
crypto-status	Displays the crypto status of the LUNs.
node summary	Displays Cisco SME cluster node summary.
recovery officer detail	Displays Cisco SME cluster recovery officer detail.
recovery officer summary	Displays Cisco SME cluster recovery officer summary.
index	Specifies recovery officer index. The range is 1to 8.
detail *index*	Specifies recovery officer detail index. The range is 1to 8.
summary *index*	Specifies recovery officer summary index. The range is 1to 8.
tape detail	Displays Cisco SME tape detail
tape summary	Displays the tape summary
tape-bkgrp *tape group name*	Displays the crypto tape backup group name. The maximum length is 32 characters.

volgrp *volume group name*	Displays tape volume group name.The maximum length is 32 characters.
detail	Displays Cisco SME cluster details.
summary	Shows Cisco SME cluster summary.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.2(2)	This command was introduced.
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 clustername1 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
```

The following example displays the specific recovery officer of a cluster:

```
switch# show sme cluster clustername1 recovery officer
Recovery Officer 1 is set
  Master Key Version is 0
  Recovery Share Version is 0
  Recovery Share Index is 1
  Recovery Scheme is 1 out of 1
  Recovery Officer Label is
  Recovery share protected by a password

Key Type is master key share
    Cluster is clustername1, Master Key Version is 0
    Recovery Share Version is 0, Share Index is 1
```

Related Commands

Command	Description
clear sme	Clears Cisco SME configuration.
show sme cluster	Displays information about Cisco SME cluster.

show sme transport

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

show sme transport ssl truspoint

Syntax Description

ssl	Displays transport Secure Sockets Layer (SSL) information.
trustpoint	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
clear sme	Clears Cisco SME configuration.
show sme cluster	Displays information about Cisco SME cluster.

show snmp

To display SNMP status and setting information, use the **show snmp** command.

show snmp [**community** | **engineID** | **group** | **host** | **sessions** | **trap** | **user** [*user-name*] [**engineID** *engine-id*]]

Syntax Description

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

Usage Guidelines

You can view the **show snmp community** output, only when the user role is assigned as network-admin.

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
```

```
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:

```
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
```

```
notifyview: network-operator-rd
storage-type: permanent
row status: active
```

show span drop-counters

To display the SPAN drop counters, use the **show span drop-counters** command.

show span drop-counters

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode

Command History

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

Usage Guidelines

This command is supported only on a ISOLA platform.

Examples

The following example shows how to configure the SPAN drop counters:

```
switch# config
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# span drop-counters
SPAN Drop-Counters for module 3 is: 0x0
SPAN Drop-Counters for module 7 is: 0x0
```

Related Commands

Command	Description
show span max-queued-packets	Displays the SPAN max-queued packets.

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
6.2(1)	This command was deprecated.
3.3(1a)	This command was introduced.

Usage Guidelines This command is supported only ona ISOLA platform.

Examples The following example displays the SPAN max-queued packets:

```
switch# show span max-queued-packets
max-queued-packets for SPAN sessions: 1
```

Related Commands

Command	Description
span max-queued-packets	Configures the SPAN max-queued packets.

show monitor session

To display specific information about a SPAN session, use the **show monitor session** command.

show monitor session [*session-id* **| all | range** *session-id*]

Syntax Description

session-id	(Optional) Specifies the SPAN session ID. The range is 1 to 48.
all	(Optional) Displays the SPAN session configuration for all sessions.
range	(Optional) Displays the SPAN session configuration for a range of sessions.

Defaults

None.

Command Modes

Any mode

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays local span session for all created sessions:

```
switch(config-monitor)# show monitor session all
   session 1
---------------
mode               : extended
ssn direction      : both
state              : up
source intf        :
    rx             : fc1/38
    tx             : fc1/38
    both           : fc1/38
source VLANs       :
    rx             :
    tx             :
    both           :
source exception   :
filter VLANs       : filter not specified
destination ports  : fc1/1

Feature        Enabled   Value   Modules Supported       Modules Not-Supported
-------------------------------------------------------------------------------
rate-limiter   Yes       100%     5                        -
MTU-Trunc      No
Sampling       No


Legend:
```

```
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays local span session in the both mode (bi-directional):

```
switch(config-monitor)# show monitor session 1
   session 1
---------------
mode              : extended
ssn direction     : both
state             : up
source intf       :
    rx            : fc1/38
    tx            : fc1/38
    both          : fc1/38
source VLANs      :
    rx            :
    tx            :
    both          :
source exception  :
filter VLANs      : filter not specified
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
-------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No


Legend:
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays local span session in rx mode(uni-directional):

```
switch(config-monitor)# show monitor session 1
   session 1
---------------
ssn direction     : rx
state             : up
source intf       :
    rx            : fc1/38
    tx            :
    both          :
source VLANs      :
    rx            :
    tx            :
    both          :
source exception  :
filter VLANs      : filter not specified
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
-------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No


Legend:
```

```
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays local span session in tx mode(uni-directional):

```
switch(config)# monitor session 1 tx
switch(config-monitor)# source interface fc1/38 tx
switch(config-monitor)# destination interface fc1/1
switch(config-monitor)# no shut
switch(config-monitor)# show monitor session 1
   session 1
---------------
ssn direction     : tx
state             : up
source intf       :
    rx            :
    tx            : fc1/38
    both          :
source VLANs      :
    rx            :
    tx            :
    both          :
source exception  :
filter VLANs      : filter not specified
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
-------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No


Legend:
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays the rspan session in both direction or both mode:

```
switch(config-monitor)# show monitor session 1
   session 1
---------------
mode              : extended
ssn direction     : both
state             : up
source intf       :
    rx            : fc1/38
    tx            : fc1/38
    both          : fc1/38
source VLANs      :
    rx            :
    tx            :
    both          :
source exception  :
filter VLANs      : filter not specified
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
-------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No
```

```
Legend:
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays the remote rspan session in tx direction or tx mode(uni-directional):

```
switch(config)# monitor session 1 tx
switch(config-monitor)# source interface fc1/38
switch(config-monitor)# destination interface fc1/1
switch(config-monitor)# no shut
switch(config-monitor)# show monitor session 1
   session 1
---------------
ssn direction     : tx
state             : up
source intf       :
    rx            :
    tx            : fc1/38
    both          :
source VLANs      :
    rx            :
    tx            :
    both          :
source exception  :
filter VLANs      : filter not specified
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
-------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No


Legend:
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays the local span session with port-channel as source in rx mode:

```
switch(config)# monitor session 1 rx
switch(config-monitor)# source interface port-channel 1
switch(config-monitor)# destination
description   destination
switch(config-monitor)# destination interface fc1/1
switch(config-monitor)# no shut
switch(config-monitor)# show monitor session 1
   session 1
---------------
mode              : extended
ssn direction     : both
state             : up
source intf       :
    rx            : Po1
    tx            : Po1
    both          : Po1
source VLANs      :
    rx            :
    tx            :
    both          :
```

```
source exception  :
filter VLANs      : filter not specified
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No


Legend:
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays the local span session with port-channel as source in rx mode:

```
switch(config)# monitor session 1 rx
switch(config-monitor)# source interface port-channel 1
switch(config-monitor)# destination
switch(config-monitor)# destination interface fc1/1
switch(config-monitor)# no shut

switch(config-monitor)# show monitor session 1
   session 1
---------------
ssn direction     : rx
state             : up
source intf       :
    rx            : Po1
    tx            :
    both          :
source VLANs      :
    rx            :
    tx            :
    both          :
source exception  :
filter VLANs      : filter not specified
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No


Legend:
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays the local span session with port-channel as source in tx mode:

```
switch(config)# monitor session 1 tx
switch(config-monitor)# source interface port-channel 1
switch(config-monitor)# destination interface fc1/1
switch(config-monitor)# no shut
switch(config-monitor)# show monitor session 1
   session 1
---------------
ssn direction     : tx
state             : up
```

```
source intf       :
    rx            :
    tx            : Po1
    both          :
source VLANs      :
    rx            :
    tx            :
    both          :
source exception  :
filter VLANs      : filter not specified
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No


Legend:
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays the local span session with VSAN as source:

```
switch(config)# monitor session 1
switch(config-monitor)# source vsan 1
switch(config-monitor)# destination interface fc1/1
switch(config-monitor)# no shut
switch(config-monitor)#

sw-luke(config-monitor)# show monitor session 1
   session 1
---------------
mode              : extended
ssn direction     : both
state             : up
source intf       :
    rx            :
    tx            :
    both          :
source VLANs      :
    rx            :
    tx            :
    both          :
source VSANs      :
    rx            : 1
source exception  :
filter VLANs      : filter not specified
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No


Legend:
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

The following example displays the local span session with VSAN as source with VSAN filter option:

```
switch(config)# monitor session 1
switch(config-monitor)# source vsan 1
switch(config-monitor)# destination interface fc1/1
switch(config-monitor)# source filter vsan 1
switch(config-monitor)# no shut

sw-luke(config-monitor)# show monitor session 1
   session 1
---------------
mode               : extended
ssn direction      : both
state              : up
source intf        :
    rx             :
    tx             :
    both           :
source VLANs       :
    rx             :
    tx             :
    both           :
source VSANs       :
    rx             : 1
source exception   :
filter VLANs       : filter not specified
    VSANs          : 1
destination ports : fc1/1

Feature       Enabled   Value   Modules Supported       Modules Not-Supported
-------------------------------------------------------------------------------
rate-limiter  Yes       100%     5                       -
MTU-Trunc     No
Sampling      No


