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# CHAPTER **21**

## Show Commands

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The commands in this chapter apply to the Cisco MDS 9000 Family of multilayer directors and fabric switches. All commands are shown here in alphabetical order regardless of command mode. See the “Command Modes” section to determine the appropriate mode for each command. For more information, refer to the *Cisco MDS 9000 Family Configuration Guide*.

---

 show aaa accounting

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## show aaa accounting

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

```
show aaa accounting
```

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

**Defaults** None.

**Command Modes** EXEC mode.

Command History	Release	Modification
	2.0(1b)	This command was introduced.

**Usage Guidelines** None.

**Examples** The following example displays accounting log configuration.

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

Related Commands	Command	Description
	<b>aaa accounting default</b>	Configure the default accounting method

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## show aaa authentication

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

**show aaa authentication [login error-enable]**

<b>Syntax Description</b>	<b>login error-enable</b> Displays the authentication login error message enable configuration.	
<b>Defaults</b>	None.	
<b>Command Modes</b>	EXEC mode.	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	1.3(1)	This command was introduced.
	2.0(1b)	Added the <b>login error-enable</b> option.
<b>Usage Guidelines</b>	None.	
<b>Examples</b>	<p>The following example displays the configured authentication parameters.</p> <pre>switch# show aaa authentication       default: group TacServer local none       console: local       iscsi: local       dhchap: local</pre> <p>The following example displays the authentication login error message enable configuration.</p> <pre>switch# show aaa authentication login error-enable disabled</pre>	

---

```
■ show aaa groups
```

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## show aaa groups

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

```
show aaa groups
```

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.3(1).

**Usage Guidelines** None.

**Examples** To display configured server groups.

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

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## show accounting log

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

**show accounting log [size]**

<b>Syntax Description</b>	<b>size</b>	Specifies the size of the log to display in bytes. The range is 0 to 250000.
<b>Defaults</b>	None.	
<b>Command Modes</b>	EXEC mode.	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	This command was introduced.
<b>Usage Guidelines</b>	None.	

**Examples** The following example displays the entire accounting log.

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

The following example displays the 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
```

■ show accounting log

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Related Commands	Command	Description
	clear accounting log	Clears the accounting log.

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## show arp

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

**show arp**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

**Examples** This displays the ARP table.

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

**Related Commands**

Command	Description
<b>clear arp-cache</b>	Clears the arp-cache table entries.

---

 show autonomous-fabric-id database

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## show autonomous-fabric-id database

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

**show autonomous-fabric-id database**

---

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

---

**Defaults** None

---

**Command Modes** EXEC mode.

---

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

---



---

**Usage Guidelines** None.

---

**Examples** The following example shows contents of the AFID database.

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

Total: 1 entry in default AFID table

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

Total: 1 entry in AFID table
```

---

Related Commands	Command	Description
	<a href="#">autonomous-fabric-id (IVR topology database configuration)</a>	Configures an autonomous fabric ID into the Inter-VSAN Routing (IVR) topology database.

---

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

---

 show banner motd

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## show banner motd

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

**show banner motd**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.3(4).

**Usage Guidelines** The configured MOTD banner is displayed before the login prompt on the terminal whenever a user logs in to a Cisco MDS 9000 Family switch.

**Examples** The following example displays the configured banner message.

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

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

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

**Related Commands**

Command	Description
<b>banner motd</b>	Configures the required banner message.

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## show boot

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

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

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was modified in Release 1.2(2).

**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 ASM.

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

The following example displays a list of all boot variables. The ASM-SFN boot variable is used for the ASM.

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

---

 show boot auto-copy

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## show boot auto-copy

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

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

<b>Syntax Description</b>	<b>list</b>	Displays the list of files to be auto-copied
<b>Defaults</b>	None.	
<b>Command Modes</b>	EXEC mode.	
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.2(1).	
<b>Usage Guidelines</b>	None.	

**Examples** The following example displays the current state of the auto-copy feature.

```
switch# show boot auto-copy
Boot variables Auto-Copy ON
```

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
```

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## show callhome

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

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

<b>Syntax Description</b>	<b>destination-profile</b> Displays Call Home destination profile information. <b>profile</b> Specifies the destination profile. <b>profile</b> Specifies a user defined destination profile. <b>full-txt-destination</b> Specifies the full text destination profile. <b>short-txt-destination</b> Specifies the short text destination profile. <b>XML-destination</b> Specifies the XML destination profile. <b>last action status</b> Displays the status of the last CFS commit or discard operation. <b>pending</b> Displays the status of pending Call Home configuration. <b>pending-diff</b> Displays the difference between running and pending Call Home configurations. <b>transport-email</b> Displays Call Home e-mail transport information.
---------------------------	--

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

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	1.0(2)	This command was introduced.
	2.0(1b)	Added <b>last action status</b> , <b>pending</b> , and <b>pending-diff</b> options.

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

<b>Examples</b>	The following example displays configured callhome 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:SitelManhattanNewYork
customer id:Customer1234
contract id:Andiamo1234
switch priority:0
duplicate message throttling : enabled
```

---

 show callhome

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```
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
```

---

**Related Commands**

Command	Description
<b>callhome</b>	Configures Call Home.

---

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## show cdp

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

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

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

**Defaults** None

**Command Modes** EXEC

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.1(1).

**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
```

**show cdp**

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```
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:069038747(Kiowa3)
Entry address(es):
  IP Address: 172.22.92.5
Platform: WS-C5500, Capabilities: Trans-Bridge Switch
Interface: mgmt0, Port ID (outgoing port): 5/22
Holdtime: 136 sec

Version:
WS-C5500 Software, Version McpSW: 2.4(3) NmpSW: 2.4(3)
Copyright (c) 1995-1997 by Cisco Systems

Advertisement Version: 1
```

The following example displays the specified CDP neighbor.

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

Version:
1.1(0.144)

Advertisement Version: 2
Duplex: full
```

The following example displays global CDP parameters.

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

The following example displays CDP parameters for the management interface.

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

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

```
switch# show cdp interface gigabitether 4/1
GigabitEthernet4/1 is up
  CDP enabled on interface
  Sending CDP packets every 80 seconds
  Holdtime is 200 seconds
```

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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:0
Entry address(es):
    IP Address: 0.0.0.0
Platform: DS-X9530-SF1-K9, Capabilities: Host
Interface: GigabitEthernet4/1, Port ID (outgoing port): GigabitEthernet4/1
Holdtime: 162 sec

Version:
1.1(0.144)

Advertisement Version: 2
Duplex: full
-----
Device ID:069038732(Kiowa2)
Entry address(es):
    IP Address: 172.22.91.5
Platform: WS-C5500, Capabilities: Trans-Bridge Switch
Interface: mgmt0, Port ID (outgoing port): 8/11
Holdtime: 132 sec

Version:
WS-C5500 Software, Version McpSW: 2.4(3) NmpSW: 2.4(3)
Copyright (c) 1995-1997 by Cisco Systems

Advertisement Version: 1
```

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

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

Version:
1.1(0.144)

Advertisement Version: 2
Duplex: full
```

**show cdp**

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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
```

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## show cfs

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

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

### Syntax Description

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

### Defaults

None.

### Command Modes

EXEC mode.

### Command History

Release	Modification
2.0(1b)	This command was introduced.
2.1(1a)	<ul style="list-style-type: none"> <li>Added <b>status</b> keyword.</li> <li>Replaced <b>vsan</b> with <b>fctimer</b> for the fctimer application in the Application field in the command output.</li> </ul>

### Usage Guidelines

None.

### Examples

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

```
switch# show cfs peers

Physical Fabric
-----
Switch WWN           IP Address
-----
20:00:00:05:30:00:61:de 172.22.46.223      [Local]
20:00:00:0d:ec:08:66:c0 172.22.46.233
20:00:00:05:30:00:f1:e2 172.22.46.225
20:00:00:05:30:00:eb:46 172.22.46.222
20:00:00:05:30:00:cb:56 172.22.46.224
20:00:00:05:30:00:5b:5e 172.22.46.182
20:00:00:05:30:00:34:9e 172.22.46.220
```

**show cfs**

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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
ips	Yes	Physical
ntp	No	Physical
dpvm	Yes	Physical
fscm	Yes	Physical
role	No	Physical
rscn	No	Logical
radius	No	Physical
fctimer	No	Physical
syslogd	No	Physical
callhome	No	Physical
fcdomain	No	Logical
device-alias	Yes	Physical

Total number of entries = 12



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

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

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

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

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

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

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

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

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

To enable CFS distribution, use the **cfs distribute** command.

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## show cimserver

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

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

<b>Syntax Description</b>	<table border="0"> <tr> <td><b>certificateName</b></td><td>Displays the installed Secure Socket Layer (SSL) certificate.</td></tr> <tr> <td><b>HttpsStatus</b></td><td>Displays the HTTP (non-secure) protocol settings for the CIM server.</td></tr> <tr> <td><b>HttpStatus</b></td><td>Displays the HTTPS (secure) protocol for the CIM server.</td></tr> <tr> <td><b>status</b></td><td>Displays the CIM server status</td></tr> </table>	<b>certificateName</b>	Displays the installed Secure Socket Layer (SSL) certificate.	<b>HttpsStatus</b>	Displays the HTTP (non-secure) protocol settings for the CIM server.	<b>HttpStatus</b>	Displays the HTTPS (secure) protocol for the CIM server.	<b>status</b>	Displays the CIM server status
<b>certificateName</b>	Displays the installed Secure Socket Layer (SSL) certificate.								
<b>HttpsStatus</b>	Displays the HTTP (non-secure) protocol settings for the CIM server.								
<b>HttpStatus</b>	Displays the HTTPS (secure) protocol for the CIM server.								
<b>status</b>	Displays the CIM server status								

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.3(1).

**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
cimserverHttps 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 clock**

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## show clock

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

**show clock**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

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

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

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## show cores

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

**show cores**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**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 global domain ipsec

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## show crypto global domain ipsec

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

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

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

---

**Defaults** Displays IPsec global statistics.

---

**Command Modes** EXEC mode.

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	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 gigabitether net 1/2
IPSec interface statistics:
  IKE transaction stats: 0 num
  Inbound SA stats: 0 num, 512 max
  Outbound SA stats: 0 num, 512 max
```

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

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

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

---

```
■ show crypto ike domain ipsec
```

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## show crypto ike domain ipsec

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

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

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	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
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>crypto ike domain ipsec</b>	Enters IKE configuration mode.
	<b>crypto ike enable</b>	Enables the IKE protocol.

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## show crypto 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]**

<b>Syntax Description</b>	<b>interface gigabitethernet slot/port</b> <b>tag tag-name</b>	Displays IPsec map information for a specific Gigabit Ethernet interface. 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.

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	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
```

---

**show crypto map domain ipsec**

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```
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 = acl160
    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 = acl1100
    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**

<b>Command</b>	<b>Description</b>
<b>crypto ipsec enable</b>	Enables IPsec.
<b>crypto map domain ipsec</b>	Enters IPsec map configuration mode.

---

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## show crypto sad domain ipsec

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

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

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

**Defaults** None.

**Command Modes** EXEC mode.

Command History	Release	Modification
	2.0(1b)	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
```

■ show crypto sad domain ipsec

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

Related Commands	Command	Description
	<b>crypto ipsec enable</b>	Enables IPsec.

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## show crypto spd domain ipsec

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

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

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

<b>Defaults</b>	Displays all SPD information.
-----------------	-------------------------------

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	This command was introduced.

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

<b>Examples</b>	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
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>crypto ipsec enable</b>	Enables IPsec.

---

 show crypto transform-set domain ipsec

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## show crypto transform-set domain ipsec

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

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

<b>Syntax Description</b>	<i>set-name</i> Specifies the transform set name. Maximum length is 63 characters.	
<b>Defaults</b>	Displays information for all transform sets.	
<b>Command Modes</b>	EXEC mode.	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	This command was introduced.
<b>Usage Guidelines</b>	To use this command, IPsec must be enabled using the <b>crypto ipsec enable</b> command.	
<b>Examples</b>	The following example shows how to display information for all IPsec transform sets.  switch# <b>show crypto transform-set domain ipsec</b> Transform set: ipsec_default_transform_set {esp-aes-256-ctr esp-aes-xcbc-mac} will negotiate {tunnel}	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>crypto ipsec enable</b>	Enables IPsec.
	<b>crypto transform-set</b> <b>domain ipsec</b>	Configures IPsec transform set information.