Legend:
  MCBE  = Multicast Best Effort
  L3-TX = L3 Multicast Egress SPAN
  Ex-SP = Module(s) with Exception SPAN source allocated in the session
```

Related Commands

Command	Description
monitor session source interface	Configures the SPAN traffic in both ingress (rx) and egress (tx) directions.

show sprom

To display vendor ID, product component attributes and serial number information that can be used to track field replacable units, use the **show sprom** command.

show sprom {**backplane** *backplane-index* | **clock** *clock-module-index* | **fan** | **mgmt-module** | **module** *module-number sprom-index* | **powersupply** *powersupply-index* | **sup**}

Syntax Description

backplane *backplane-index*	Displays attributes that can be used to uniquely identify a switch. The range is 1 to 2.
clock *clock-module-index*	Displays attributes of the clock module. There are two clock modules in a switch. This module is absent in MDS9216 type switch. The range is 1 to 2.
fan	Displays attributes that uniquely identified fan.
mgmt-module	Displays attributes of management module. This module is only present in MDS9216 type switch.
module *module-number sprom-index*	Displays vendor ID, product's component attributes for the given switching module. There can be up to 4 sub components in a module. Each of them will have a SPROM associated with it.
powersupply *powersupply-index*	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.
sup	Displays vendor ID, product's component attributes for the current supervisor module.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

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:
```

```
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
```

```
 Mfg Bits        : 0
 Engineer Use    : 0
 snmpOID         : 9.5.1.3.1.1.2.2000
 Power Consump   : -524
 RMA Code        : 0-0-0-0
Supervisor Module specific block:
 Block Signature : 0x6002
 Block Version   : 2
 Block Length    : 103
 Block Checksum  : 0x927
 Feature Bits    : 0x0
 HW Changes Bits : 0x0
 Card Index      : 9003
 MAC Addresses   : 00-05-30-00-18-be
 Number of MACs  : 4
 Number of EPLD  : 1
 EPLD A          : 0x0
 Sensor #1       : 75,60
 Sensor #2       : 60,55
 Sensor #3       : -127,-127
 Sensor #4       : -127,-127
 Sensor #5       : -128,-128
 Sensor #6       : -128,-128
 Sensor #7       : -128,-128
 Sensor #8       : -128,-128
```

Related Commands

Command	Description
show hardware	Displays brief information about the list of field replacable units in the switch.

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.
dsa	(Optional) Displays DSA SSH keys.
rsa	(Optional) Displays RSA SSH keys.
rsa1	(Optional) Displays RSA1 SSH keys.
server	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 AAAAB3NzaC1kc3MAAABBAJTCRQOydNRel2v7uiO6Fix+OTn8eGdnnDVxw5eJs5OcOEXOyjaW
cMMYsEgxc9ada1NElp8Wy7GPMWGOQYj9CU0AAAAVAMCcWhNN18zFNOIPo7cU3t7d0iEbAAAAQBdQ8UAO
```

```
i/Cti84qFb3kTqXlS9mEhdQUo0lHcH5bw5PKfj2Y/dLR437zCBKXetPj4p7mhQ6Fq5os8RZtJEyOsNsA
AABAA0oxZbPyWeR5NHATXiyXdPI7j9i8fgyn9FNipMkOF2Mn75Mi/lqQ4NIq0gQNvQOx27uCeQlRts/Q
wI4q68/eaw==

fingerprint:
512 f7:cc:90:3d:f5:8a:a9:ca:48:76:9f:f8:6e:71:d4:ae
```

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
ssm enable feature	Enables the SCSI flow feature on the SSM.

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
```

```
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 pwwn 10:00:00:00:77:99:60:2c
  member pwwn 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
```

```
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
```

```
 interface mgmt0
ip address 209.165.200.226 209.165.200.227
no shutdown
```

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   :
```

show system

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

show system {**cores** | **default** {**switchport** | **zone**} | **directory information** | **error-id** {*hex-id* | **list**} | **exception-info** | **pss shrink status** [**details**] | **redundancy status** | **reset-reason** [**module** *slot*] | **resources** | **standby manual-boot** | **uptime**}

Syntax Description

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

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
NX-OS 4.1(3)	Changed the command output.
1.0(2)	This command was introduced.
3.0(1)	Added the **zone** option.
3.0(1)	Added the **standby manual-boot** keyword.

Usage Guidelines

Use the **show system redundancy status** command to ensure that the system is ready to accept a switchover.

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.
```

```
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
```

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#
```

Related Commands

Command	Description
show port monitor active	Shows port monitor active policies.

show system default zone

To verify the configured default zone values, use the **show system default zone** command.

show system default zone

Syntax Description

This command has no other arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.
3.2(1)	Added the **basic default zoning mode** option.

Usage Guidelines

None.

Examples

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
```

Related Commands

Command	Description
no system default zone mode enhanced	Configures the default value of zone mode as basic.
no system default zone distribute full	Configures the default value of distribute as active only.
no system default zone default-zone permit	Configures the default value of default zone as deny.

Command	Description
system default zone distribute full	Configures the default value of distribute as full.
system default zone mode enhanced	Configures the default value of zone mode as enhanced.

show system health

To display configured Online Health Management System (OHMS) information, use the **show system health** command.

show system health [**loopback frame-length** | **module** *slot* | **statistics loopback** [**interface fc** *slot/port* | **module** *slot* **timelog** | **timelog**]]

Note On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs from **interface fc** *slot/port* as follows: **interface** {**bay** *port* | **ext** *port*}

Syntax Description

loopback	(Optional) Displays the OHMS loopback test statistics.
frame-length	(Optional) Displays the loopback frame length.
module *slot*	(Optional) Displays module information.
statistics	(Optional) Displays OHMS statistics.
interface	(Optional) Specifies the required interface.
fc *slot/port*	Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay *port* | **ext** *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.
iscsi *slot/port*	(Optional) Specifies the iSCSI interface at the specified slot and port.
timelog	(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 **bay** *port* | **ext** *port* keywords and arguments.

Usage Guidelines None.

Examples The following example displays the current health of all modules in the switch:

```
switch# show system health

Current health information for module 1.
Test                    Frequency       Status          Action
------------------------------------------------------------------
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
Loopback                  5 Sec         Running         Enabled
CF checksum               7 Days        Halted          Enabled
CF re-flash              30 Days        Halted          Enabled
------------------------------------------------------------------

Current health information for module 2.

Test                    Frequency       Status          Action
------------------------------------------------------------------
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
Loopback                  5 Sec         Running         Enabled
------------------------------------------------------------------

Current health information for module 5.

Test                    Frequency       Status          Action
------------------------------------------------------------------
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
Loopback                  5 Sec         Running         Enabled
------------------------------------------------------------------

Current health information for module 6.

Test                    Frequency       Status          Action
------------------------------------------------------------------
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
Loopback                  5 Sec         Running         Enabled
CF checksum               7 Days        Halted          Enabled
CF re-flash              30 Days        Halted          Enabled
------------------------------------------------------------------

Current health information for module 7.

Test                    Frequency       Status          Action
------------------------------------------------------------------
InBand                    5 Sec         Running         Enabled
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
Management Port           5 Sec         Running         Enabled
------------------------------------------------------------------

Current health information for module 8.

Test                    Frequency       Status          Action
------------------------------------------------------------------
InBand                    5 Sec         Running         Enabled
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
------------------------------------------------------------------



Current health information for module 10.
```

```
Test                    Frequency       Status          Action
-----------------------------------------------------------------
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
Loopback                  5 Sec         Running         Enabled
-----------------------------------------------------------------

Current health information for module 11.

Test                    Frequency       Status          Action
-----------------------------------------------------------------
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
Loopback                  5 Sec         Running         Enabled
CF checksum               7 Days        Halted          Enabled
CF re-flash              30 Days        Halted          Enabled
-----------------------------------------------------------------

Current health information for module 12.

Test                    Frequency       Status          Action
-----------------------------------------------------------------
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
Loopback                  5 Sec         Running         Enabled
-----------------------------------------------------------------

Current health information for module 13.

Test                    Frequency       Status          Action
-----------------------------------------------------------------
Bootflash                10 Sec         Running         Enabled
EOBC                      5 Sec         Running         Enabled
-----------------------------------------------------------------
```

The following example displays the health statistics for all modules:

```
switch# show system health statistics

Test statistics for module # 1
-------------------------------------------------------------------------------
Test Name           State            Freq(s)    Run    Pass    Fail CFail Errs
-------------------------------------------------------------------------------
Bootflash           Running             5s    12900   12900       0     0    0
EOBC                Running             5s    12900   12900       0     0    0
Loopback            Running             5s    12900   12900       0     0    0
-------------------------------------------------------------------------------

Test statistics for module # 3
-------------------------------------------------------------------------------
Test Name           State            Freq(s)    Run    Pass    Fail CFail Errs
-------------------------------------------------------------------------------
Bootflash           Running             5s    12890   12890       0     0    0
EOBC                Running             5s    12890   12890       0     0    0
Loopback            Running             5s    12892   12892       0     0    0
-------------------------------------------------------------------------------
```

```
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
-------------------------------------------------------------------
```

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
-----------------------------------------------------------------
```

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
```

```
EOBC                Running             5s     2615    2615       0      0     0
Management Port     Running             5s     2615    2615       0      0     0
CF checksum         Running             7s     2289    2289       0      0     0
CF re-flash         Running            30s      437     436       0      0     0
-------------------------------------------------------------------------------
```

Related Commands

Command	Description
system health module	Configures Online Health Management System (OHMS) features.

show tacacs+

To display the TACACS+ Cisco Fabric Services (CFS) distribution status and other details, use the **show tacacs+** command.

show tacacs+ {**distribution status** | **pending** | **pending-diff**}

Syntax Description

distribution status	Displays the status of the TACACS+ CFS distribution.
pending	Displays the pending configuration that is not yet applied.
pending-diff	Displays the difference between the active configuration and the pending configuration.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

To use this command, TACACS+ must be enabled using the **tacacs+ enable** command.

Examples

The following example shows how to display the TACACS+ distribution status:

```
switch# show tacacs+ distribution status
session ongoing: no
session db: does not exist
merge protocol status: merge activation done

last operation: none
last operation status: none
```

Related Commands

Command	Description
tacacs+ distribute	Initiates TACACS+ configuration distribution.
tacacs+ enable	Enables TACACS+.

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

server-name	(Optional) Specifies the TACACS+ server DNS name. The maximum is 256.
ipv4-address	(Optional) Specifies the TACACS+ server IP address in the format *A.B.C.D*.
ipv6-address	(Optional) Specifies the TACACS+ server IP address in the format *X:X::X*.
directed-request	(Optional) Displays an enabled directed request TACACS+ server configuration.
groups	(Optional) Displays configured TACACS+ server group information.
sorted	(Optional) Displays TACACS+ server information sorted by name.
statistics	(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)	• Added the *server-name*, *ipv4-address*, and *ipv6-address* arguments. • Added the **directed-request** and **statistics** options.

Usage Guidelines

None.

Examples

The following command displays the configured TACACS+ server information:

```
switch# show tacacs-server
Global TACACS+ shared secret:tacacsPword
timeout value:30
total number of servers:3

following TACACS+ servers are configured:
        171.71.58.91:
                available on port:2
        cisco.com:
                available on port:49
        171.71.22.95:
                available on port:49
                TACACS+ shared secret:MyKey
```

The following command displays the configured TACACS+ server groups:

```
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
```

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** | **prefpath** | **qos** | **snmp** | **sysmgr** | **vrrp** | **vsan** *vsan-id* | **zone** *vsan-id*]

Note On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs from **interface fc** *slot/port* as follows:

interface {**bay** *port* | **ext** *port*}

Syntax Description

acl	(Optional) Displays information for ACL troubleshooting.
bootvar	(Optional) Displays information for bootvar troubleshooting.
brief	(Optional) Displays a summary of the current running state of the switch.
cfs	(Optional) Displays information for CFS troubleshooting.
name *application-name*	(Optional) Specifies an application that uses the CFS infrastructure. Maximum length is 64 characters.
details	(Optional) Displays detailed information for each **show** command.
device-alias	(Optional) Displays device alias information.
fcdomain	(Optional) Displays information for fcdomain troubleshooting.
fcip	(Optional) Displays information for FCIP troubleshooting.
ficon	(Optional) Displays information for FICON troubleshooting.
fspf	(Optional) Displays information for FSPF troubleshooting.
fta	(Optional) Displays information for FTA troubleshooting.
interface	(Optional) Displays information for interface troubleshooting.
fc *slot/port*	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay *port* | **ext** *port*	Specifies a Fibre Channel interface on a Cisco MDS 9124 Fabric Switch, a Cisco Fabric Switch for HP c-Class BladeSystem, and a Cisco Fabric Switch for IBM BladeCenter.
gigabitethernet *slot/port*	(Optional) Specifies the Gigabit Ethernet interface at the specified slot and port.
ip	(Optional) Displays information for IP troubleshooting.
iscsi	(Optional) Displays information for iSCSI troubleshooting.
islb	(Optional) Displays information for iSLB troubleshooting.
license	(Optional) Displays information for license troubleshooting.
logging	(Optional) Displays information for logging troubleshooting.
module	(Optional) Displays information for module status troubleshooting.
port	(Optional) Displays information for Port Manager troubleshooting.

port-channel	Displays information for PortChannel troubleshooting.
prefpath	Displays information for preferred path troubleshooting.
qos	Displays information for QoS troubleshooting.
snmp	Displays information for SNMP troubleshooting.
sysmgr	Displays information for system management troubleshooting.
vrrp	Displays information for VRRP troubleshooting.
vsan *vsan-id*	Displays information for VSAN troubleshooting. Specifies a VSAN ID. The range is 1 to 4093.
zone *vsan-id*	Displays information for zone server troubleshooting. Specifies a VSAN ID. The range is 1 to 4093.

Defaults

The default output of the **show tech-support** command includes the output of the following **show** commands:

- **show version**
- **show environment**
- **show module**
- **show hardware**
- **show running-config**
- **show interface**
- **show accounting log**
- **show process**
- **show process log**
- **show processes log details**
- **show flash**

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(4)	This command was introduced.
3.0(1)	Added the **fcdomain**, **port-channel**, and **zone** options.
3.0(3)	Added the **cfs**, **fcip**, **fspf**, **fta**, **ip**, **license**, **prefpath**, and **vrrp** options.
3.1(1)	Added the **device-alias** keyword.
3.1(2)	Added the **bay** *port* **| ext** *port* keywords and arguments.

Usage Guidelines

The **show tech-support** command is useful when collecting a large amount of information about your switch for troubleshooting purposes. The output of this command can be provided to technical support representatives when reporting a problem.

The **show tech-support** command displays the output of several **show** commands at once. The output from this command varies depending on your configuration. Use the **show tech-support** command in EXEC mode to display general information about the switch when reporting a problem.

You can choose to have detailed information for each command or even specify the output for a particular interface, module, or VSAN.

Examples

The following example displays technical support information for a specific module:

```
switch# show tech-support module 1

'terminal length 0'

'show module '
Mod  Ports  Module-Type                       Model              Status
---  -----  --------------------------------- ------------------ ------------
1    16     1/2 Gbps FC/Supervisor            DS-X9216-K9-SUP    active *
2    32     1/2 Gbps FC Module                DS-X9032           ok

Mod  Sw           Hw      World-Wide-Name(s) (WWN)
---  -----------  ------  --------------------------------------------------
1    1.0(0.271)   0.0     20:01:00:05:30:00:21:9e to 20:10:00:05:30:00:21:9e
2    1.0(0.271)   0.0     20:41:00:05:30:00:21:9e to 20:60:00:05:30:00:21:9e

Mod  MAC-Address(es)                         Serial-Num
---  --------------------------------------  ----------
1    00-05-30-00-40-b6 to 00-05-30-00-40-ba
2    00-05-30-00-11-22 to 00-05-30-00-11-26

* this terminal session

'show environment'
Clock:
----------------------------------------------------------
Clock           Model                Hw         Status
----------------------------------------------------------
A               Clock Module         --         ok/active
B               Clock Module         --         ok/standby

Fan:
-----------------------------------------------------
Fan             Model                Hw         Status
-----------------------------------------------------
Chassis         DS-2SLOT-FAN         0.0        ok
PS-1            --                   --         ok
PS-2            --                   --         absent
Temperature:
------------------------------------------------------------------
Module   Sensor   MajorThresh   MinorThres   CurTemp     Status
                  (Celsius)     (Celsius)    (Celsius)
------------------------------------------------------------------
1        1        75           60           30          ok
1        2        65           50           28          ok
1        3        -127         -127         40          ok
1        4        -127         -127         36          ok

2        1        75           60           32          ok
2        2        65           50           26          ok
2        3        -127         -127         41          ok
2        4        -127         -127         31          ok
```

The **show tech-support brief** command provides a summary of the current running state of the switch.

```
switch# show tech-support brief
Switch Name           : vegas01
Switch Type           : DS-X9216-K9-SUP
Kickstart Image       : 1.3(2a) bootflash:///m9200-ek9-kickstart-mz.1.3.1.10.bin
System Image          : 1.3(2a) bootflash:///m9200-ek9-mz.1.3.1.10.bin
IP Address/Mask       : 10.76.100.164/24
Switch WWN            : 20:00:00:05:30:00:84:9e
No of VSANs           : 9
Configured VSANs      : 1-6,4091-4093

VSAN    1:    name:VSAN0001, state:active, interop mode:default
              domain id:0x6d(109), WWN:20:01:00:05:30:00:84:9f [Principal]
              active-zone:VR, default-zone:deny

VSAN    2:    name:VSAN0002, state:active, interop mode:default
              domain id:0x7d(125), WWN:20:02:00:05:30:00:84:9f [Principal]
              active-zone:<NONE>, default-zone:deny

VSAN    3:    name:VSAN0003, state:active, interop mode:default
              domain id:0xbe(190), WWN:20:03:00:05:30:00:84:9f [Principal]
              active-zone:<NONE>, default-zone:deny

VSAN    4:    name:VSAN0004, state:active, interop mode:default
              domain id:0x5a(90), WWN:20:04:00:05:30:00:84:9f [Principal]
              active-zone:<NONE>, default-zone:deny

VSAN    5:    name:VSAN0005, state:active, interop mode:default
              domain id:0x13(19), WWN:20:05:00:05:30:00:84:9f [Principal]
              active-zone:<NONE>, default-zone:deny

VSAN    6:    name:VSAN0006, state:active, interop mode:default
              domain id:0x1f(31), WWN:20:06:00:05:30:00:84:9f [Principal]
              active-zone:<NONE>, default-zone:deny

VSAN 4091:    name:VSAN4091, state:active, interop mode:default
              domain id:0x08(8), WWN:2f:fb:00:05:30:00:84:9f [Principal]
              active-zone:<NONE>, default-zone:deny

VSAN 4092:    name:VSAN4092, state:active, interop mode:default
              domain id:0x78(120), WWN:2f:fc:00:05:30:00:84:9f [Principal]
              active-zone:<NONE>, default-zone:deny

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  Speed  Channel
                         Mode                                (Gbps)
--------------------------------------------------------------------------------
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       --     --           --
```

```
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
```