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## show debug

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

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

Syntax Description	
<b>aaa</b>	Displays debugging flags of 301.
<b>acl</b>	Displays debug flags of ACL Manager.
<b>arbiter</b>	Displays Arbiter debugging flags.
<b>ascii-cfg</b>	Displays all debugging flags of ascii-cfg.
<b>bootvar</b>	Displays bootvar debugging flags.
<b>callhome</b>	Displays debugging flags of Callhome.
<b>capability</b>	Displays all debugging flags of capability.
<b>cdp</b>	Displays CDP debug flags.
<b>cfs</b>	Displays CFS debug flags.
<b>cimserver</b>	Displays debugging flags for CIM.
<b>confcheck</b>	Displays all debugging flags of confcheck.
<b>core</b>	Displays debugging flags for feature manager.
<b>device-alias</b>	Displays debugging flags of Device Alias Distribution Service.
<b>dstats</b>	Displays debugging flags for delta statistics.
<b>epp</b>	Displays debugging flags of EPP.
<b>ethport</b>	Displays debugging flags of Ethernet port.
<b>exceptionlog</b>	Displays all debugging flags of Exception Logger.
<b>fabric_start_cfg_mgr</b>	Displays debugging flags for fabric startup configuration manager.
<b>fc-tunnel</b>	Displays all debugging flags of mpls_tunnel.
<b>fc2</b>	Displays all debug elements of FC2.
<b>fc2d</b>	Displays debugging flags of FC2D.
<b>fcc</b>	Displays all debugging flags of FCC.
<b>fcdomain</b>	Displays internal debugging flags of fcdomain.
<b>fcfwd</b>	Displays all debug elements of FCFWD.
<b>fcns</b>	Displays name server debug flags.
<b>fcs</b>	Displays debug flags of Fabric Config Server.
<b>fdmi</b>	Displays all debugging flags of FDMI.
<b>flogi</b>	Displays debugging flags of F port Server.
<b>fs-daemon</b>	Displays debugging flags for file server daemon.
<b>fspf</b>	Displays all debugging flags of FSPF.

show debug

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<b>fvp</b>	Displays all debugging flags of FVP Manager.
<b>idehsd</b>	Displays IDEHSD debugging flags.
<b>ilc_helper</b>	Displays ilc_helper debugging flags.
<b>ipacl</b>	Displays all debugging flags of ipacl.
<b>ipconf</b>	Displays IP configuration debugging flags.
<b>ipfc</b>	Displays all debugging flags of IPFC.
<b>kadb</b>	Displays Kernel ADB debugging flags.
<b>kipfc</b>	Displays IPFC kernel debug flags.
<b>klm-scsi-target</b>	Displays debug elements of scsi-target driver.
<b>license</b>	Displays debugging flags for Licensing.
<b>logfile</b>	Display contents of the logfile.
<b>mcast</b>	Displays all debug elements of mcast.
<b>mip</b>	Displays mip kernel debug flags.
<b>module</b>	Displays all debugging flags of module.
<b>ntp</b>	Displays the state of NTP debug settings.
<b>platform</b>	Displays all debugging flags of platform manager.
<b>port</b>	Displays debugging flags of port.
<b>port-channel</b>	Displays all port-channel debugging flags.
<b>qos</b>	Displays QoS debug flags.
<b>radius</b>	Displays debugging flags of RADIUS.
<b>rdl</b>	Displays RDL debug flags.
<b>redundancy</b>	Displays Redundancy drivers debugging flags.
<b>rib</b>	Displays all debugging flags of rib.
<b>rlir</b>	Displays all debugging flags of RLIR.
<b>rscn</b>	Displays all debugging flags of RSCN.
<b>scsi-flow</b>	Displays debugging flags of SCSI_FLOW.
<b>scsi-target</b>	Displays debugging flags for SCSI target daemon.
<b>security</b>	Displays debugging flags of security and accounting
<b>sensor</b>	Displays all debugging flags of Sensor Manager.
<b>snmp</b>	Displays all debugging flags of SNMP server.
<b>span</b>	Displays debugging flags of SPAN.
<b>system</b>	Displays all debugging flags of system.
<b>SystemHealth</b>	Displays all debugging flags of system health.
<b>tcap</b>	Displays all debugging flags of Exception Logger.
<b>tlport</b>	Displays TL Port debug flags.
<b>ttyd</b>	Displays all debugging flags of TTYD.
<b>vni</b>	Displays virtual network interface debugging flags.
<b>vp</b>	Displays all debugging flags of VP Manager.
<b>vrrp</b>	Displays the debugging flags of VRRP.
<b>vsan</b>	Displays debugging flags of VSAN manager.
<b>vshd</b>	Displays all debugging flags of VSHD.

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<b>wwn</b>	Displays all debugging flags of WWN Manager.
<b>xbar</b>	Displays all debugging flags of XBAR.
<b>xbc</b>	Displays all debugging flags of XBC.
<b>zone</b>	Displays zone server debug elements.

**Defaults** Displays all debugging configured.

**Command Modes** EXEC mode.

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

**Usage Guidelines** None.

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

```
switch# show debug
Show Debug all

ILC helper:
  ILC_HELPER errors debugging is on

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

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

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

---

 show device-alias

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

## show device-alias

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

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

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

<b>Defaults</b>	None.				
<b>Command Modes</b>	EXEC mode.				
<hr/>					
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>2.0(1b)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	2.0(1b)	This command was introduced.
Release	Modification				
2.0(1b)	This command was introduced.				

<b>Usage Guidelines</b>	To make use of fcaliases as device names instead of using the cryptic device name, add only one member per fcalias.
-------------------------	---

<b>Examples</b>	The following example shows how to display the contents of the device alias database.
<pre>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 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</pre>	

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
```

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

---

 show dpvm

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## show dpvm

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

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

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

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

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

Command History	Release	Modification
	2.0(1b)	This command was introduced.

Usage Guidelines	To use this command, DPVM must be enabled using the <b>dpvm enable</b> command.
------------------	---

Examples	The following example shows how to display DPVM database information.
	<pre>switch# show dpvm database pwwn 00:00:00:00:00:00:01 vsan 1 pwwn 00:00:00:00:00:00:02 vsan 1 [Total 2 entries]</pre>

Related Commands	Command	Description
	<b>dpvm database</b>	Configures the DPVM database.

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## show environment

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

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

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

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

```

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

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

```

show environment

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Temperature:

Module	Sensor	MajorThresh (Celsius)	MinorThres (Celsius)	CurTemp (Celsius)	Status
1	Outlet	75	60	38	ok
1	Intake	65	50	35	ok
5	Outlet	75	60	36	ok
5	Intake	65	50	36	ok
6	Outlet	75	60	40	ok
6	Intake	65	50	33	ok
9	Outlet	75	60	28	ok
9	Intake	65	50	40	ok

Power Supply:

PS	Model	Power (Watts)	Power (Amp @42V)	Status		
1	DS-CAC-2500W	1153.32	27.46	ok		
Mod	Model	Power Requested (Watts)	Power Requested (Amp @42V)	Power Allocated (Watts)	Power Allocated (Amp @42V)	Status
1	DS-X9016	220.08	5.24	220.08	5.24	powered-up
5	DS-X9530-SF1-K9	220.08	5.24	220.08	5.24	powered-up
6	DS-X9530-SF1-K9	220.08	5.24	220.08	5.24	powered-up
9	DS-X9016	220.08	5.24	220.08	5.24	powered-up

Power Usage Summary:

Power Supply redundancy mode:	non-redundant (combined)
Total Power Capacity	2306.64 W
Power reserved for Supervisor(s) [-]	440.16 W
Power reserved for Fan Module(s) [-]	210.00 W
Power currently used by Modules [-]	440.16 W
-----	-----
Total Power Available	1216.32 W
-----	-----

**Related Commands**

Command	Description
<b>show hardware</b>	Displays all hardware components on a system.

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## show 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]}
```

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

**Defaults** None

**Command Modes** EXEC mode

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.3(1).

**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  0x6a(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]
```

■ **show fabric-binding**

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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 sWNN permit: 0
Number of sWNN deny : 0

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

Number of sWNN permit: 0
Number of sWNN deny : 0

Total Logins permitted : 0
Total Logins denied    : 0
Statistics For VSAN: 61
-----

Number of sWNN permit: 0
Number of sWNN deny : 0

Total Logins permitted : 0
Total Logins denied    : 0
Statistics For VSAN: 345
-----

Number of sWNN permit: 0
Number of sWNN deny : 0

Total Logins permitted : 0
Total Logins denied    : 0
```

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```

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

```

■ **show fabric-binding**

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```
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
```

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## show fc-tunnel

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

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

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.2(1).

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

**Examples** The following example displays the FC tunnel status

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

The following example displays the FC tunnel egress mapping information.

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

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

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

**show fc2*****Send documentation comments to mdsfeedback-doc@cisco.com.***

## show fc2

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

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

### Syntax Description

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

### Defaults

None.

### Command Modes

EXEC mode.

### Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

### Usage Guidelines

None.

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**Examples**

The following example displays FC2 active socket information.

```
switch# show fc2 socket
SOCKET  REF_CNT PROTOCOL      PID   RCVBUF  RMEM_USED    QLEN  NOTSK
b2a64b20 2        0          1421  65535     0           0       0
b2a647e0 3        0          1418  262142    0           0       0
b2a644a0 3        0          1417  65535     0           0       0
b2a64160 3        0          1417  262142    0           0       0
b294b180 3        0          1411  65535     0           0       0
b294ae40 3        0          1411  65535     0           0       0
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 00:00:00 00:00:00:00:00:00:00:00
b2a647e0 7     ffffffff 65535 ffffffd ffffff 22 03:01:00 14:15:16:00:00:00:00:00
b294b180 7     ffffffff 65535 ffffffd 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
```

show fc2

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The following example displays FC2 physical port information.

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

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

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

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

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

The following example displays FC2 VSAN table.

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

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## show fcalias

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

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

<b>Syntax Description</b>	<b>name <i>fcalias-name</i></b> Displays fcalias information for a specific name. The maximum length is 64. <b>pending</b> Displays pending fcalias information. <b>vsan <i>vsan-id</i></b> 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(1b)	Added the <b>pending</b> 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
	<b>fcalias name</b>	Configures fcalias names.

**■ show fcanalyzer**

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## show fcanalyzer

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

**show fcanalyzer**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** The `DEFAULT` keyword shown with an `ActiveClient` entry specifies that the default port is used in attempting the connection to the client.

**Examples** Displays Configured Hosts

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

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## show fcc

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

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

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

**Examples** Displays configured FCC information

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

---

 show fcdomain

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## show fcdomain

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

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

Syntax Description	
<b>address-allocation</b>	Displays statistics for the fcid allocation
<b>cache</b>	The cache is used by the principle switch to reassign the FCIDs for a device (disk or host) that exited and reentered the fabric. In the cache content, VSAN refers to the VSAN that contains the device, WWN refers to the device that owned the FCIDs, and mask refers to a single or entire area of FCIDs.
<b>allowed</b>	Displays a list of allowed domain IDs.
<b>domain-list</b>	Displays list of domain ids granted by the principal sw
<b>fcid persistent</b>	Displays persistent FCIDs (across reboot)
<b>statistics interface</b>	Displays the statistics of fcdomain
<b>fc slot/port</b>	Specifies a Fibre Channel interface.
<b>fcip fcip-id</b>	Specifies an FCIP interface. The range is 1 to 255.
<b>iscsi slot/port</b>	Specifies an iSCSI interface.
<b>vsan vsan-id</b>	Specifies a 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.
	2.1(1a)	The <b>domain-list</b> display was modified to include a virtual IVR description.

  

Usage Guidelines	Issuing the <b>show fcdomain</b> with no arguments displays all VSANs. The VSANs should be active or you will get an error.
------------------	---

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**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) & verify domain id

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

Principal switch run time information:
  Running priority: 2

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

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

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

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

Table 21-1 describes the significant fields shown in the **show fcdomain domain-list** display.

**Table 21-1 show fcdomain Field Descriptions**

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

**■ show fcdomain**

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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.
```

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## show fcdropl latency

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

**show fcdropl latency [network | switch]**

<b>Syntax Description</b>	<b>network</b> Network latency in milliseconds. <b>switch</b> Switch latency in milliseconds.
---------------------------	--

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

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

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

---

 show fcflow stats

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## show fcflow stats

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

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

---

### Syntax Description

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

---



---

### Defaults

None.

---

### Command Modes

EXEC mode.

---

### Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

---

### Usage Guidelines

None.

---

### Examples

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

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

The following example displays fcflow details for the specified module.

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

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

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

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## show fcfwd

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

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

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**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

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

## 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]**

<b>Syntax Description</b>	<b>area</b> Selects the auto area list of company IDs. <b>company-id</b> Selects company ID list. <i>company-id</i> Selects the individual company ID (also known as Organizational Unit Identifier, or OUI) to display.
---------------------------	--

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

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0	New command

<b>Examples</b>	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 21-2](#) describes the significant fields shown in the display.