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
```

show tech-support fc-management

To display the Fibre Channel Common Transport (FC-CT) management security technical support information, use the **show tech-support fc-management** command.

show tech-support fc-management

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode

Command History

Release	Modification
6.2(9)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to display the FC-CT management security technical support information:

```
switch(config)# show tech-support fc-management
`show fc-management status`
Mgmt Security Enabled
`show fc-management database`
Fc-Management Security Database
-------------------------------------------------------------
VSAN       PWWN              FC-CT Permissions per FC services
-------------------------------------------------------------
1    01:01:01:01:01:01:01:01   Zone(RW), Unzoned-NS(RW), FCS(RW), FDMI(RW)

-------------------------------------------------------------
Total 1 entries
 `show fc-management shared-db`
Empty Database
switch(config)#
```

Related Commands

Command	Description
show fc-management	Displays the FC-CT management security information.

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

compressed	Saves the compressed Cisco SME .
bootflash:	Specifies the filename that need to be stored.
tftp:	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$PuNDstXwdAnwGaxxjdxi50  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 pwwn 21:01:00:e0:8b:39:d7:57
  device-alias name sme-host-171-hba1 pwwn 21:00:00:e0:8b:19:d7:57
  device-alias name sme-host-172-hba0 pwwn 21:01:00:e0:8b:39:c2:58
  device-alias name sme-host-172-hba1 pwwn 21:00:00:e0:8b:19:c2:58
  device-alias name sme-sanblaze-port0-tgt0 pwwn 2f:ff:00:06:2b:0d:39:08
  device-alias name sme-sanblaze-port0-tgt1 pwwn 2f:df:00:06:2b:0d:39:08
--More--
```

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
```

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
```

show tlport

To display configured TL port information, use the **show tlport** command

show tlport {**alpa-cache** | **discapp fcid** *fcid-id* [**vsan** *vsan-id*] [**verbose**] | **interface fc** *slot*/*port* {**all** | **private** | **proxied** | **topology** | **unsupported**} | **list** [**vsan** *vsan-id*]}

Syntax Description

alpa-cache	Displays the contents of the ALPA cache.
discapp	Displays private N port parameters.
fcid *fcid-id*	Specifies the FCID of the N port.
vsan *vsan-id*	(Optional) Specifies the N port VSAN ID. The range is 1 to 4093.
verbose	(Optional) Specifies the verbose mode.
interface	Displays TL ports in the selected interface.
fc *slot*/*port*	Specifies the Fiber Channel interface at the specified slot and port.
all	Displays all proxied and private devices on this TL port.
private	Displays all private devices on this TL port.
proxied	Displays all proxied devices on this TL port.
topology	Displays loop topology for this TL port.
unsupported	Displays all unsupported devices on this TL port.
list	Displays TL ports in all VSANs.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
NX-OS 5.0 and later releases	This command was deprecated.
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
```

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 0xfffc42
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 0xfffc42
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
```

show topology

To display topology information for connected switches, use the **show topology** command.

show topology [**vsan** *vsan-id*]

Syntax Description		
	vsan *vsan-id*	(Optional) Displays information for a VSAN. The range is 1 to 4093.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
6.2(9)	Added a note.
2.0(x)	This command was introduced.

Usage Guidelines None.

Note In scenarios where the **show topology** command output has few missing parameters like switchname, IP address etc. Please re-execute this command after few seconds.

Examples The following example displays topology information:

```
switch# show topology

FC Topology for VSAN 1 :
--------------------------------------------------------------------------------
       Interface  Peer Domain Peer Interface     Peer IP Address(Switch Name)
--------------------------------------------------------------------------------
           fc4/15 0xef(239)            fc1/4  10.126.74.188(sw1-gd99)

FC Topology for VSAN 2 :
--------------------------------------------------------------------------------
       Interface  Peer Domain Peer Interface     Peer IP Address(Switch Name)
--------------------------------------------------------------------------------
           fc4/15 0x6e(110)            fc1/4  10.126.74.188(sw1-gd99)

FC Topology for VSAN 17 :
--------------------------------------------------------------------------------
       Interface  Peer Domain Peer Interface     Peer IP Address(Switch Name)
--------------------------------------------------------------------------------
           fc4/15  0x0c(12)            fc1/4  10.126.74.188(sw1-gd99)

FC Topology for VSAN 27 :
--------------------------------------------------------------------------------
       Interface  Peer Domain Peer Interface     Peer IP Address(Switch Name)
```

```
--------------------------------------------------------------------------------
           fc4/1  0x62(98)         Port 10   10.126.74.183(Brocade4100_110)
          fc4/10  0x41(65)            fc1/3  10.126.74.188(sw1-gd99)
          fc4/12  0x62(98)          Port 7   10.126.74.183(Brocade4100_110)
          fc4/13  0x62(98)         Port 13   10.126.74.183(Brocade4100_110)
          fc4/15  0x41(65)            fc1/4  10.126.74.188(sw1-gd99)

FC Topology for VSAN 72 :
--------------------------------------------------------------------------------
       Interface  Peer Domain Peer Interface     Peer IP Address(Switch Name)
--------------------------------------------------------------------------------
          fc4/15 0x9d(157)            fc1/4  10.126.74.188(sw1-gd99)

FC Topology for VSAN 99 :
--------------------------------------------------------------------------------
       Interface  Peer Domain Peer Interface     Peer IP Address(Switch Name)
--------------------------------------------------------------------------------
          fc4/15 0xd3(211)            fc1/4  10.126.74.188(sw1-gd99)

FC Topology for VSAN 311 :
--------------------------------------------------------------------------------
       Interface  Peer Domain Peer Interface     Peer IP Address(Switch Name)
--------------------------------------------------------------------------------
          fc4/15  0x0c(12)            fc1/4  10.126.74.188(sw1-gd99)

FC Topology for VSAN 312 :
--------------------------------------------------------------------------------
       Interface  Peer Domain Peer Interface     Peer IP Address(Switch Name)
--------------------------------------------------------------------------------
          fc4/15 0x66(102)            fc1/4  10.126.74.188(sw1-gd99)
```

show topology isl

To display ISL topology information for connected switches, use the **show topology isl** command.

show topology isl {**detail | port-channel** *port-channel number* **detail | vsan** *vsan-id*}

Syntax Description

isl	Displays ISL topology information.
detail	Displays the detailed ISL topology information.
port-channel	Displays the port channel topology information.
port-channel number	Displays the port channel number. The range is from 1 to 256.
vsan	Displays information for a VSAN.
vsan-id	Displays VSAN ID. The range is 1 to 4093.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the ISL topology information:

```
switch1-12345# show topology isl

-------------------------------------------------------------------------------------------
___________Local________   ________Remote_____________ VSAN  Cost  I/F  PC   I/F    Band
PC  Domain  SwName   Port    Port     SwName   Domain  PC              Stat Stat Speed  width
-------------------------------------------------------------------------------------------
-   0x01    switch1  fc1/47  fc2/1    switch2  0x02    -      1   62    up   -    16g    -
-   0x01    switch1  fc1/48  fc2/2    switch2  0x02    -      1   62    up   -    16g    -
2   0x01    switch1  fc1/15  fc1/45   switch3  0x07    1      1   62    up   up   8g     16g
2   0x01    switch1  fc1/16  fc1/46   switch3  0x07    1      1   62    up   up   8g     16g
4   0x01    switch1  fc1/5   fc1/19   switch4  0x09    1      1   125   up   up   4g     4g
4   0x01    switch1  fc1/6      -     switch4  0x09    1      1   125   down up   -      4g
5   0x01    switch1  fc1/11  fc1/19   switch4  0x08    2      1   62    up   up   8g     16g
5   0x01    switch1  fc1/12  fc1/20   switch4  0x08    2      1   62    up   up   8g     16g
6   0x01    switch1  fc1/1   fc10/25  switch5  0x05    5      1   62    up   up   8g     16g
6   0x01    switch1  fc1/2   fc10/26  switch5  0x05    5      1   62    up   up   8g     16g
7   0x01    switch1  fc1/41  fc1/24   switch6  0x0a    2      1   125   up   up   4g     8g
7   0x01    switch1  fc1/42  fc1/23   switch6  0x0a    2      1   125   up   up   4g     8g

switch1-12345#
```

The following example displays the detailed ISL topology information:

```
switch1-12345# show topology isl detail

-----------------------------------------------------------------------------------------------------------
_____________Local___________   _____________Remote_____________________ VSAN  Cost  I/F     PC      I/F    Band
PC  Domain   SwitchName     Port    Port    SwitchName          Domain  PC              Status  Status  Speed  width
-----------------------------------------------------------------------------------------------------------
-   0x01   switch1-12345  fc1/47  fc2/1   switch2-123-45      0x02    -    1    62    up      -       16g    -
-   0x01   switch1-12345  fc1/48  fc2/2   switch2-123-45      0x02    -    1    62    up      -       16g    -
2   0x01   switch1-12345  fc1/15  fc1/45  switch3-12345       0x07    1    1    62    up      up      8g     16g
2   0x01   switch1-12345  fc1/16  fc1/46  switch3-12345       0x07    1    1    62    up      up      8g     16g
4   0x01   switch1-12345  fc1/5   fc1/19  switch4-12345       0x09    1    1    125   up      up      4g     4g
4   0x01   switch1-12345  fc1/6      -    switch4-12345       0x09    1    1    125   down    up      -      4g
5   0x01   switch1-12345  fc1/11  fc1/19  switch4-12345       0x08    2    1    62    up      up      8g     16g
5   0x01   switch1-12345  fc1/12  fc1/20  switch4-12345       0x08    2    1    62    up      up      8g     16g
6   0x01   switch1-12345  fc1/1   fc10/25 switch5-5678-12345  0x05    5    1    62    up      up      8g     16g
6   0x01   switch1-12345  fc1/2   fc10/26 switch5-5678-12345  0x05    5    1    62    up      up      8g     16g
7   0x01   switch1-12345  fc1/41  fc1/24  switch6-12345       0x0a    2    1    125   up      up      4g     8g
7   0x01   switch1-12345  fc1/42  fc1/23  switch6-12345       0x0a    2    1    125   up      up      4g     8g

switch1-12345#
```

The following example displays ISL port channel topology information:

```
switch1-12345# show topology isl port-channel 4

---------------------------------------------------------------------------------------------
___________Local_____________   ________Remote_____________  VSAN  Cost  I/F   PC    I/F    Band
PC  Domain  switch1-12345  Port   Port    SwName    Domain  PC              Stat  Stat  Speed   width
---------------------------------------------------------------------------------------------
4   0x01    switch1-12345  fc1/5   fc1/19  switch4   0x09    1     1    125  up      up    4g      4g
4   0x01    switch1-12345  fc1/6     -     switch4   0x09    1     1    125  down    up    -       4g
4   0x01    switch1-12345  fc1/5   fc1/19  switch4   0x09    1   100    125  up      up    4g      4g
4   0x01    switch1-12345  fc1/6     -     switch4   0x09    1   100    125  down    up    -       4g
4   0x01    switch1-12345  fc1/5   fc1/19  switch4   0x09    1   200    125  up      up    4g      4g
4   0x01    switch1-12345  fc1/6     -     switch4   0x09    1   200    125  down    up    -       4g
4   0x01    switch1-12345  fc1/5   fc1/19  switch4   0x09    1   300    125  up      up    4g      4g
4   0x01    switch1-12345  fc1/6     -     switch4   0x09    1   300    125  down    up    -       4g

switch1-12345#
```

The following example displays detailed ISL port channel topology information:

```
switch1-12345# show topology isl port-channel 4 detail

----------------------------------------------------------------------------------------------------
______________Local____________  _____________Remote______________  VSAN  Cost  I/F     PC      I/F    Band
PC  Domain    SwitchName     Port    Port     SwitchName     Domain  PC              Status  Status  Speed  width
----------------------------------------------------------------------------------------------------
4    0x01   switch1-12345  fc1/5   fc1/19  switch4-12345   0x09    1    1    125   up        up      4g     4g
4    0x01   switch1-12345  fc1/6     -     switch4-12345   0x09    1    1    125   down      up      -      4g
4    0x01   switch1-12345  fc1/5   fc1/19  switch4-12345   0x09    1   100   125   up        up      4g     4g
4    0x01   switch1-12345  fc1/6     -     switch4-12345   0x09    1   100   125   down      up      -      4g
4    0x01   switch1-12345  fc1/5   fc1/19  switch4-12345   0x09    1   200   125   up        up      4g     4g
4    0x01   switch1-12345  fc1/6     -     switch4-12345   0x09    1   200   125   down      up      -      4g
4    0x01   switch1-12345  fc1/5   fc1/19  switch4-12345   0x09    1   300   125   up        up      4g     4g
4    0x01   switch1-12345  fc1/6     -     switch4-12345   0x09    1   300   125   down      up      -      4g

switch1-12345#
```

The following example displays the VSAN ID topology information:

```
switch1-12345# show topology isl vsan 100

-----------------------------------------------------------------------------------------
___________Local_________  ________Remote_____________   VSAN  Cost  I/F   PC    I/F    Band
PC  Domain  SwName   Port    Port     SwName    Domain  PC               Stat  Stat  Speed   width
-----------------------------------------------------------------------------------------
-   0x01    switch1  fc1/47  fc2/1    switch2   0x02     -    100    62    up    -     16g     -
-   0x01    switch1  fc1/48  fc2/2    switch2   0x02     -    100    62    up    -     16g     -
2   0x01    switch1  fc1/15  fc1/45   switch3   0x07     1    100    62    up    up    8g     16g
2   0x01    switch1  fc1/16  fc1/46   switch3   0x07     1    100    62    up    up    8g     16g
4   0x01    switch1  fc1/5   fc1/19   switch4   0x09     1    100   125    up    up    4g      4g
4   0x01    switch1  fc1/6      -     switch4   0x09     1    100   125   down   up    -       4g
5   0x01    switch1  fc1/11  fc1/19   switch4   0x08     2    100    62    up    up    8g     16g
5   0x01    switch1  fc1/12  fc1/20   switch4   0x08     2    100    62    up    up    8g     16g
6   0x01    switch1  fc1/1   fc10/25  switch5   0x05     5    100    62    up    up    8g     16g
6   0x01    switch1  fc1/2   fc10/26  switch5   0x05     5    100    62    up    up    8g     16g
7   0x01    switch1  fc1/41  fc1/24   switch6   0x0a     2    100   125    up    up    4g      8g
7   0x01    switch1  fc1/42  fc1/23   switch6   0x0a     2    100   125    up    up    4g      8g

switch1-12345#
```

The following example displays the detailed VSAN ID topology information:

```
switch1-12345# show topology isl vsan 100 detail
```

_____Local_____				_____Remote_____			VSAN	Cost	I/F	PC	I/F	Band
PC	Domain	SwitchName	Port	Port	SwitchName	Domain	PC			Status	Status	Speed	width
-	0x01	switch1-12345	fc1/47	fc2/1	switch2-123-45	0x02	-	100	62	up	-	16g	-
-	0x01	switch1-12345	fc1/48	fc2/2	switch2-123-45	0x02	-	100	62	up	-	16g	-
2	0x01	switch1-12345	fc1/15	fc1/45	switch3-12345	0x07	1	100	62	up	up	8g	16g
2	0x01	switch1-12345	fc1/16	fc1/46	switch3-12345	0x07	1	100	62	up	up	8g	16g
4	0x01	switch1-12345	fc1/5	fc1/19	switch4-12345	0x09	1	100	125	up	up	4g	4g
4	0x01	switch1-12345	fc1/6	-	switch4-12345	0x09	1	100	125	down	up	-	4g
5	0x01	switch1-12345	fc1/11	fc1/19	switch4-12345	0x08	2	100	62	up	up	8g	16g
5	0x01	switch1-12345	fc1/12	fc1/20	switch4-12345	0x08	2	100	62	up	up	8g	16g
6	0x01	switch1-12345	fc1/1	fc10/25	switch5-5678-12345	0x05	5	100	62	up	up	8g	16g
6	0x01	switch1-12345	fc1/2	fc10/26	switch5-5678-12345	0x05	5	100	62	up	up	8g	16g
7	0x01	switch1-12345	fc1/41	fc1/24	switch6-12345	0x0a	2	100	125	up	up	4g	8g
7	0x01	switch1-12345	fc1/42	fc1/23	switch6-12345	0x0a	2	100	125	up	up	4g	8g

```
switch1-12345#
```

show trunk protocol

To display trunk protocol status, use the **show trunk protocol** command.

show trunk protocol

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines None.

Examples The following example displays trunk protocol status:

```
switch# show trunk protocol
Trunk protocol is enabled
```

show user-account

To display configured information about user accounts, use the **show user-account** command.

show user-account [*user-name* | **iscsi**]

Syntax Description		
	user-name	(Optional) Specifies the user name.
	iscsi	(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
```

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)
```

show username

To display username information (print the public key part of user keypair information), use the **show username** command.

show username *username* **keypair**

Syntax Description

username	Specifies name of the user.
keypair	Specifies SSH keypairs.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display username information:

```
switch# show username admin keypair
**************************************

rsa Keys generated:Tue Sep  1 01:27:38 2009

ssh-rsa AAAAB3NzaC1yc2EAAAABIwAAAIEA5KCbN1Yc5X8HbFZybBNa+sXMzBHGOj1jbuZGXJ3VKH3m
LTz4b9ceyP4FyeHR7QHxBPBr3jJ3zG9rioATOwaG7944F/cadU3THDkQXN0JCVnKrqTdOo5uiIeRe2Mu
MEPfIvnM7MkJGJC2mPHRQKHlF+R3UtJaeAWuiRdKLaKS8Y0=

bitcount:1024
fingerprint:
3f:a6:31:9c:e3:1f:12:e4:49:c9:20:3c:69:6f:d1:67
**************************************

dsa Keys generated:Tue Sep  1 01:38:12 2009

ssh-rsa AAAAB3NzaC1yc2EAAAABIwAAAIEA5KCbN1Yc5X8HbFZybBNa+sXMzBHGOj1jbuZGXJ3VKH3m
LTz4b9ceyP4FyeHR7QHxBPBr3jJ3zG9rioATOwaG7944F/cadU3THDkQXN0JCVnKrqTdOo5uiIeRe2Mu
MEPfIvnM7MkJGJC2mPHRQKHlF+R3UtJaeAWuiRdKLaKS8Y0=

bitcount:1024
fingerprint:
3f:a6:31:9c:e3:1f:12:e4:49:c9:20:3c:69:6f:d1:67
**************************************
switch#
```