**Table 21-2 show fcid-allocation area company Field Descriptions**

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

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## show fcip

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

```
show fcip {host-map fcip-id | profile [profile-id | all] | summary | target-map fcip-id}
```

<b>Syntax Description</b>	
<b>host-map <i>fcip-id</i></b>	Displays the information for a map. The range is 1 to 255.
<b>profile</b>	Displays the information for the specified profile.
<i>profile-id</i>	Specifies the profile ID. The range is 1 to 255.
<b>all</b>	Specifies all profile IDs.
<b>summary</b>	Displays summary information.
<b>target-map <i>fcip-id</i></b>	Displays the information for the specified profile. The range is 1 to 255.

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

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	
<b>Release</b>	<b>Modification</b>
1.1(1)	This command was introduced.
2.0(1b)	Added the <b>host-map</b> , <b>summary</b> , and <b>target-map</b> keywords.

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

<b>Examples</b>	The following example displays all FCIP profiles.
<pre>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</pre>	

**show fcip**

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The following example displays information for a specified FCIP profile.

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

The following example displays FCIP summary information.

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

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

Table 21-3 describes the significant fields shown in the previous display.

**Table 21-3 show fcip summary Field Descriptions**

Field	Description
Tun	Tunnel number for the row. For example, a number 1 indicates tunnel fcip1 and a number 2 indicates fcip2.
prof	Tunnel profile.
Eth-if	Ethernet interface to which this tunnel is bound.
peer-ip	IP address of the tunnel peer port on the far end of the tunnel.
Status	State of the tunnel. UP or DOWN
TE	Tunnel operating in TE mode. '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
<b>fcip enable</b>	Configures FCIP parameters.

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## show fcns database

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

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

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was modified in Cisco MDS SAN-OS Release 1.2(2).

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

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

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

```
switch# show fcns database
VSAN 1:
-----
FCID      TYPE    PWWN          (VENDOR)      FC4-TYPE:FEATURE
-----
0x020101   N      22:04:00:05:30:00:35:e1 (Cisco)    scsi-fcp:init isc..w <--iSCSI
0x020102   N      22:02:00:05:30:00:35:e1 (Cisco)    scsi-fcp:init isc..w initiator
0x0205d4   NL     21:00:00:04:cf:da:fe:c6 (Seagate)  scsi-fcp:target
0x0205d5   NL     21:00:00:04:cf:e6:e4:4b (Seagate)  scsi-fcp:target
0x0205d6   NL     21:00:00:04:cf:e6:21:ac (Seagate)  scsi-fcp:target
0x0205d9   NL     21:00:00:04:cf:e6:19:9b (Seagate)  scsi-fcp:target
0x0205da   NL     21:00:00:04:cf:e6:19:62 (Seagate)  scsi-fcp:target
0x0205dc   NL     21:00:00:04:cf:e6:e9:82 (Seagate)  scsi-fcp:target
0x0205e0   NL     21:00:00:04:cf:e6:21:06 (Seagate)  scsi-fcp:target
0x0205e1   NL     21:00:00:04:cf:e6:e0:eb (Seagate)  scsi-fcp:target

Total number of entries = 10

VSAN 2:
-----
```

■ show fcns database

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```

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

Total number of entries = 1

VSAN 3:
-----
FCID      TYPE    PWWN          (VENDOR)      FC4-TYPE:FEATURE
-----
0xed0001  N       22:02:00:05:30:00:35:e1 (Cisco)  scsi-fcp:init iscsi..w

Total number of entries = 1

```

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

```

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

```

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```
fabric-port-wwn      :22:01:00:05:30:00:35:de
hard-addr            :0x000000
```

Total number of entries = 1

...

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

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

The following example displays the database for all configured VSANS.

```
switch# show fcns database
VSAN 2:
-----
FCID      TYPE    PWWN          (VENDOR)      FC4-TYPE:FEATURE
-----
0x6d0001   N       10:00:00:05:30:00:94:9f (Cisco)    ipfc
0x6d0002   N       10:00:00:05:30:00:94:a0 (Cisco)    ipfc virtual...c_port
0x6d0003   N       24:15:00:05:30:00:94:a0 (Cisco)    virtual:volume_owner
...
Total number of entries = 24
VSAN 3:
-----
FCID      TYPE    PWWN          (VENDOR)      FC4-TYPE:FEATURE
-----
0x650001   N       24:0c:00:05:30:00:94:a0 (Cisco)    scsi-fcp:init vir...
...
0x720101   NL      21:00:00:20:37:65:1c:cb (Company)  scsi-fcp
...
Total number of entries = 30
VSAN 4:
-----
FCID      TYPE    PWWN          (VENDOR)      FC4-TYPE:FEATURE
-----
0x6b0001   N       23:26:00:05:30:00:59:20 (Cisco)    scsi-fcp:init vir...
...
0x7800b5   NL      22:00:00:20:37:46:78:97 (Company)  scsi-fcp
...
0x780100   N       50:06:04:82:bf:d0:cf:4b (Company)    scsi-fcp 250
...
Total number of entries = 27
VSAN 5:
-----
FCID      TYPE    PWWN          (VENDOR)      FC4-TYPE:FEATURE
-----
0x6f0001   N       23:43:00:05:30:00:59:20 (Cisco)    scsi-fcp:target vi...
```

■ show fcns database

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Related Commands	Command	Description
	<b>asm mgmt-vsang</b>	Displays the CPP interface configuration for a specified interface.

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

## 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*]**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**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**

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

## show fcroute

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

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

---

### Syntax Description

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

---

### Defaults

None.

---

### Command Modes

EXEC mode.

---

### Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

---

### 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
```

UUID	Route	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

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The following example displays multicast routing information.

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

The following example displays FCID information for a specified VSAN.

```
switch# show fcroute multicast vsan 3
VSAN FC ID      # Interfaces
-----
3   0xffffffff 1
```

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

```
switch# show fcroute multicast 0xffffffff vsan 2
VSAN FC ID      # Interfaces
-----
2   0xffffffff 1
    fc1/1
```

The following example displays unicast routing information.

```
switch# show fcroute unicast
D:direct R:remote P:permanent V:volatile A:active N:non-active
                                         # Next
Protocol VSAN     FC ID/Mask     RCtl/Mask Flags Hops  Cost
-----
static   1   0x010101 0xffffffff 0x00 0x00 D P A 1   10
static   2   0x111211 0xffffffff 0x00 0x00 R P A 1   10
f SPF   2   0x730000 0xffff0000 0x00 0x00 D P A 4   500
f SPF   3   0x610000 0xffff0000 0x00 0x00 D P A 4   500
static   4   0x040101 0xffffffff 0x00 0x00 R P A 1   103
static   4   0x040102 0xffffffff 0x00 0x00 R P A 1   103
static   4   0x040103 0xffffffff 0x00 0x00 R P A 1   103
static   4   0x040104 0xffffffff 0x00 0x00 R P A 1   103
static   4   0x111211 0xffffffff 0x00 0x00 D P A 1   10
```

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

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

■ show fcroute

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

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

D:direct R:remote P:permanent V:volatile A:active N:non-active
                                         # Next
Protocol VSAN     FC ID/Mask      RCtl/Mask Flags Hops   Cost
-----  -----
static    4     0x040101 0xffffffff 0x00 0x00 R P A 1       103
          fc1/2 Domain 0xa6(166)
```

The following example displays route database information.

```
switch# show fcroute summary
```

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

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

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

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

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## show fcs

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

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

### Syntax Description

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

### Defaults

None.

### Command Modes

EXEC mode.

### Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

### 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
```

show fcs

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```

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)      0xfffffc7f
20:01:00:05:30:00:20:df Switch (Adjacent)   0xfffffc64
[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 = 0xfffffc7f
Fabric-Name = 20:01:00:05:30:00:16:df
Logical-Name = 172.22.92.58
Management Address List =
  snmp://172.22.92.58/eth-ip
  http://172.22.92.58/eth-ip
Information List:
  Vendor-Name = Cisco Systems
  Model Name/Number = DS-C9509
  Release-Code = 0

```

This command displays platform information.

```

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

```

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This command displays platform information within a specified VSAN.

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

This command displays FCS port information within a specified VSAN.

```
switch# show fcs port vsan 24
Port List in VSAN: 24
-- IE WWN: 20:18:00:05:30:00:16:df --
-----
Port-WWN          Type      Module-Type      Tx-Type
-----
20:41:00:05:30:00:16:de  TE_Port   SFP with Serial Id  Shortwave Laser
20:51:00:05:30:00:16:de  TE_Port   SFP with Serial Id  Shortwave Laser
[Total 2 switch-ports in IE]
-- IE WWN: 20:18:00:05:30:00:20:df --
-----
Port-WWN          Type      Module-Type      Tx-Type
-----
20:01:00:05:30:00:20:de  TE_Port   SFP with Serial Id  Shortwave Laser
20:0a:00:05:30:00:20:de  TE_Port   SFP with Serial Id  Shortwave Laser
[Total 2 switch-ports in IE]
```

This command displays ports within a specified WWN.

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

**show fcs**

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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
```

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## show fcsp

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

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

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.3(1).

**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
```

**show fcsp**

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

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

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:mypassword1
  Password for device with WWN:29:11:bb:cc:dd:33:11:22 is pjoalf
  Password for device with WWN:30:11:bb:cc:dd:33:11:22 is mypassword

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

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

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

---

#### Related Commands

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

---

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## show 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]
```

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

**Defaults** None.

**Command Modes** EXEC mode.

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

**Usage Guidelines** None.

**Examples** The following example displays configured global TOVs.

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

---

 show fctimer

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The following example displays configured TOVs for a specified VSAN.

```
switch# show fctimer vsan 10
vsan no. F_S_TOV D_S_TOV E_D_TOV R_A_TOV
-----
10      5000 ms  5000 ms  3000 ms  10000 ms
```

---

Related Commands	Command	Description
	fctimer	Configures fctimer parameters.

---

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## show fdmi

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

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

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.3(1).

**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
-----
```

■ show fdmi

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

The following example displays VSAN1-specific FDMI information.

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

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

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

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## show ficon

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

```
show ficon [control-device sb3 [vsan vsan-id] | first-available port-number | 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]] [brief] [installed]]]
```

Syntax Description	
<b>control-device sb3</b>	Displays FICON control device information.
<b>vsan <i>vsan-id</i></b>	Specifies FICON information for the specified VSAN ranging from 1 to 4093.
<b>first-available port-number</b>	Displays the available port numbers
<b>allegiance</b>	Displays FICON device allegiance information.
<b>directory-history</b>	Displays FICON directory history.
<b>key-counter <i>value</i></b>	Specifies a key counter.
<b>file</b>	Displays FICON information for a file.
<b>all</b>	Specifies all files.
<b>name <i>filename</i></b>	Specifies the name for a file.
<b>portaddress <i>port</i></b>	Specifies a port address for a file.
<b>interface</b>	Displays FICON information for an interface.
<b>fc <i>slot/port</i></b>	Specifies a Fibre Channel interface.
<b>fcip <i>fcip-id</i></b>	Specifies an FC IP interface.
<b>port-channel <i>port</i></b>	Specifies a PortChannel interface.
<b>counters</b>	Displays counter information for the port address.
<b>brief</b>	Displays brief FICON information for the port address.
<b>installed</b>	Displays FICON information for the installed port address.
<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC mode.
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.3(1).
<b>Usage Guidelines</b>	If FICON is not enabled on a VSAN, you will not be able to view FICON configuration information for that VSAN.