Related Commands

Command	Description
role	Configures user roles.
show username	Displays username information.

show version

To display the version of system software that is currently running on the switch, use the **show version** command.

show version [**clock-module epld | epld** *url* | **image** {**bootflash: | slot0: | volatile:**} *image-filename* | **module** *slot* [**epld**]]

Syntax Description

clock-module	(Optional) Displays all current EPLD versions on the clock module.
epld	(Optional) Displays all current versions of EPLDs on a specified module.
epld *url*	(Optional) Displays all EPLD versions that are available at the specified URL (bootflash:, ftp:, scp:, sftp:, slot0:, tftp:, or volatile:)
image	(Optional) Displays the software version of a given image.
bootflash:	(Optional) Specifies internal bootflash memory.
slot0:	(Optional) Specifies CompactFlash memory or PCMCIA card.
volatile:	(Optional) Specifies the volatile directory.
image-filename	(Optional) Specifies the name of the system or kickstart image.
module *slot*	(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 **clock-module** 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
```

```
switch(boot)# show version image bootflash:kickstart_image <-------------kickstart image
  image name: m9500-sf1ek9-kickstart-mz.1.0.3.upg.bin
  kickstart:  version 1.0(3)
  loader:     version 1.0(3)
  compiled:   10/25/2010 12:00:00

switch# show version image bootflash:bad_image <--------------failure case
Md5 Verification Failed
Image integrity check failed
```

The following example displays current EPLD versions for a specified module.

```
switch# show version module 2 epld
Module Number                       2
EPLD Device                   Version
-----------------------------------
Power Manager                   0x06
XBUS IO                         0x07
UD chip Fix                     0x05
Sahara                          0x05
```

The following example displays available EPLD versions.

```
switch# show version epld bootflash:m9000-epld-2.0.1b.img
MDS series EPLD image, built on Mon Sep 20 16:39:36 2004
Module Type                          EPLD Device          Version
------------------------------------------------------------------
MDS 9500 Supervisor 1                XBUS 1 IO              0x09
                                     XBUS 2 IO              0x0c
                                     UD Flow Control        0x05
                                     PCI ASIC I/F           0x04
1/2 Gbps FC Module (16 Port)         XBUS IO                0x07
                                     UD Flow Control        0x05
                                     PCI ASIC I/F           0x05
1/2 Gbps FC Module (32 Port)         XBUS IO                0x07
                                     UD Flow Control        0x05
                                     PCI ASIC I/F           0x05
Advanced Services Module             XBUS IO                0x07
                                     UD Flow Control        0x05
                                     PCI ASIC I/F           0x05
                                     PCI Bridge             0x05
IP Storage Services Module (8 Port)  Power Manager          0x07
                                     XBUS IO                0x03
                                     UD Flow Control        0x05
                                     PCI ASIC I/F           0x05
                                     Service Module I/F     0x0a
                                     IPS DB I/F             0x1a
IP Storage Services Module (4 Port)  Power Manager          0x07
                                     XBUS IO                0x03
                                     UD Flow Control        0x05
                                     PCI ASIC I/F           0x05
                                     Service Module I/F     0x1a
Caching Services Module Power        Manager                0x08
                                     XBUS IO                0x03
                                     UD Flow Control        0x05
                                     PCI ASIC I/F           0x05
                                     Service Module I/F     0x72
                                     Memory Decoder 0       0x02
                                     Memory Decoder 1       0x02
MDS 9100 Series Fabric Switch        XBUS IO                0x03
                                     PCI ASIC I/F           0x40000003
2x1GE IPS, 14x1/2Gbps FC Module      Power Manager          0x07
                                     XBUS IO                0x05
                                     UD Flow Control        0x05
```

```
                                    PCI ASIC I/F           0x07
                                    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:
switch#
```

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
```

```
  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)
```

show vrrp

To display the VRRP configuration information, use the **show vrrp** command.

show vrrp [**ipv6 vr** *group-id* [**interface** {**gigabitethernet** *slot/port* {**configuration | statistics | status**} | **mgmt 0** {**configuration | statistics | status**} | **port-channel** *port-channel* {**configuration | statistics | status** } | **vsan** *vsan-id* {**configuration | statistics | status**}}]] | **statistics** | **vr** *group-id* [**interface** {**gigabitethernet** *slot/port* {**configuration | statistics | status**} | **mgmt 0** {**configuration | statistics | status**} | **port-channel** *port-channel* {**configuration | statistics | status** } | **vsan** *vsan-id* {**configuration | or statistics | status**}}]

Syntax Description

ipv6	(Optional) Displays IPv6 virtual router information.
vr	(Optional) Displays the virtual router information.
group-id	(Optional) Specifies the group ID. The range is 1 to 255.
interface	(Optional) Displays the interface type.
gigabitethernet	(Optional) Displays the Gigabit Ethernet interface.
slot/port	(Optional) Specifies the slot and port.
configuration	(Optional) Displays the VRRP configuration.
statistics	(Optional) Displays cumulative VRRP statistics.
status	(Optional) Displays VRRP operational status.
mgmt 0	(Optional) Displays the mgmt0 interface.
port-channel	(Optional) Displays the PortChannel interface.
port-channel	Specifies the Port Channel.
vsan	(Optional) Displays the VSAN interface.
vsan-id	(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 **IPv6** 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
```

```
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
```

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
```

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

vsan *vsan-id*	(Optional) Displays information for the specified VSAN ID. The range is 1 to 4093.
membership	(Optional) Displays membership information.
interface	(Optional) Specifies the interface type.
fc *slot*/*port*	(Optional) Specifies a Fibre Channel interface on a Cisco MDS 9000 Family Switch.
bay | ext 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.
fcip *fcip-id*	(Optional) Specifies a FC IP interface ID. The range is 1 to 255.
fv *slot*/*dpp-number*/*fv-port*	(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.
iscsi *slot*/*port*	(Optional) Specifies the iSCSI interface in the specified slot/port on a Cisco MDS 9000 Family switch.
port-channel *portchannel-number*.*subinterface-number*	(Optional) Specifies a PortChannel interface specified by the PortChannel number followed by a dot (.) indicator and the subinterface number.
usage	(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 **bay | ext** interface.

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 **fc***slot*/*port* - *port* **, fc***slot*/*port* **, fc***slot*/*port*
  (For example, **show int fc1/1 - 3 , fc1/5 , fc2/5**)
- The interface range format for an FV interface range is **fv***slot*/*dpp*/*fvport* **-** *fvport* , **fv***slot*/*dpp*/*port* , **fv***slot*/*dpp*/*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 ß 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
```

```
          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
```

show wwn

To display the status of the WWN configuration, use the **show wwn** command.

show wwn {**oui** | **status block-id** *number* | **switch** | **vsan-wwn**}

Syntax Description

oui	Displays all OUIs in the OUI database.
status block-id *number*	Displays WWN usage and alarm status for a block ID. The range is 34 to 1793.
switch	Displays switch WWN.
vsan-wwn	Displays all user-configured VSAN WWNs.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
3.0(1)	Added the **vsan-wwn** keyword.
6.2(29)	The **oui** keyword was added.

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
```

show zone

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

show zone [active [vsan *vsan-id*] |

analysis { active vsan *vsan-id* |

pending { active vsan *vsan-id* |

vsan *vsan-id* |

zoneset *string* **vsan** *vsan-id* } |

vsan *vsan-id* |

zoneset *string* **vsan** *vsan-id* } |

ess [vsan *vsan-id*] |

member { device-alias *string* [**active [vsan** *vsan-id*] | **lun** *0xhhhh* **[active [vsan** *vsan-id*] |

vsan *vsan-id*] | **vsan** *vsan-id*] |

fcalias *string* **[active [vsan** *vsan-id*] | **vsan** *vsan-id*] |

fcid *0xhhhhhh* **[active [vsan** *vsan-id*] | **lun** *0xhhhh* **[active [vsan** *vsan-id*] | **vsan** *vsan-id*] |

vsan *vsan-id*] |

pwwn *hh:hh:hh:hh:hh:hh:hh:hh* **[active [vsan** *vsan-id*] |

lun *0xhhhh* **[active [vsan** *vsan-id*] | **vsan** *vsan-id*] | **vsan** *vsan-id*] } |

name *string* [**active [vsan** *vsan-id*] | **pending [active [vsan** *vsan-id*] | **vsan** *vsan-id*]]|

vsan *vsan-id*] |

pending [active [vsan *vsan-id*] | **vsan** *vsan-id*] |

pending-diff [vsan *vsan-id*] |

policy [pending [vsan *vsan-id*] | **vsan** *vsan-id*] |

smart-zoning auto-conv { log errors | status vsan *vsan-id*} |

statistics [lun-zoning [vsan *vsan-id*] | **read-only-zoning [vsan** *vsan-id*] |**vsan** *vsan-id*] |

status [global | vsan *vsan-id*] |

vsan *vsan-id*]