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**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 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 Address	Port Number	Interface	Admin Blocked	Status	Oper Mode	FCID
50	50	fc2/18	on	fcotAbsent	--	--
51	51	fc2/19	off	fcotAbsent	--	--
52	52	fc2/20	off	fcotAbsent	--	--
53	53	fc2/21	off	fcotAbsent	--	--
54	54	fc2/22	off	notConnected	--	--
55	55	fc2/23	off	up	FL	0xea0000
56	55		off	up	FL	0xea0000

**show ficon**

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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
```

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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
```

show ficon

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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
```

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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**

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## show file

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

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

<b>Syntax Description</b>	<table border="0"> <tr> <td><i>filename</i></td><td>Specifies a filename.</td></tr> <tr> <td><b>cksum</b></td><td>Displays CRC checksum for a file.</td></tr> <tr> <td><b>md5sum</b></td><td>Displays MD5 checksum for a file.</td></tr> </table>	<i>filename</i>	Specifies a filename.	<b>cksum</b>	Displays CRC checksum for a file.	<b>md5sum</b>	Displays MD5 checksum for a file.
<i>filename</i>	Specifies a filename.						
<b>cksum</b>	Displays CRC checksum for a file.						
<b>md5sum</b>	Displays MD5 checksum for a file.						

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

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

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
------------------------	---

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

<b>Examples</b>	The following example displays the contents of the test file that resides in the slot0 directory.
-----------------	---

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

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

```
switch# show file myfile
```

The following example displays the CRC checksum for a file.

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

The following example displays the MD5 checksum for a file.

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

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## show flogi database

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

**show flogi database [fcid *fcid-id* | interface *interface* | vsan *vsan-id*]**

### Syntax Description

<b>fcid <i>fcid-id</i></b>	Displays FLOGI database entries based on the FCID allocated.
<b>interface <i>interface</i></b>	Displays FLOGI database entries based on the logged in interface.
<b>vsan <i>vsan-id</i></b>	Displays FLOGI database entries based on the VSAN ID. The range is 1 to 4093.

### Defaults

Displays the entire FLOGI database.

### Command Modes

EXEC mode.

### Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

### Usage Guidelines

Output of this command is first sorted on interface and then on 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.
```

■ **show flogi database**

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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
<b>show fcns database</b>	Displays all the local and remote name server entries

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## show fspf

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

- the domain number of the switch
- the autonomous region for the switch
- Min\_LS\_arrival: the minimum time that must elapse before the switch accepts LSR updates
- Min\_LS\_interval: the minimum time that must elapse before the switch can transmit an LSR
- LS\_refresh\_time: the interval lapse between refresh LSR transmissions
- Max\_age: the maximum time a LSR can stay before being deleted

```
show fspf [database [vsan vsan-id [domain domain-id] [detail]] | interface | vsan vsan-id [interface [interface-range]]]
```

Syntax Description	Parameter	Description
	<b>database</b>	To display information of fspf database for a VSAN. 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.
	<b>vsan vsan-id</b>	Specifies the VSAN ID. The range is 1 to 4093.
	<b>domain domain-id</b>	The domain of the database. The parameter <i>domain_num</i> is unsigned integers in the range 0-255.
	<b>detail</b>	Displays detailed FSPF information for the VSAN.
	<b>interface interface-range</b>	Display FSPF interface information for a given VSAN. If the interface number is specified information on the neighbor on that interface is displayed. If no interface is specified information on all interfaces are displayed. The parameter <i>interface-range</i> is of the format <b>fcslot/port - fcslot/port</b> .

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

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

Command History	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
-----------------	---

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

**■ show fspf**

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**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.

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```
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 Retransmited LSU 0
  Number of received packets :   LSU 55 LSA 60 Hello 464 Error packets 10
```

**show hardware**

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## show hardware

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

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

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

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

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

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.2(1).
------------------------	---

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

<b>Examples</b>	The following example displays the switch hardware inventory details.
-----------------	---

```

switch# show hardware
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support:http://www.cisco.com/tac
Copyright (c) 1986-2002 by cisco Systems, Inc. All rights reserved.
The copyright for certain works contained herein are owned by
Andiamo Systems, Inc. and/or other third parties and are used and
distributed under license.

Software
  BIOS:      version 0.0.0
  loader:    version 1.0(0.259)
  kickstart:version 1.0(2) [build 1.0(0.280)]
  system:    version 1.0(2) [build 1.0(0.280)]

  BIOS compile time:      10/10/02
  kickstart image file is:bootflash:/boot-280
  kickstart compile time: 11/20/2002 6:00:00
  system image file is:   isan-280
  system compile time:   11/20/2002 6:00:00

Hardware
  RAM 963108 kB

  bootflash:503808 blocks (block size 512b)
  slot0:          0 blocks (block size 512b)

  172.22.92.28 uptime is 0 days 0 hour 31 minute(s) 23 second(s)

  Last reset
    Reason:Watchdog Timeout/External Reset
    System version:1.0(2)
```

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

```
This supervisor carries Pentium processor with 963108 kB of memory
Intel(R) Pentium(R) III CPU at 800MHz with 512 KB L2 Cache
Rev:Family 6, Model 11 stepping 1
```

```
512K bytes of non-volatile memory.
503808 blocks of internal bootflash (block size 512b)
```

Displays the status of the IPC channel:

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

**show hosts**

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## show hosts

To display configured 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** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

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

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

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## show incompatibility system

To display the HA compatibility status between the two supervisor modules, use the **show incompatibility system** command.

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

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

**Defaults** None.

**Command Modes** EXEC

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.2(1).

**Usage Guidelines** If the HA compatibility is **strict** on an active supervisor module, the standby supervisor module synchronization may not succeed and may move into an inconsistent state.

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

**Examples** The following examples display kernel core settings.

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

---

 show install all impact

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## show install all impact

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

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

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

---

**Defaults** None.

---

**Command Modes** EXEC mode.

---

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.2(1).

---

**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.
```

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```
[#####] 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

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## show install all status

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

**show install all status**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.3(1).

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

**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
```

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```
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
```

---

 show in-order-guarantee

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

## 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** This command was modified in Cisco MDS SAN-OS Release 1.3(4).

**Usage Guidelines** None.

**Examples** The following example displays the present configuration status of the in-order delivery feature.

```
switch# show in-order-guarantee
global inorder delivery configuration:guaranteed

VSAN specific settings
vsan 1 inorder delivery:guaranteed
vsan 101 inorder delivery:not guaranteed
vsan 1000 inorder delivery:guaranteed
vsan 1001 inorder delivery:guaranteed
vsan 1682 inorder delivery:guaranteed
vsan 2001 inorder delivery:guaranteed
vsan 2009 inorder delivery:guaranteed
vsan 2456 inorder delivery:guaranteed
vsan 3277 inorder delivery:guaranteed
vsan 3451 inorder delivery:guaranteed
vsan 3452 inorder delivery:guaranteed
vsan 3453 inorder delivery:guaranteed
```

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## show interface

You can check the status of an interface at any time by using the **show interface** command.

```
show interface [interface-range] [bbccredit | brief | counters [brief] | description |
transceiver [calibrations | details] | trunk vsan [vsan-id]]
```

### Syntax Description

<i>interface-range</i>	Displays the type of interface.
<b>bbccredit</b>	Displays buffer-to-buffer credit information.
<b>brief</b>	Displays brief information.
<b>counters</b>	Displays the interface counter information.
<b>description</b>	Displays the interface description.
<b>transceiver</b>	Displays the transceiver information for a specified interface.
<b>calibrations</b>	Displays transceiver calibration information for the specified interface.
<b>details</b>	Displays detailed transceiver diagnostics information for the specified interface.
<b>trunk vsan</b>	Displays the trunking status of all VSANs.
<i>vsan-id</i>	Displays the trunking status of the specified VSANs. The range is 1 to 4093.

### Defaults

Displays information for all interfaces on the switch.

### Command Modes

EXEC

### Command History

Release	Modification
1.0(2)	This command was introduced.
1.3(1)	Added the <b>bbccredit</b> keyword and support for cpp and fv interfaces.

### Usage Guidelines

You can specify a range of interfaces by issuing a command with the following example format:

**interface fc1/1 - 5 , fc2/5 - 7**

The spaces are required before and after the dash ( - ) and before and after the comma ( , ).

The **show interface** *interface-type slot/port* **transceiver** command can only be issued on a switch in the Cisco MDS 9100 Series if the SFP is present.

[Table 21-4](#) lists the interface types supported by the **show interface** command.

show interface

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**Table 21-4 Interface Types for the show interface Command**

Interface Type	Description
<b>cpx slot/port</b>	Displays information for a virtualization interface specific to the ASM module.
<b>fc slot/port</b>	Displays the Fibre Channel interface in the specified slot/port.
<b>fc-tunnel tunnel-id</b>	Displays description of the specified FC tunnel from 1 to 4095.
<b>fcip interface-number</b>	Specifies a FCIP interface. The range is 1 to 255.
<b>fv slot/dpp-number/fv-port</b>	Displays information for the virtual F port (FV port) interface in the specified slot along with the data path processor (DPP) number and the FV port number.
<b>gigabitethernet slot/port</b>	Displays information for a Gigabit Ethernet interface at the specified slot and port.
<b>gigabitethernet slot/port. subinterface-number</b>	Displays information for a Gigabit Ethernet subinterface at the specified slot and port followed by a dot (.) indicator and the subinterface number. The subinterface range is 1 to 4093.
<b>iscsi slot/port</b>	Displays the description of the iSCSI interface in the specified slot and port.
<b>mgmt 0</b>	Displays the description of the management interface.
<b>port-channel port-channel-number</b>	Displays the PortChannel interface specified by the PortChannel number. The range is 1 to 128.
<b>port-channel port-channel-number .subinterface-number</b>	Displays the PortChannel subinterface specified by the PortChannel number followed by a dot (.) indicator and the subinterface number. The port channel number range is 1 to 128. The subinterface range is 1 to 4093.
<b>sup-fc 0</b>	Displays the in-band interface details.
<b>vsan vsan-id</b>	Displays information for a VSAN. The range is 1 to 4093.

## Examples

The following example shows how to display information about a Fibre Channel interface.

```
switch# show interface fc1/11
fc1/11 is up
    Hardware is Fibre Channel
    Port WWN is 20:0b:00:05:30:00:59:de
    Admin port mode is ST
    Port mode is ST
    Port vsan is 1
    Speed is 1 Gbps
    Rspan tunnel is fc-tunnel 100
    Beacon is turned off
    5 minutes input rate 248 bits/sec, 31 bytes/sec, 0 frames/sec
    5 minutes output rate 176 bits/sec, 22 bytes/sec, 0 frames/sec
        6862 frames input, 444232 bytes
            0 discards, 0 errors
            0 CRC, 0 unknown class
            0 too long, 0 too short
        6862 frames output, 307072 bytes
            0 discards, 0 errors
            0 input OLS, 0 LRR, 0 NOS, 0 loop init
            0 output OLS, 0 LRR, 0 NOS, 0 loop init
```

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```
16 receive B2B credit remaining
 3 transmit B2B credit remaining.
```

The following example shows how to display information about the in-band interface.

```
switch# show interface sup-fc0
sup-fc0 is up
  Hardware is FastEthernet, address is 0000.0000.0000
  MTU 2596 bytes, BW 1000000 Kbit
  66 packets input, 7316 bytes
  Received 0 multicast frames, 0 compressed
  0 input errors, 0 frame, 0 overrun 0 fifo
  64 packets output, 28068 bytes, 0 underruns
  0 output errors, 0 collisions, 0 fifo
  0 carrier errors
```

The following example shows how to display information about a VSAN interface.

```
switch# show interface vsan 2
vsan2 is up, line protocol is up
  WWPN is 10:00:00:05:30:00:59:1f, FCID is 0xb90100
  Internet address is 10.1.1.1/24
  MTU 1500 bytes, BW 1000000 Kbit
  0 packets input, 0 bytes, 0 errors, 0 multicast
  0 packets output, 0 bytes, 0 errors, 0 dropped
```

The following example shows how to display description information for all interfaces.

```
switch# show interface description
fc1/1
  no description
fc1/2
  no description
fc1/15
fcAn1

sup-fc0 is up

mgmt0 is up

vsan1 - IPFC interface

port-channel 15
no description

port-channel 98
no description
```

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

```
switch# show interface fc2/1 - 5 brief
-----
Interface  Vsan   Admin Admin   Status      Oper   Oper   Port-channel
          Mode    Trunk   Mode
-----
```

Interface	Vsan	Admin Mode	Admin Trunk Mode	Status	Oper Mode	Oper Speed (Gbps)	Port-channel
fc1/1	1	auto	on	down	--	--	--
fc1/2	1	auto	on	fcotAbsent	--	--	--
fc1/3	1	F	--	notConnected	--	--	--
fc1/4	1	auto	on	fcotAbsent	--	--	--
fc1/5	1	F	--	up	F	2	--
fc1/6	1	auto	on	fcotAbsent	--	--	--
fc1/7	1	auto	on	down	--	--	--
fc1/8	1	auto	on	fcotAbsent	--	--	--
fc1/9	1	auto	on	fcotAbsent	--	--	--

■ **show interface**

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```

fc1/10    1    auto  on    fcotAbsent    --  --  --
fc1/11    1    auto  on    down        --  --  --
fc1/12    1    auto  on    fcotAbsent    --  --  --
fc1/13    1    auto  on    down        --  --  --
fc1/14    1    auto  on    fcotAbsent    --  --  --
fc1/15    1    auto  on    down        --  --  --
fc1/16    1    auto  on    fcotAbsent    --  --  --
-----
Interface      Status   IP Address          Speed     MTU
-----
sup-fc0        up      --                  1 Gbps   2596
-----
Interface      Status   IP Address          Speed     MTU
-----
mgmt0         up      173.95.112/24       100 Mbps  1500
-----
Interface      Status   IP Address          Speed     MTU
-----
vsan1          up      10.1.1.1/24        1 Gbps   1500

```

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

```

switch# show interface fcip 3 counters
fcip3
    TCP Connection Information
        2 Active TCP connections
            Control connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65532
            Data connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65534
        30 Attempts for active connections, 0 close of connections
    TCP Parameters
        Path MTU 1500 bytes
        Current retransmission timeout is 300 ms
        Round trip time: Smoothed 10 ms, Variance: 5
        Advertised window: Current: 122 KB, Maximum: 122 KB, Scale: 1
        Peer receive window: Current: 114 KB, Maximum: 114 KB, Scale: 1
        Congestion window: Current: 2 KB, Slow start threshold: 1048560 KB
        5 minutes input rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
        5 minutes output rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
        910 frames input, 84652 bytes
            910 Class F frames input, 84652 bytes
            0 Class 2/3 frames input, 0 bytes
            0 Error frames timestamp error 0
        908 frames output, 84096 bytes
            908 Class F frames output, 84096 bytes
            0 Class 2/3 frames output, 0 bytes
            0 Error frames 0 reass frames

```

The following example shows how to display counter information for all interfaces.

```

switch# show interface counters brief
-----
Interface      Input (rate is 5 min avg)          Output (rate is 5 min avg)
-----          Rate      Total
                         MB/s    Frames          Rate      Total
                                         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)

```

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	Rate MB/s	Total Frames	Rate MB/s	Total 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 MB/s	Total Frames	Rate MB/s	Total Frames
port-channel 100	0	0	0	0
-----	-----	-----	-----	-----
Interface	Input (rate is 5 min avg)		Output (rate is 5 min avg)	
	Rate Mbits/s	Total Frames	Rate Mbits/s	Total Frames
fcip2	0	0	0	0
fcip3	9	0	9	0
fcip6	8	0	8	0
fcip7	8	0	8	0

The following example shows how to display information about a FCIP interface.

```
switch# show interface fcip 3
fcip3 is trunking
    Hardware is GigabitEthernet
    Port WWN is 20:ca:00:05:30:00:07:1e
    Peer port WWN is 20:ca:00:00:53:00:18:1e
    Admin port mode is auto, trunk mode is on
    Port mode is TE
    vsan is 1
    Trunk vsans (allowed active) (1,10)
    Trunk vsans (operational) (1)
    Trunk vsans (up) (1)
    Trunk vsans (isolated) (10)
    Trunk vsans (initializing) ()
    Using Profile id 3 (interface GigabitEthernet4/3)
    Peer Information
        Peer Internet address is 43.1.1.1 and port is 3225
        Special Frame is disabled
    Maximum number of TCP connections is 2
    Time Stamp is disabled
    B-port mode disabled
    TCP Connection Information
        2 Active TCP connections
        Control connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65532
        Data connection: Local 43.1.1.2:3225, Remote 43.1.1.1:65534
```

**show interface**

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```
30 Attempts for active connections, 0 close of connections
TCP Parameters
  Path MTU 1500 bytes
  Current retransmission timeout is 300 ms
  Round trip time: Smoothed 10 ms, Variance: 5
  Advertised window: Current: 122 KB, Maximum: 122 KB, Scale: 1
  Peer receive window: Current: 114 KB, Maximum: 114 KB, Scale: 1
  Congestion window: Current: 2 KB, Slow start threshold: 1048560 KB
  5 minutes input rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
  5 minutes output rate 64 bits/sec, 8 bytes/sec, 0 frames/sec
    866 frames input, 80604 bytes
      866 Class F frames input, 80604 bytes
      0 Class 2/3 frames input, 0 bytes
      0 Error frames timestamp error 0
    864 frames output, 80048 bytes
      864 Class F frames output, 80048 bytes
      0 Class 2/3 frames output, 0 bytes
      0 Error frames 0 reass frames
    16 receive B2B credit remaining
    3 transmit B2B credit remaining.
```

The following example shows how to display information about a Gigabit Ethernet interface.

```
switch# show interface gigabitethernet 4/1
GigabitEthernet4/1 is up
  Hardware is GigabitEthernet, address is 0005.3000.2e12
  Internet address is 100.1.1.2/24
  MTU 1500 bytes, BW 1000000 Kbit
  Port mode is IPS
  Speed is 1 Gbps
  Beacon is turned off
  5 minutes input rate 32 bits/sec, 4 bytes/sec, 0 frames/sec
  5 minutes output rate 88 bits/sec, 11 bytes/sec, 0 frames/sec
  637 packets input, 49950 bytes
    0 multicast frames, 0 compressed
    0 input errors, 0 frame, 0 overrun 0 fifo
  659 packets output, 101474 bytes, 0 underruns
    0 output errors, 0 collisions, 0 fifo
    0 carrier errors
```

The following example shows how to display information about an iSCSI interface.

```
switch# show interface iscsi 2/1
iscsi2/1 is up
  Hardware is GigabitEthernet
  Port WWN is 20:41:00:05:30:00:50:de
  Admin port mode is ISCSI
  Port mode is ISCSI
  Speed is 1 Gbps
  iSCSI initiator is identified by name
  Number of iSCSI session: 7, Number of TCP connection: 7
  Configured TCP parameters
    Local Port is 3260
    PMTU discover is disabled
    Keepalive-timeout is 1 sec
    Minimum-retransmit-time is 300 ms
    Max-retransmissions 8
    Sack is disabled
    Minimum available bandwidth is 0 kbps
    Estimated round trip time is 0 usec
  5 minutes input rate 265184 bits/sec, 33148 bytes/sec, 690 frames/sec
  5 minutes output rate 375002168 bits/sec, 46875271 bytes/sec, 33833 frames/sec
  iSCSI statistics
    6202235 packets input, 299732864 bytes
```

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```
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:
```

**show inventory**

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## show inventory

To display the system hardware inventory, use the **show inventory** command.

**show inventory**

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

**Defaults** None.

**Command Modes** EXEC mode.

Command History	Release	Modification
	2.0(1b)	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", DESCRIPTOR: "MDS 9506 chassis"
PID: DS-C9506 , VID: 0.1, SN: FOX0712S007

NAME: "Slot 1", DESCRIPTOR: "2x1GE IPS, 14x1/2Gbps FC Module"
PID: DS-X9302-14K9 , VID: 0.301, SN: JAB083100JY

NAME: "Slot 5", DESCRIPTOR: "Supervisor/Fabric-1"
PID: DS-X9530-SF1-K9 , VID: 0.0, SN: JAB0747080H

NAME: "Slot 6", DESCRIPTOR: "Supervisor/Fabric-1"
PID: DS-X9530-SF1-K9 , VID: 4.0, SN: JAB074004VE

NAME: "Slot 17", DESCRIPTOR: "MDS 9506 Power Supply"
PID: DS-CAC-1900W , VID: 1.0, SN: DCA0702601V

NAME: "Slot 18", DESCRIPTOR: "MDS 9506 Power Supply"
PID: DS-CAC-1900W , VID: 1.0, SN: DCA0702601U

NAME: "Slot 19", DESCRIPTOR: "MDS 9506 Fan Module"
PID: DS-6SLOT-FAN , VID: 0.1, SN: FOX0638S150
```

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## show ip access-list

To display the IP access control lists (IP-ACLs) currently active, use the **show ip access-list** command.

**show ip access-list [list-number | usage]**

<b>Syntax Description</b>	<b>ip access-list</b> Displays the information for all IP-ACLs. <b>list-number</b> Identifies the IP-ACL with an integer ranging from 1 to 256. <b>usage</b> Specifies the interface type.
---------------------------	--

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

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

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.2(1).
------------------------	---

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

<b>Examples</b>	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 route*****Send documentation comments to mdsfeedback-doc@cisco.com.***

## show ip route

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

**show ip route [configured]**

<b>Syntax Description</b>	<b>configured</b>	Displays configured IP routes.
<b>Defaults</b>	None.	
<b>Command Modes</b>	EXEC mode.	
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).	
<b>Usage Guidelines</b>	None.	
<b>Examples</b>	<p>The following example displays active IP routes.</p> <pre>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</pre> <p>The following example displays configured IP routes.</p> <pre>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</pre>	

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## show ip routing

To display the IP routing state, use the **show ip routing** command.

**show ip routing**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

**Examples** The following example the IP routing state.

```
switch# show ip routing
ip routing is disabled
```

---

 show ips arp

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## show ips arp

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

**show ips arp interface gigabitether net slot/port**

---

<b>Syntax Description</b>	<b>interface gigabitether net slot/port</b> Specifies a Gigabit Ethernet interface by the slot and port.
---------------------------	--

---

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

---

<b>Command Modes</b>	EXEC
----------------------	------

---

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.1(1).
------------------------	---

---

<b>Usage Guidelines</b>	Use the <b>show ips arp interface gigabitether net</b> 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.
-------------------------	---

---

<b>Examples</b>	The following example displays ARP caches in the specified interface.
-----------------	---

```
switch# show ips arp interface gigabitether net 4/1
Protocol      Address   Age (min)  Hardware Addr  Type    Interface
Protocol      Address   Age (min)  Hardware Addr  Type    Interface
Internet     172.22.91.1 2        -          00:00:0c:07:ac:01 ARPA   GigabitEthernet4/4
Internet     172.22.91.2 0        -          00:02:7e:6b:a8:08 ARPA   GigabitEthernet4/4
Internet     172.22.91.17 0       -          00:e0:81:20:45:f5 ARPA   GigabitEthernet4/4
Internet     172.22.91.18 0       -          00:e0:81:05:f7:64 ARPA   GigabitEthernet4/4
Internet     172.22.91.30 0       -          00:e0:18:2e:9d:19 ARPA   GigabitEthernet4/4
...
...
```

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## show ips ip route

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

**show ips ip route interface gigabitether net slot/port**

<b>Syntax Description</b>	<b>interface gigabitether net slot/port</b> Specifies a Gigabit Ethernet interface by the slot and port.
<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.1(1).
<b>Usage Guidelines</b>	None.
<b>Examples</b>	<p>The following example displays the IP route table information for a Gigabit Ethernet interface.</p> <pre>switch# show ips ip route interface gigabitether net 8/1 Codes: C - connected, S - static  No default gateway  C 10.1.3.0/24 is directly connected, GigabitEthernet8/1</pre>

■ show ips stats

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## show ips stats

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

```
show ips stats {buffer | dma-bridge | icmp | ip | mac} interface gigabitethernet slot/port
show ips stats {hw-comp | tcp} {all | interface gigabitethernet slot/port}
```

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

**Defaults** None.

**Command Modes** EXEC

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.1(1).

**Usage Guidelines** Use the **show ips stats icmp interface gigabitethernet** command to obtain ICMP statistics for the selected interface.  
 Use the **show ips stats ip interface gigabitethernet 2/1** command to obtain IP statistics for the selected interface.  
 Use the **show ips stats mac interface gigabitethernet** command to obtain Ethernet statistics for the selected interface.  
 Use the **show ips stats tcp interface gigabitethernet** command to obtain TCP stats along with the connection list and TCP state for the selected interface.

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**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
```

■ show ips stats

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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
```

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## show ips status

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

**show ips status [module slot]**

<b>Syntax Description</b>	<b>module slot</b> Identifies the module in the specified slot.
<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.1(1).
<b>Usage Guidelines</b>	None.
<b>Examples</b>	<p>The following example displays the IP storage status for all modules on the switch.</p> <pre>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</pre> <p>The following example displays the IP storage status for the module in slot 9.</p> <pre>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 ...</pre>

**show iscsi global**

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## show iscsi global

To display global iSCSI configured information, use the **show iscsi global** command.

**show iscsi global**

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

**Defaults** None.

**Command Modes** EXEC

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.1(1).

**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
  Number of target nodes:11
  Number of portals:8
  Number of sessions:10
  Failed sessions:9, Last failed initiator
  name:iqn.1987-05.com.cisco:02.0163c91bbc28.host1
```

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## show iscsi initiator

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

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

<b>Syntax Description</b>	<b>configured</b> Displays the configured information for the iSCSI initiator. <i>initiator-name</i> Specifies the name of an initiator. <b>detail</b> Displays detailed iSCSI initiator information. <b>fcp-session</b> Displays the Fibre Channel session details. <b>iscsi-session</b> Displays iSCSI session details. <b>summary</b> Displays summary information. <b>name</b> Displays initiator name information.
---------------------------	---

**Defaults** None.

**Command Modes** EXEC

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.1(1).