Syntax Description

active	(Optional) Displays zones which are part of an active zone set.
analysis	Displays a summary of zone database information.
device-alias *string*	Specifies a device name.
ess	Displays ESS information.
fcalias *string*	Specifies an fcalias name.
fcid *0xhhhhhh*	Specifies an FCID. The format is 0xhhhhhh, where h is a hexadecimal digit.
global	Displays global zone service parameters.
log errors	Displays the error logs.
lun *0xhhhh*	Specifies a LUN ID. The format is 0xhhhh, where h is a hexadecimal digit.
lun-zoning	This option is deprecated in this release.
member	Displays all zones in which the given member is part of.
name *string*	Specifies a zone name.
pending	Displays what zoning will be after all pending changes are applied.
pending-diff	Displays individual pending zone changes.
policy	Displays zone policies.
pwwn *hh:hh:hh:hh:hh:hh:hh:hh*	Specifies a port world wide name. The format is hh:hh:hh:hh:hh:hh:hh:hh, where h is a hexadecimal digit.
read-only-zoning	This option is deprecated in this release.
smart-zoning auto-conv	Displays the previous auto convert status.
statistics	Displays zone server request and response statistics.
status	Displays the current status of the zone server.
vsan *vsan-id*	Specifies a VSAN ID. The range is 1 to 4093.
zoneset *string*	Specifies a zoneset name.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(4)	This command was introduced.
2.1(1a)	Modified the **show zone status** display.
5.2(1)	Deprecated the **lun-zoning** and **read-only-zoning** options.
6.2(9)	Added the combined zone database size for the **show zone status** command.

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
  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
```

The following example displays the number of control frames exchanged with other switches:

```
switch# show zone statistics
Statistics For VSAN: 1
**********************************
Number of Merge Requests Sent: 24
Number of Merge Requests Recvd: 25
Number of Merge Accepts Sent: 25
Number of Merge Accepts Recvd: 25
Number of Merge Rejects Sent: 0
Number of Merge Rejects Recvd: 0
Number of Change Requests Sent: 0
Number of Change Requests Recvd: 0
Number of Change Rejects Sent: 0
Number of Change Rejects Recvd: 0
Number of GS Requests Recvd: 0
Number of GS Requests Rejected: 0
Statistics For VSAN: 2
**********************************
Number of Merge Requests Sent: 4
...
Number of GS Requests Rejected: 0
```

The following example displays LUN-zoning details:

```
switch# show zone statistics lun-zoning
LUN zoning statistics for VSAN: 1
************************************************************
S-ID: 0x123456, D-ID: 0x22222, LUN: 00:00:00:00:00:00:00:00
------------------------------------------------------------
Number of Inquiry commands received:         10
Number of Inquiry data No LU sent:            5
Number of Report LUNs commands received:     10
Number of Request Sense commands received:    1
Number of Other commands received:            0
Number of Illegal Request Check Condition sent: 0

S-ID: 0x123456, D-ID: 0x22222, LUN: 00:00:00:00:00:00:00:01
------------------------------------------------------------
Number of Inquiry commands received:          1
Number of Inquiry data No LU sent:            1
Number of Request Sense commands received:    1
Number of Other commands received:            0
Number of Illegal Request Check Condition sent:  0
```

The following example displays read-only zone details:

```
switch# show zone statistics read-only-zoning
Read-only zoning statistics for VSAN: 2
************************************************************
S-ID: 0x33333, D-ID: 0x11111, LUN: 00:00:00:00:00:00:00:64
------------------------------------------------------------
Number of Data Protect Check Condition Sent:  12

switch(config)# show zone status
VSAN: 1 default-zone: deny distribute: active only Interop: default
mode: basic merge-control: allow
```

```
session: none
hard-zoning: enabled broadcast: disabled
smart-zoning: disabled
rscn-format: fabric-address
Default zone:
qos: none broadcast: disabled ronly: disabled
Full Zoning Database :
DB size: 4 bytes
Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
Database Not Available
Current Total Zone DB Usage: 4 / 2097152 bytes (0 % used)
Pending (Session) DB size:
Full DB Copy size: n/a
Active DB Copy size: n/a
SFC size: 4 / 2097152 bytes (0 % used)
Status:

VSAN: 8 default-zone: deny distribute: full Interop: default
mode: basic merge-control: allow
session: none
hard-zoning: enabled broadcast: disabled
smart-zoning: disabled
rscn-format: fabric-address
Default zone:
qos: none broadcast: disabled ronly: disabled
Full Zoning Database :
DB size: 1946498 bytes
Zonesets:6 Zones:8024 Aliases: 0
Active Zoning Database :
DB size: 150499 bytes
Name: zoneset-1000 Zonesets:1 Zones:731
Current Total Zone DB Usage: 2096997 / 2097152 bytes (99 % used)
Pending (Session) DB size:
Full DB Copy size: n/a
Active DB Copy size: n/a
SFC size: 2096997 / 2097152 bytes (99 % used)
Status: Zoneset distribution failed [Error: Fabric changing Dom 33]:
at 17:05:06 UTC Jun 16 2014

VSAN: 9 default-zone: deny distribute: full Interop: default
mode: enhanced merge-control: allow
session: none
hard-zoning: enabled broadcast: enabled
smart-zoning: disabled
rscn-format: fabric-address
Default zone:
qos: none broadcast: disabled ronly: disabled
Full Zoning Database :
DB size: 2002584 bytes
Zonesets:4 Zones:7004 Aliases: 0 Attribute-groups: 1
Active Zoning Database :
DB size: 94340 bytes
Name: zoneset-hac13-200 Zonesets:1 Zones:176
Current Total Zone DB Usage: 2096924 / 2097152 b
Pending (Session) DB size:
Full DB Copy size: 0 bytes
Active DB Copy size: 0 bytes
SFC size: 0 / 2097152 bytes (0 % used)
Status: Activation completed at 17:28:04 UTC Jun 16 2014

VSAN: 12 default-zone: deny distribute: full Interop: default
mode: enhanced merge-control: allow
session: none
```

```
hard-zoning: enabled broadcast: enabled
smart-zoning: disabled
rscn-format: fabric-address
Default zone:
qos: none broadcast: disabled ronly: disabled
Full Zoning Database :
DB size: 84 bytes
Zonesets:0 Zones:1 Aliases: 0 Attribute-groups: 1
Active Zoning Database :
DB size: 144 bytes
Name: zs1 Zonesets:1 Zones:2
Current Total Zone DB Usage: 228 / 2097152 bytes (0 % used)
Pending (Session) DB size:
Full DB Copy size: 0 bytes
Active DB Copy size: 0 bytes
SFC size: 0 / 2097152 bytes (0 % used)
Status: Commit completed at 14:39:33 UTC Jun 27 201
switch(config)#
```

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.

Table 22-11 show zone status Field Descriptions (continued)

Field	Description
Active Zoning Database:	Displays values of active zone database.
Status:	Displays status of last zone distribution.

show zone internal global-info

To display the zone global information, use the **show zone internal global-info** command.

show zone internal global-info

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History

Release	Modification
5.2(6)	This command was introduced.

Usage Guidelines None.

Examples The following example displays the zone server internal state for a VSAN:

```
switch# show zone internal global-info
Global Default Zone Max-Limit :
    Global Default Zone Max-Limit: 16000
    Global Default Zone Member Max-Limit: 32000
    Global Default Zoneset Max-Limit: 1000
    Global Default Zone database size Max-Limit: 4000000 bytes
Global Full Database Counters :
    Zonesets: 0 Zones: 0 Huge id zones: 0
    Read-only Zones: 0 QoS Zones: 0
    Broadcast Zones: 0 Smart-zoning Zones: 0
    Aliases: 0 Attribute-groups: 0
    Members: 0 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 0
    Adv Zoning3 Members(IPv4 + dom-If): 0 IPv6 Members: 0
Global Session Database Counters (diff) :
    Zonesets: 0 Zones: 0 Smart-zoning Zones: 0
    Aliases: 0 Attribute-groups: 0
    Members: 0 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 0
Global Active Database Counters :
    Zonesets: 1 Zones: 5 Huge id zones: 0
    Read-only Zones: 0 QoS Zones: 0
    Broadcast Zones: 0 Smart-zoning Zones: 0
    Members: 6 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 0
    Adv Zoning3 Members(IPv4 + dom-If): 0 IPv6 Members: 0
Global Session Active Database Counters (diff) :
    Zones: 0 Smart-zoning Zones: 0
    Members: 0 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 0
Global ISSU Info:
    fs_upgrade = 0 system_upg = 0 lc_upgrade = 0
Global RSCN Generation Info: Enabled
Global Smart-zoning vsan counter: 1
Global port-address RSCN counter: 0
Global Zone EEM Limit :
    Global Zone EEM Limit: 16000
    Global Zone Member EEM Limit: 32000
    Global Zoneset EEM Limit: 1000
    Global Zone database size EEM Limit: 4000000 bytes
switch#
```

show zone internal vsan

To display the zone server internal state for a VSA, use the **show zone internal vsan** command.

show zone internal vsan *vsan-id*

Syntax Description

vsan-id	Specifies the VSAN ID. The range is from 1to 4093.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
5.2(6)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the zone server internal state for a VSAN:

```
switch# show zone internal vsan 1
VSAN: 1 default-zone: deny(rw) distribute: active only
    E_D_TOV: 2000 R_A_TOV: 10000 D_S_TOV: 5000 F_S_TOV: 5000 F_D_TOV: 2000
    Interop: default IOD: disable bcast: unsupported dflt-bcast: unsupported dfl
t-qos: 0
    Smart-zoning: disabled    Inc Tmp SZ mode: 0    Tmp Smart-zoning: 0
    DBLock:-(F count:0) Ifindex Table Size: 5 Transit Frame Index: 0
    Total Transit Frame Count: 0 Transit Discard Count: 0
Full Database Counters :
    Zonesets: 0 Zones: 0 Huge id zones: 0
    Read-only Zones: 0 QoS Zones: 0
    Broadcast Zones: 0 Smart-zoning Zones: 0
    Aliases: 0 Attribute-groups: 0
    Members: 0 LUN Members: 0 DDAS Members: 0 Smart-zoning members: 0
    Adv Zoning3 Members(IPv4 + dom-If): 0 IPv6 Members: 0
switch#
```

show zone policy

To display the zone policies, use the **show zone** policy command.

show zone policy

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
5.2(6)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the zone policies:

```
switch# show zone policy
Vsan: 1
   Default-zone: deny
   Distribute: active only
   Broadcast: unsupported
   Merge control: allow
   Generic Service: read-write
   Smart-zone: disabled
switch#
```

show zone smart-zoning auto-conv

To display the previous auto convert status, use the **show zone smart-zoning auto-conv** command.

show zone smart-zoning auto-conv {**log errors** | **status vsan** *vsan-id*}

Syntax Description

log	Displays the logged messages.
errors	Displays the error logs for smart zoning auto convert.
status	Displays the previous auto convert status.
vsan	Displays the zones belonging to the specified VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
5.2(6)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays the previous auto convert status for a VSAN:

```
switch# show zone smart-zoning auto-conv status vsan 1
switch#
```

show zone analysis

To display detailed analysis and statistical information about the zoning database, use the **show zone analysis** command.

show zone analysis {**active vsan** *vsan-id* | **vsan** *vsan-id* | **zoneset** *name* **vsan** *vsan-id*}

Syntax Description

active	Displays analysis information for the active zone set.
vsan *vsan-id*	Displays analysis information for the specified VSAN ID. The range is 1 to 4093.
zoneset *name*	Displays zone set analysis information for the specified zone set.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example displays detailed statistics and analysis of the active zoning database:

```
switch(config-zone)# show zone analysis active vsan 1
Zoning database analysis vsan 1
  Active zoneset: qoscfg
    Activated at: 14:40:55 UTC Mar 21 2014
    Activated by: Local [ CLI ]
    Default zone policy: Deny
    Number of devices zoned in vsan: 8/8 (Unzoned: 0)
    Number of zone members resolved: 10/18 (Unresolved: 8)
    Num zones: 4
    Number of IVR zones: 0
    Number of IPS zones: 0
    Formatted size: 328 bytes / 4096 Kb
switch(config-zone)#
```

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	Displays the agent that most recently modified the active zoning database. The agent can be one of the following three types: • Local: indicates that the active database was last modified locally through a configuration change from one of the following applications: – CLI: The active zoning database was modified by the user from the Command Line Interface. – SNMP: The active zoning database was modified by the user through the Simple Network Management Protocol (SNMP). – GS: The active zoning database was modified from the Generic Services (GS) client. – CIM: The active zoning database was modified by the applications using the Common Information Model (CIM). – INTERNAL: The active zoning database was modified as a result of an internal activation either from Inter-VSAN Routing (IVR) or from the IP Storage services manager. • Merge: indicates that the active database was last modified by the Merge protocol. The interface on which the merge occurred is also displayed. • Remote: indicates that the active database was last modified by the Change protocol, initiated by a remote switch. The domain, IP address, and switch name of the switch initiating the change are also displayed. **Note** The switch name is displayed on the next line, aligned with the domain, only if the switch name is set. The default switch name *switch* and the *ip-address* are not displayed.
Default zoning policy: permit/deny	Displays the status of the default zoning policy for this VSAN.

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)	Displays the number of devices that are present in the zoning configuration. • a = The number of unique resolved members in the active database. • b = The number of devices logged in, which is the same as the number of entries in the Fibre Channel name server (FCNS) database. • c = The number of devices logged in, but not zoned in the zoning configuration. • d = The number of devices in the default zone. d is displayed only if the default zoning policy is permit.
Number of zone members resolved: a/b (Unresolved: c)	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. 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. • a = The number of members resolved. • b = The total number of members present. • c = The total number of members unresolved.
Num zones	Displays the total number of zones that are present in the active zone set.
Number of IVR zones	Displays the number of zones added and activated by IVR.
Number of IPS zones	Displays the number of zones added and activated by the IP Storage services manager (IPS-MGR).
Formatted database size	Displays the total size of the active database when formatted to be sent over the wire. The formatted database size is displayed in kilobytes (KB) in this format: < *X* KB / *Y* KB, as in the following example. Formatted database size: < 1 KB/2000 KB In this example, the formatted database size is less than 1 KB out of the maximum size of 2000 KB.

The following example displays detailed statistics and analysis of the full zoning database:

```
switch# sh zone analysis vsan 1
   Zoning database analysis vsan 1
     Full zoning database
       Last updated at: 14:36:56 UTC Oct 04 2005
       Last updated by: Local [CLI / SNMP / GS / CIM / INTERNAL] or
                        Merge [interface] or
                        Remote [Domain, IP-Address]
                               [Switch name]
```

```
    Num zonesets: 1
    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	Displays the agent that most recently modified the full zoning database. The agent can be one of the following three types: • Local: indicates that the full database was last modified locally through a configuration change from one of the following applications: – CLI: The full zoning database was modified by the user from the Command Line Interface. – SNMP: The full zoning database was modified by the user through the Simple Network Management Protocol (SNMP). – GS: The full zoning database was modified from the Generic Services (GS) client. – CIM: The full zoning database was modified by the applications using the Common Information Model (CIM). – INTERNAL: The full zoning database was modified as a result of an internal activation either from Inter-VSAN Routing (IVR) or from the IP Storage services manager. • Merge: indicates that the full database was last modified by the Merge protocol. In this case, the interface on which the merge occurred is also displayed. • Remote: indicates that the full database was last modified by the Change protocol, initiated by a remote switch, when the full zone set distribution was enabled. The domain, IP address, and switch name of the switch initiating the change are also displayed. **Note** The switch name is displayed on the next line, aligned with the domain, only if the switch name is set. The default switch name *switch* and the *ip-address* are not displayed.
Num zonesets	Displays the total number of zone sets in the database.

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. The formatted database size is displayed in kilobytes in this format: < *X* KB / *Y* KB, as in the following example. Formatted database size: < 1 KB/2000 KB In this example, the formatted database size is less than 1 KB out of the maximum size of 2000 KB.
Unassigned zones	Displays all the unassigned zones in the VSAN. Only the names of the zones are displayed. The details about the members of the zone are not displayed in this section.

The followng example displays zone set analysis information. See Table 22-13 for a description of the fields in this example:

```
switch# show zone analysis zoneset zs1 vsan 1
Zoning database analysis vsan 1
  Zoneset analysis: zs1
    Num zonesets: 1
    Num zones: 0
    Num aliases: 0
    Num attribute groups: 0
    Formattted size: 20 bytes / 2048 Kb
```

Related Commands

Command	Description
zone compact database	Compacts a zone database in a VSAN.

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 *group-name*	Displays the entire device name database.
pending	Displays the pending device name database information.
vsan *vsan-id*	Specifies a VSAN ID. The range is 1 to 4093.

Defaults

None.

Command Modes

EXEC mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to display the contents of pending zone attribute groups.

```
switch# show zone-autoboot-group pending
zone-attribute-group name $default_zone_attr_group$ vsan 4061
zone-attribute-group name admin-group vsan 4061
  broadcast
```

Related Commands

Command	Description
zone-attribute-group name	Configures zone attribute groups.

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*]] |
[**vsan** *vsan-id*]] |

[**pending**
[**active vsan** *vsan-id*] |
[**brief** [**active vsan** *vsan-id* | **vsan** *vsan-id*]] |
[**vsan** *vsan-id*]] |

[**vsan** *vsan-id*]]

Syntax Description

active	Displays only active zone sets.
vsan	Displays the VSAN.
vsan-id	Specifies the ID of the VSAN. The range is 1 to 4093
brief	Displays zone set members in a brief list.
name	Displays members of a specified zone set.
zoneset-name	Specifies the zone set name. The maximum is 64.
pending	Displays zone sets members that are in session.

Defaults

None.

Command Modes

EXEC mode

Command History

Release	Modification
1.2(2)	This command was modified.

Usage Guidelines

None.

Examples

The following example displays configured zone set information.

```
switch(config)# show zoneset vsan 1
zoneset name qoscfg vsan 1
```

```
  zone name qos1 vsan 1
    zone-attribute-group name qos1-attr-group vsan 1
    pwwn 50:08:01:60:01:5d:51:11
    pwwn 50:08:01:60:01:5d:51:10
    pwwn 50:08:01:60:01:5d:51:13

  zone name qos3 vsan 1
    zone-attribute-group name qos3-attr-group vsan 1
    pwwn 50:08:01:60:01:5d:51:11
    pwwn 50:08:01:60:01:5d:51:12
    pwwn 50:08:01:60:01:5d:51:13

  zone name sb1 vsan 1
    pwwn 20:0e:00:11:0d:10:dc:00
    pwwn 20:0d:00:11:0d:10:da:00
    pwwn 20:13:00:11:0d:15:75:00
    pwwn 20:0d:00:11:0d:10:db:00
```

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
```