**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 ign.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 ign.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
```

■ show iscsi initiator

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```
iSCSI Node name is iqn.1987-05.com.cisco.01.b6ca466f8b4d8e848ab17e92f24bf9cc
iSCSI alias name: iscsi6-lnx
Node WWN is 23:29:00:05:30:00:7e:a0 (dynamic)
Member of vsans: 1, 2, 3, 4
Number of Virtual n_ports: 1
Virtual Port WWN is 23:2a:00:05:30:00:7e:a0 (dynamic)
Interface iSCSI 8/3, Portal group tag: 0x382
  VSAN ID 4, FCID 0xee0000
  VSAN ID 3, FCID 0xee0100
  VSAN ID 2, FCID 0xee0000
  VSAN ID 1, FCID 0xdc0102
...
```

The following example displays detailed Information for all iSCSI initiators.

```
switch# show iscsi initiator detail
iSCSI Node name is iqn.1987-05.com.cisco.01.15cee6e7925087abc82ed96377653c8
iSCSI alias name: iscsi7-lnx
Node WWN is 23:10:00:05:30:00:7e:a0 (dynamic)
Member of vsans: 1
Number of Virtual n_ports: 1

Virtual Port WWN is 23:10:00:05:30:00:7e:a0 (dynamic)
Interface iSCSI 8/3, Portal group tag is 0x382
  VSAN ID 1, FCID 0xdc0100
  No. of FC sessions: 3
  No. of iSCSI sessions: 2

  iSCSI session details

    Target node: iqn.com.domainname.172.22.93.143.08-03.gw.22000020374b5247
    Statistics:
      PDU: Command: 0, Response: 0
      Bytes: TX: 0, RX: 0
      Number of connection: 1
    TCP parameters
      Connection Local 10.1.3.3:3260, Remote 10.1.3.107:34112
      Path MTU 1500 bytes
      Current retransmission timeout is 300 ms
      Round trip time: Smoothed 2 ms, Variance: 1
      Advertised window: Current: 6 KB, Maximum: 6 KB, Scale: 3
      Peer receive window: Current: 250 KB, Maximum: 250 KB, Scale: 2
      Congestion window: Current: 8 KB

    Target node: iqn.com.domainname.172.22.93.143.08-03.gw.22000020374b5247
    Statistics:
      PDU: Command: 0, Response: 0
      Bytes: TX: 0, RX: 0
      Number of connection: 1
    TCP parameters
      Connection Local 10.1.3.3:3260, Remote 10.1.3.107:34112
      Path MTU 1500 bytes
      Current retransmission timeout is 300 ms
      Round trip time: Smoothed 2 ms, Variance: 1
      Advertised window: Current: 6 KB, Maximum: 6 KB, Scale: 3
      Peer receive window: Current: 250 KB, Maximum: 250 KB, Scale: 2
      Congestion window: Current: 8 KB
...
```

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## show iscsi session

To display iSCSI session information, use the **show iscsi session** command.

**show iscsi session [incoming] [initiator name] [outgoing] [target name] [detail]**

Syntax Description	
<b>detail</b>	Displays detailed iSCSI session information.
<b>incoming</b>	Displays incoming iSCSI sessions.
<b>initiator name</b>	Displays specific iSCSI initiator session information. Maximum length is 80 characters.
<b>outgoing</b>	Displays outgoing iSCSI sessions
<b>target name</b>	Displays specific iSCSI target session information. Maximum length is 80 characters.

<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.1(1).
<b>Usage Guidelines</b>	All the parameters are optional in the <b>show iscsi session</b> 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.

<b>Examples</b>	The following command displays the iSCSI session information.
	<pre>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 ...</pre>

■ show iscsi session

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The following command displays the specified iSCSI target.

```
switch# show iscsi session target
iqn.com.domainname.172.22.93.143.08-03.gw.220000203738e77d
Initiator iqn.1987-05.com.cisco.01.15cee6e7925087abc82ed96377653c8
Session #1
Target iqn.com.domainname.172.22.93.143.08-03.gw.220000203738e77d
VSAN 1, ISID 000000000000, Status active, no reservation
```



**Note** On the IPS module, you can verify what iSCSI initiator IQN has been assigned which pWWN when it logs in by using the **show zone active vsan vsan-id** command.

```
switch# zone name iscsi_16_A vsan 16
* fcid 0x7700d4 [pwwn 21:00:00:20:37:c5:2d:6d]
* fcid 0x7700d5 [pwwn 21:00:00:20:37:c5:2e:2e]
* fcid 0x770100 [symbolic-nodename
iqn.1987-05.com.cisco.02.BC3FEEFC431B199F81F33E97E2809C14.NUYEAR]
```

The following command displays the specified iSCSI initiator.

```
switch# show iscsi session initiator iqn.1987-05.com.cisco:02.91b0ee2e8aa1.iscsi16-w2k
Initiator iqn.1987-05.com.cisco:02.91b0ee2e8aa1.iscsi16-w2k
Session #1
Discovery session, ISID 00023d00022f, Status active

Session #2
Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037388bc2
VSAN 1, ISID 00023d000230, Status active, no reservation

Session #3
Target iqn.com.domainname.172.22.93.143.08-03.gw.210000203739ad7f
VSAN 1, ISID 00023d000235, Status active, no reservation

Session #4
Target iqn.com.domainname.172.22.93.143.08-03.gw.210000203739aa3a
VSAN 1, ISID 00023d000236, Status active, no reservation

Session #5
Target iqn.com.domainname.172.22.93.143.08-03.gw.210000203739ada7
VSAN 1, ISID 00023d000237, Status active, no reservation

Session #6
Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037381ccb
VSAN 1, ISID 00023d000370, Status active, no reservation

Session #7
Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037388b54
VSAN 1, ISID 00023d000371, Status active, no reservation

Session #8
Target iqn.com.domainname.172.22.93.143.08-03.gw.220000203738a194
VSAN 1, ISID 00023d000372, Status active, no reservation

Session #9
Target iqn.com.domainname.172.22.93.143.08-03.gw.2200002037360053
VSAN 1, ISID 00023d000373, Status active, no reservation
```

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## show iscsi stats

To display the iSCSI statistics information, use the **show iscsi stats** command.

**show iscsi stats [iscsi slot/port] [clear | detail]**

<b>Syntax Description</b>	<b>iscsi slot/port</b> Displays statistics for the specified iSCSI interface. <b>clear</b> Clears iSCSI statistics for the session or interface. <b>detail</b> Displays detailed iSCSI statistics for the session or interface.
---------------------------	---

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

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.1(1).
------------------------	---

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

<b>Examples</b>	The following command displays brief iSCSI statistics. <pre>switch# show iscsi stats iscsi1/1   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  iscsi1/2   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  iscsi1/3   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</pre>
-----------------	---

■ show iscsi stats

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```

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

```

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```

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
...

```

**■ show iscsi stats*****Send documentation comments to mdsfeedback-doc@cisco.com.***

The following command displays detailed statistics for the specified iSCSI interface.

```
switch# show iscsi stats iscsi 8/1
iscsi8/1
    5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    iSCSI statistics
        0 packets input, 0 bytes
            0 Command pdus, 0 Data-out pdus, 0 Data-out bytes, 0 fragments
        0 packets output, 0 bytes
            0 Response pdus (with sense 0), 0 R2T pdus
            0 Data-in pdus, 0 Data-in bytes
```

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## show iscsi virtual-target

To display all the iSCSI nodes that are local to the switch, use the **show iscsi virtual-target** command.

**show iscsi virtual-target [configured] [name]**

<b>Syntax Description</b>	<b>configured</b>	Show the information for all iSCSI ports.
	<i>name</i>	Show iSCSI information for the specified virtual-target.

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

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.1(1).
------------------------	---

<b>Usage Guidelines</b>	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.
-------------------------	---

<b>Examples</b>	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 isns

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

## show isns

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

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

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

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**Defaults** None.

**Command Modes** EXEC mode.

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

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

**Examples** The following example shows how to display the iSNS configuration.

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

**show isns**

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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
<b>isns-server enable</b>	Enables the iSNS server.

---

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## show ivr

To display various Inter-VSAN Routing (IVR) configurations, use the **show ivr** command.

```
show ivr [pending | pending-diff | service-group database | status | virtual-domains [vsan
vsan-id] | virtual-fcdomain-add-status | vsan-topology [active | configured] | zone [active |
name name [active]] | zoneset [active | brief | fabric | name name | status]]
```

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

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

Command Modes	EXEC
---------------	------

Command History	Release	Modification
	1.3(1)	This command was introduced.
	2.0(1b)	Added the <b>pending</b> and <b>pending-diff</b> keywords.
	2.1(1a)	Added the <b>service-group</b> keywords.

Usage Guidelines	To access this command, you must perform the <b>ivr enable</b> command.
------------------	---

show ivr

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**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 IVR service group database configuration.

```
switch# show ivr service-group database
SG-ID  SG-NAME          AFID  VSANS
-----
1      IVR-SG1           10    1-2,6-10
1      IVR-SG1           11    1
```

Total: 2 entries in service group table

The following example displays the status of the IVR feature

```
switch# show ivr status
Inter-VSAN Routing is enabled
```

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

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

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 21-5** describes the significant fields shown in the **show ivr vsan-topology** display.

**Table 21-5 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
```

**show ivr**

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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
```

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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
<b>ivr distribute</b>	Enables IVR CFS distribution.
<b>ivr enable</b>	Enables IVR.

---

 show ivr fcdomain database

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## show ivr fcdomain database

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

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

<b>Syntax Description</b>	<b>autonomous-fabric-num <i>afid-num</i></b> Specifies the AFID. The range is 1 to 64. <b>vsan <i>vsan-id</i></b> Specifies the VSAN ID. The range is 1 to 4093.
---------------------------	---

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

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.1(2)	This command was introduced.

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

<b>Examples</b>	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
```

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

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

**show kernel core*****Send documentation comments to mdsfeedback-doc@cisco.com.***

## show kernel core

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

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

Syntax Description	
<b>limit</b>	Displays the configured line card limit.
<b>module slot</b>	Displays the kernel core configuration for a module in the specified slot.
<b>target</b>	Displays the configured target IP address.

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

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.1(1).
------------------------	---

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

<b>Examples</b>	The following examples display kernel core settings.
-----------------	--

```
switch# show kernel core limit
2

switch# show kernel core target
10.50.5.5

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

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## show license

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

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

<b>Syntax Description</b>	<b>brief</b> Displays a list of license files installed on a switch. <b>file <i>filename</i></b> Displays information for a specific license file. <b>host-id <i>license-name</i></b> Displays host ID used to request node-locked license. <b>usage</b> Displays information about the current license usage.
---------------------------	---

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

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	This command was modified in Cisco MDS SAN-OS Release 1.3(2).
------------------------	---

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

<b>Examples</b>	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
```

**■ show license**

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

The following example displays the host IDs, required to request node locked license.

```
switch# show license host-id  
License hostid:VDH=4C0AF664
```

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

## show line

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

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

Syntax Description	
<b>com1</b>	Displays aux line configuration.
<b>user-input-string</b>	Displays the user-input initial string.
<b>console</b>	Displays console line configuration.
<b>connected</b>	Displays the physical connection status.

**Defaults** None.

**Command Modes** EXEC.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.2(1).

**Usage Guidelines** None.

**Examples** The following example displays configured console settings.

```
switch## show line console
line Console:
    Speed:      38400 bauds
    Databits:   8 bits per byte
    Stopbits:   1 bit(s)
    Parity:     none
```

The following example displays configured or default COM1 settings.

```
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|CTS|DTR|DSR|CD|RI
```

■ show line

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Related Commands	Command	Description
	<b>line console</b>	Configure primary terminal line.
	<b>line aux</b>	Configures the auxiliary COM 1 port
	<b>clear line</b>	Deleted configured line sessions.

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## show logging

To display the current message logging configuration, use the **show logging** command.

```
show logging [console | info | last lines | level facility | logfile | module | monitor |
nvram [last lines] | pending | pending-diff | server | status]
```

Syntax Description	<b>console</b> Displays console logging configuration. <b>info</b> Displays logging configuration. <b>last <i>lines</i></b> Displays last few lines of logfile. The range is 1 to 9999. <b>level <i>facility</i></b> Displays facility logging configuration. Facility values include <b>aaa</b> , <b>acl</b> , <b>auth</b> , <b>authpriv</b> , <b>bootvar</b> , <b>callhome</b> , <b>cdp</b> , <b>cfs</b> , <b>cimserver</b> , <b>cron</b> , <b>daemon</b> , <b>device-alias</b> , <b>dstats</b> , <b>ethport</b> , <b>fc2d</b> , <b>fcc</b> , <b>fcd</b> , <b>fcdomain</b> , <b>fclns</b> , <b>fcsp-mgr</b> , <b>fdmi</b> , <b>ficon</b> , <b>flogi</b> , <b>fspf</b> , <b>ftp</b> , <b>ike</b> , <b>ipacl</b> , <b>ipconf</b> , <b>ipfc</b> , <b>ips</b> , <b>ipsec</b> , <b>isns</b> , <b>kernel</b> , <b>license</b> , <b>localn</b> , <b>lpr</b> , <b>mail</b> , <b>mcast</b> , <b>module</b> , <b>news</b> , <b>platform</b> , <b>port</b> , <b>port-security</b> , <b>qos</b> , <b>radius</b> , <b>rdl</b> , <b>rib</b> , <b>rlir</b> , <b>rscn</b> , <b>scsi-target</b> , <b>security</b> , <b>syslog</b> , <b>sysmgr</b> , <b>systemhealth</b> , <b>tacacs</b> , <b>tlport</b> , <b>user</b> , <b>uucp</b> , <b>vni</b> , <b>vrrp-cfg</b> , <b>vsan</b> , <b>vshd</b> , <b>wwm</b> , <b>xbar</b> , <b>zone</b> . <b>logfile</b> Displays contents of logfile. <b>module</b> Displays module logging configuration. <b>monitor</b> Displays monitor logging configuration. <b>nvram</b> Displays NVRAM log. <b>pending</b> Displays the server address pending configuration. <b>pending-diff</b> Displays the server address pending configuration differences with the active configuration. <b>server</b> Displays server logging configuration. <b>status</b> Displays the status of the last operation.
--------------------	--

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

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

Command History	Release	Modification
	1.3(1)	This command was introduced.
	2.0(1b)	Added the <b>pending</b> , <b>pending-diff</b> , and <b>status</b> keywords.

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

show logging

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**Examples**

The following example displays current system message logging.

```
switch# show logging

Logging console:                                enabled (Severity: notifications)
Logging monitor:                               enabled (Severity: information)
Logging linecard:                               enabled (Severity: debugging)
Logging server:                                enabled
{172.22.0.0}
    server severity:      debugging
    server facility:     local7
{172.22.0.0}
    server severity:      debugging
    server facility:     local7
Logging logfile:                                enabled
Name - external/sampleLogFile: Severity - notifications Size - 3000000

syslog_get_levels :: Error(-1) querying severity values for fcmlps at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfd 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                        |
| fcmlps       | 0                | 0                        |
| wwn          | 3                | 3                        |
| fcc          | 2                | 2                        |
| qos          | 3                | 3                        |
| vrrp_cfg     | 2                | 2                        |
| fcfd         | 0                | 0                        |
| ntp          | 2                | 2                        |
| platform     | 5                | 5                        |
| vrrp_eng     | 2                | 2                        |


```

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callhome	2	2
mcast	2	2
rscn	2	2
securityd	2	2
vhbard	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
```

**show logging**

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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
vbad	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: {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 fcmlps 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
```

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zone	2	2
vni	2	2
ipconf	2	2
ipfc	2	2
xbar	3	3
fcns	2	2
fcs	2	2
acl	2	2
tlport	2	2
port	5	5
port_channel	5	5
fcmpls	0	0
wwn	3	3
fcc	2	2
qos	3	3
vrrp_cfg	2	2
fcfwd	0	0
ntp	2	2
platform	5	5
vrrp_eng	2	2
callhome	2	2
mcast	2	2
rscn	2	2
securityd	2	2
vhbad	2	2
rib	2	2
vshd	5	5
0(emergencies)	1(alerts)	2(critical)
3(errors)	4(warnings)	5(notifications)
6(information)	7(debugging)	

The following example displays last few lines of a log file.

```
switch# show logging last 2
Nov  8 16:48:04 excal-113 %LOG_VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console
from pts/1 (171.71.58.56)
Nov  8 17:44:09 excal-113 %LOG_VSHD-5-VSHD_SYSLOG_CONFIG_I: Configuring console
from pts/0 (171.71.58.72)
```

The following example displays switching module logging status.

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

The following example displays monitor logging status.

```
switch# show logging monitor
Logging monitor:           enabled (Severity: information)
```

The following example displays server information.

```
switch# show logging server
Logging server:           enabled
{172.22.95.167}
    server severity:     debugging
    server facility:    local7
{172.22.92.58}
    server severity:     debugging
    server facility:    local7
```

**■ show logging**

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Related Commands	Command	Description
	<b>logging</b>	Configures logging parameters.

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## show mcast

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

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

<b>Syntax Description</b>	<b>vsan <i>vsan-id</i></b>	Displays information for a VSAN. The range is 1 to 4093.
<b>Defaults</b>	None.	
<b>Command Modes</b>	EXEC mode.	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	This command was introduced.
<b>Usage Guidelines</b>	None.	
<b>Examples</b>	The following example displays multicast information.	
	<pre>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)</pre>	

**■ show mcast**

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

```
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
	<b>mcast root</b>	Configures the multicast root VSAN.

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## show module

To verify the status of a module, use the **show module** command.

**show module [slot | diag | uptime]**

<b>Syntax Description</b>	<p><b>slot</b>      Specifies the slot number for the module.</p> <p><b>diag</b>      Displays module-related information.</p> <p><b>uptime</b>      Displays the length of time that the modules have been functional in the switch.</p>
---------------------------	---

<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC mode.
<b>Command History</b>	This command was modified in Cisco MDS SAN-OS Release 1.3(4).

**Usage Guidelines** If your chassis has more than one switching module, you will see the progress check if you issue the show module command several times and view the status column each time.

The switching module goes through a testing and an initializing stage before displaying an **ok** status. The following table describes the possible states in which a module can exist.

<b>show module Output</b>	<b>Description</b>
powered up	The hardware has electrical power. When the hardware is powered up, the software begins booting.
testing	The module has established connection with the supervisor and the switching module is performing bootup diagnostics.
initializing	The diagnostics have passed and the configuration is being downloaded.
failure	The switch detects a switching module failure on initialization and automatically attempts to power-cycle the module three (3) times. After the third attempt it continues to display a failed state.
ok	The switch is ready to be configured.
power-denied	The switch detects insufficient power for a switching module to power up. In this case, issue a <b>show environment power</b> command to determine power consumption issues.
active	This module is the active supervisor module and the switch is ready to be configured.

show module

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show module Output	Description
HA-standby	This module is the standby supervisor module and that the HA switchover mechanism is enabled.
standby	This module is the standby supervisor module.

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.

## 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 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
```

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## show nasb

To display the Network-Accelerated Serverless Backup (NASB) configuration on the Storage Services Module (SSM), use the **show nasb** command in EXEC mode.

**show nasb [module slot] [vsan vsan-id]**

<b>Syntax Description</b>	<b>module slot</b> Specifies the slot number with the SSM where NASB is configured. <b>vsan vsan-id</b> Displays information for the specified VSAN ID. The range is 1 to 4093.
---------------------------	--

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

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.1(1a)	This command was introduced.

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

<b>Examples</b>	The following example displays the NASB configuration on all SSM modules in the switch.
-----------------	---

```
switch# show nasb
NASB: module 4 vsan 1:DPP-1, VT-nWWN=2700000530002926, pWWN=2701000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-2, VT-nWWN=2702000530002926, pWWN=2703000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-3, VT-nWWN=2704000530002926, pWWN=2705000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-4, VT-nWWN=2706000530002926, pWWN=2707000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-5, VT-nWWN=2708000530002926, pWWN=2709000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-6, VT-nWWN=270a000530002926, pWWN=270b000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-7, VT-nWWN=270c000530002926, pWWN=270d000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-8, VT-nWWN=270e000530002926, pWWN=270f000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-1, VT-nWWN=26f0000530002926, pWWN=26f1000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-2, VT-nWWN=26f2000530002926, pWWN=26f3000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-3, VT-nWWN=26f4000530002926, pWWN=26f5000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-4, VT-nWWN=26f6000530002926, pWWN=26f7000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-5, VT-nWWN=26f8000530002926, pWWN=26f9000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-6, VT-nWWN=26fa000530002926, pWWN=26fb000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-7, VT-nWWN=26fc000530002926, pWWN=26fd000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-8, VT-nWWN=26fe000530002926, pWWN=26ff000530002926 (provisioned)
NASB: module 8 vsan 3:DPP-1, VT-nWWN=2500000530002926, pWWN=2501000530002926 (not provisioned)
NASB: module 8 vsan 3:DPP-2, VT-nWWN=2502000530002926, pWWN=2503000530002926 (not provisioned)
NASB: module 8 vsan 3:DPP-3, VT-nWWN=2504000530002926, pWWN=2505000530002926 (not provisioned)
NASB: module 8 vsan 3:DPP-4, VT-nWWN=2506000530002926, pWWN=2507000530002926 (not provisioned)
NASB: module 8 vsan 3:DPP-5, VT-nWWN=2508000530002926, pWWN=2509000530002926 (not provisioned)
```

**show nasb**

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```
NASB: module 8 vsan 3:DPP-6, VT-nWWN=250a000530002926, pWWN=250b000530002926 (not provisioned)
NASB: module 8 vsan 3:DPP-7, VT-nWWN=250c000530002926, pWWN=250d000530002926 (not provisioned)
NASB: module 8 vsan 3:DPP-8, VT-nWWN=250e000530002926, pWWN=250f000530002926 (not provisioned)
```

The following example displays the NASB configuration on the SSM in slot 4.

```
switch# show nasb module 4
NASB: module 4 vsan 1:DPP-1, VT-nWWN=2700000530002926, pWWN=2701000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-2, VT-nWWN=2702000530002926, pWWN=2703000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-3, VT-nWWN=2704000530002926, pWWN=2705000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-4, VT-nWWN=2706000530002926, pWWN=2707000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-5, VT-nWWN=2708000530002926, pWWN=2709000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-6, VT-nWWN=270a000530002926, pWWN=270b000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-7, VT-nWWN=270c000530002926, pWWN=270d000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-8, VT-nWWN=270e000530002926, pWWN=270f000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-1, VT-nWWN=26f0000530002926, pWWN=26f1000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-2, VT-nWWN=26f2000530002926, pWWN=26f3000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-3, VT-nWWN=26f4000530002926, pWWN=26f5000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-4, VT-nWWN=26f6000530002926, pWWN=26f7000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-5, VT-nWWN=26f8000530002926, pWWN=26f9000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-6, VT-nWWN=26fa000530002926, pWWN=26fb000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-7, VT-nWWN=26fc000530002926, pWWN=26fd000530002926 (provisioned)
NASB: module 4 vsan 3:DPP-8, VT-nWWN=26fe000530002926, pWWN=26ff000530002926 (provisioned)
```

The following example displays the NASB configuration on the SSM in slot 4 and VSAN 1.

```
switch# show nasb module 4 vsan 1
NASB: module 4 vsan 1:DPP-1, VT-nWWN=2700000530002926, pWWN=2701000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-2, VT-nWWN=2702000530002926, pWWN=2703000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-3, VT-nWWN=2704000530002926, pWWN=2705000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-4, VT-nWWN=2706000530002926, pWWN=2707000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-5, VT-nWWN=2708000530002926, pWWN=2709000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-6, VT-nWWN=270a000530002926, pWWN=270b000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-7, VT-nWWN=270c000530002926, pWWN=270d000530002926 (provisioned)
NASB: module 4 vsan 1:DPP-8, VT-nWWN=270e000530002926, pWWN=270f000530002926 (provisioned)
```

Table 21-6 describes the significant fields shown in the display.

**Table 21-6 show nasb Field Descriptions**

Field	Description
tpc module	Displays the slot number of the SSM.
vsan	Displays the VSAN number in the database associated to the NASB process.
DPP-	Displays which of the eight data path processors (DPP) is forwarding the data.
VT-nWWN=	Displays the virtual target (VT) node WWN associated with this XCopy LUN.
pWWN=	Displays the port WWN associated with this XCopy LUN.
provisioned	Implies the range of FC <i>slot/port-port</i> interfaces has been enabled using the <b>ssm enable feature nasb</b> command.
not provisioned	Implies the range of FC <i>slot/port-port</i> interfaces has not been enabled using the <b>ssm enable feature nasb</b> command.

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Related Commands	Command	Description
	<b>nasb module</b>	Enables TPC on a VSAN and maps it to the SSM where the feature has been enabled.

**show ntp**

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## show ntp

To display the configured Network Time Protocol (NTP) server and peer associations, use the **show ntp** command.

```
show ntp {peers | pending peers | pending-diff | session-status | statistics [io | local | memory | peer {ipaddr ip-address | name peer-name}] | timestamp-status}
```

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

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

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

Command History	Release	Modification
	1.0(2)	This command was introduced.
	2.0(1b)	Added the <b>pending</b> , <b>pending-diff</b> , and <b>session-status</b> keywords.

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

<b>Examples</b>	The following example displays the NTP peer information.
-----------------	--

```
switch# show ntp peers
-----
Peer IP Address          Serv/Peer
-----
10.20.10.2                Server
10.20.10.0                Peer
```

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The following example displays the NTP IO statistics.

```
switch# show ntp statistics io
time since reset:      11152
receive buffers:        9
free receive buffers:  9
used receive buffers:  9
low water refills:     0
dropped packets:       0
ignored packets:       0
received packets:      3
packets sent:          2
packets not sent:      0
interrupts handled:    3
received by int:       3
```

The following example displays the NTP local statistics.

```
switch# show ntp statistics local
system uptime:          11166
time since reset:       11166
bad stratum in packet:  0
old version packets:   4
new version packets:   0
unknown version number: 0
bad packet format:     0
packets processed:     0
bad authentication:    0
```

The following example displays the NTP memory statistics information.

```
switch# show ntp statistics memory
time since reset:      11475
total peer memory:     15
free peer memory:      15
calls to findpeer:     0
new peer allocations:  0
peer demobilizations:  0
hash table counts:    0 0 0 0 0 0 0 0
                           0 0 0 0 0 0 0 0
                           0 0 0 0 0 0 0 0
                           0 0 0 0 0 0 0 0
```

The following example displays the NTP peer statistics information using the IP address of the peer.

```
switch# show ntp statistics peer ipaddr 10.1.1.1
```

The following example displays the NTP peer statistics information using the name of the peer.

```
switch# show ntp statistics peer name Peer1
```

The following example displays the NTP timestamp status information.

```
switch# show ntp timestamp-status
Linecard 9 does not support Timestamp check.
```

## Related Commands

Command	Description
<b>ntp</b>	Configures NTP parameters.

**show port-channel*****Send documentation comments to mdsfeedback-doc@cisco.com.***

## show port-channel

Use the **show port-channel** command to view information about existing PortChannel configurations

```
show port-channel {compatibility-parameters | consistency [detail] | database [interface
port-channel port-channel-number] | summary | usage}
```

### Syntax Description

<b>compatibility-parameters</b>	Displays compatibility parameters.
<b>consistency</b>	Displays the database consistency information of all modules.
<b>detail</b>	Displays detailed database consistency information.
<b>database</b>	Displays PortChannel database information.
<b>interface port-channel <i>port-channel-number</i></b>	Specifies the PortChannel number. The range is 1 to 128.
<b>summary</b>	Displays PortChannel summary.
<b>usage</b>	Displays PortChannel number usage.

### Defaults

None.

### Command Modes

EXEC mode.

### Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

### Usage Guidelines

None.

### Examples

The following example displays the PortChannel summary.

```
switch# show port-channel summary
NEW
```

The following example displays the PortChannel compatibility.

```
switch# show port-channel compatibility-parameters
      physical port layer          fibre channel or ethernet
      port mode                   E/TE/AUTO only
      trunk mode
      speed
      port VSAN
      port allowed VSAN list
```

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The following example displays the PortChannel database.

```
switch# show port-channel database
port-channel 2
    Administrative channel mode is on
    Operational channel mode is on
    Last membership update succeeded
    First operational port is fc2/2
    1 port in total, 1 port up
    Ports:   fc2/2      [up]
```

The **show port-channel consistency** command has two options—without detail **and detail**.

Command Without Details

```
switch# show port-channel consistency
Database is consistent
switch#
```

Command With Details

```
switch# show port-channel consistency detail
Authoritative port-channel database:
=====
totally 1 port-channels
port-channel 2:
    1 ports, first operational port is fc2/2
    fc2/2      [up]
=====
database 1: from module 5
=====
totally 1 port-channels

port-channel 2:
    1 ports, first operational port is fc2/2
    fc2/2      [up]
=====
database 2: from module 2
=====
totally 1 port-channels
port-channel 2:
    1 ports, first operational port is fc2/2
    fc2/2      [up]
=====
```

The **show port-channel usage** command displays details of the used and unused PortChannel numbers.

PortChannel Usage

```
switch# show port-channel usage
Totally 2 port-channel numbers used
=====
Used   :  3, 9
Unused:  1-2, 4-8, 10-128
```

---

 show port-security

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

## show port-security

To display configured port security feature information, use the **show port-security database** command.

```
show port-security
  {database [active [vsan vsan-id]] | fwwn fwwn-id vsan vsan-id | interface {fc slot/port |
  port-channel port} vsan vsan-id | vsan vsan-id] |
  pending [vsan vsan-id] |
  pending-diff [vsan vsan-id] |
  statistics [vsan vsan-id] |
  status [vsan vsan-id] |
  violations [last count | vsan vsan-id]}
```

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

Usage Guidelines	The access information for each port can be individually displayed. If you specify the fwwn or interface options, all devices that are paired in the active database (at that point) with the given fWWN or the interface are displayed.
------------------	--

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

### Examples

The following example displays the contents of the port security database.

```
switch# show port-security database
-----
VSAN      Logging-in Entity          Logging-in Point(      Interface)
-----
1        21:00:00:e0:8b:06:d9:1d(pw) 20:0d:00:05:30:00:95:de(fc1/13)
1        50:06:04:82:bc:01:c3:84(pw) 20:0c:00:05:30:00:95:de(fc1/12)
2        20:00:00:05:30:00:95:df(sw) 20:0c:00:05:30:00:95:de(port-channel 128)
3        20:00:00:05:30:00:95:de(sw) 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(pw) 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(pw) 20:0d:00:05:30:00:95:de(fc1/13)      Yes
1        50:06:04:82:bc:01:c3:84(pw) 20:0c:00:05:30:00:95:de(fc1/12)      Yes
2        20:00:00:05:30:00:95:df(sw) 20:0c:00:05:30:00:95:de(port-channel 128) Yes
3        20:00:00:05:30:00:95:de(sw) 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(sw)
```

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(sw)
```

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
```

■ **show port-security**

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

```
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
<b>port-security</b>	Configures port security parameters.

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## show processes

To display general information about all the processes, use the **show processes** command.

**show processes [cpu | log [details | pid *process-id*] | memory]**

Syntax Description	
<b>cpu</b>	Displays processes CPU information.
<b>log</b>	Displays information about process logs.
<b>details</b>	Displays detailed process log information.
<b>pid <i>process-id</i></b>	Displays process information about a specific process ID. The range is 0 to 2147483647.
<b>memory</b>	Displays processes memory information.

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**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

**show processes**

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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	7ffffcd0/7fffffe4	xbar_client
1278	56800	7fffffce0/7fffffb5c	wwn
1279	1210220	7fffffce0/7fffffbac	vsan
1293	386144	7fffffcf0/7ffffebd4	span
1294	1396892	7fffffce0/7ffffdff4	snmpd
1295	214528	7fffffcf0/7fffff904	rscn
1296	42064	7fffffce0/7fffffb5c	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.

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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 7FFF654      XSS 0000002B

Stack: 1740 bytes. ESP 7FFF654, TOP 7FFFFD20

0x7FFF654: 00000000 00000008 00000003 08051E95 .....
0x7FFF664: 00000005 7FFF8CC 00000000 00000000 .....
0x7FFF674: 7FFF6CC 00000001 7FFF95C 080522CD .....\"..
0x7FFF684: 7FFF9A4 00000008 7FFFC34 2AC1F18C .....4....*
```

---

 show qos

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

## show qos

To display the current QoS settings along with a the number of frames marked high priority, use the **show qos** command.

```
show qos {class-map [name class-name] | dwrr | policy-map [name policy-name] | service policy  
[interface fc slot/port | vsan vsan-id] | statistics}
```

Syntax Description	
<b>class-map</b>	Displays QoS class maps.
<b>name <i>class-name</i></b>	Specifies a class map name. Maximum length is 63 alpha-numeric characters.
<b>dwrr</b>	Displays deficit weighted round robin queue weights.
<b>policy-map</b>	Displays QoS policy-maps.
<b>name <i>policy-name</i></b>	Specifies a policy map name. Maximum length is 63 alpha-numeric characters.
<b>service policy</b>	Displays QoS service policy associations.
<b>interface fc <i>slot/port</i></b>	Specifies a Fibre Channel interface.
<b>vsan <i>vsan-id</i></b>	Specifies a VSAN ID. The range is 1 to 4093.
<b>statistics</b>	Displays QoS related statistics.

<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC mode.

<b>Command History</b>	This command was modified in Cisco MDS SAN-OS Release 1.3(1).
<b>Usage Guidelines</b>	To access all but the <b>statistics</b> option for this command, you must perform the <b>qos enable</b> command.

<b>Examples</b>	The following example displays the contents of all class maps.
	<pre>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</pre>

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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

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## show radius

To display the RADIUS Cisco Fabric Services (CFS) distribution status and other details, use the **show radius** command.

**show radius {distribution status | pending | pending-diff}**

<b>Syntax Description</b>	<b>distribution status</b> Displays the status of the RADIUS CFS distribution. <b>pending</b> Displays the pending configuration that is not yet applied. <b>pending-diff</b> Displays the difference between the active configuration and the pending configuration.
---------------------------	---

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

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	This command was introduced.

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

<b>Examples</b>	The following example displays the RADIUS distribution status.
<pre>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</pre>	

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>radius distribute</b>	Enables RADIUS CFS distribution.

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## show radius-server

To display all configured RADIUS server parameters, use the **show radius-server** command.

**show radius-server [groups | sorted]**

<b>Syntax Description</b>	<b>groups</b> Displays configured RADIUS server group information. <b>sorted</b> Displays RADIUS server information sorted by name.
---------------------------	--

**Defaults**      None.

**Command Modes**    EXEC mode.

**Command History**   This command was introduced in Cisco MDS SAN-OS Release 1.3(1).

**Usage Guidelines**   Only administrators can view the RADIUS pre-shared key.

**Examples**

```

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**

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## show rlir

To display the information about Registered Link Incident Report (RLIR), Link Incident Record Registration (LIRR), and Distribute Registered Link Incident Record (DRLIR) frames, use the **show rlir** command.

```
show rlir {erl [vsan vsan-id] | history | recent [interface fc slot/port | portnumber port-number]
           | statistics [vsan vsan-id]}
```

### Syntax Description

<b>erl vsan-id</b>	Displays Established Registration List (ERL) information.
<b>vsan vsan-id</b>	Specifies a VSAN ID. The range is 1 to 4093.
<b>history</b>	Displays link incident history.
<b>recent</b>	Displays recent link incident.
<b>interface fc slot/port</b>	Specifies a Fibre Channel interface at a slot and port.
<b>portnumber port-number</b>	Specifies a port number for the link incidents. The range is 1 to 224.
<b>statistics</b>	Displays RLIR statistics.

### Defaults

None.

### Command Modes

EXEC mode.

### Command History

This command was modified in Cisco MDS SAN-OS Release 1.3(2).

### 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
```

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```
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
```

■ show rlir

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```
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 history.

```
switch# show rlir history
Link incident history
-----
*Host Time Stamp
Switch Time Stamp      Port    Interface  Link Incident
-----
*Sun Nov 30 21:47:28 2003
Sun Nov 30 13:47:55 2003      2        fc1/2    Implicit Incident
*Sun Nov 30 22:00:47 2003
Sun Nov 30 14:01:14 2003      2        fc1/2    NOS Received
*Sun Nov 30 22:00:55 2003
Sun Nov 30 14:01:22 2003      2        fc1/2    Implicit Incident
*Mon Dec 1 20:14:26 2003
Mon Dec 1 12:14:53 2003      4        fc1/4    Implicit Incident
*Mon Dec 1 20:14:26 2003
Mon Dec 1 12:14:53 2003      4        fc1/4    Implicit Incident
*Thu Dec 4 04:43:32 2003
Wed Dec 3 20:43:59 2003      2        fc1/2    NOS Received
*Thu Dec 4 04:43:41 2003
Wed Dec 3 20:44:08 2003      2        fc1/2    Implicit Incident
*Thu Dec 4 04:46:53 2003
Wed Dec 3 20:47:20 2003      2        fc1/2    NOS Received
*Thu Dec 4 04:47:05 2003
Wed Dec 3 20:47:32 2003      2        fc1/2    Implicit Incident
*Thu Dec 4 04:48:07 2003
Wed Dec 3 20:48:34 2003      2        fc1/2    NOS Received
*Thu Dec 4 04:48:39 2003
Wed Dec 3 20:49:06 2003      2        fc1/2    Implicit Incident
*Thu Dec 4 05:02:20 2003
Wed Dec 3 21:02:47 2003      2        fc1/2    NOS Received
*Thu Dec 4 05:02:29 2003
Wed Dec 3 21:02:56 2003      2        fc1/2    Implicit Incident
*Thu Dec 4 05:02:47 2003
Wed Dec 3 21:03:14 2003      4        fc1/4    NOS Received
*Thu Dec 4 05:02:54 2003
Wed Dec 3 21:03:21 2003      4        fc1/4    Implicit Incident
*Thu Dec 4 05:02:54 2003
Wed Dec 3 21:03:21 2003      4        fc1/4    Implicit Incident
...
...
```

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The following example displays recent RLIRs for a specified interface.

```
switch# show rlir recent interface fc1/1
Recent link incident records
-----
*Host Time Stamp          Switch Time Stamp      Port   Interface   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
switch#
```

The following example displays the recent RLIRs for a specified port number.

```
switch# show rlir recent portnumber 1
Recent link incident records
-----
*Host Time Stamp          Switch Time Stamp      Port   Interface   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
switch#
```

**show rmon**

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## show rmon

To display the remote monitoring (RMON) configuration, use the **show rmon** command.

```
show rmon {alarms | events}
```

<b>Syntax Description</b>	<b>alarms</b>	Displays the configured RMON alarms.
	<b>events</b>	Displays the configured RMON events.

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

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	This command was introduced.

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

**Examples** The following example displays the configured RMON alarms.

```
switch# show rmon alarms
Alarm 20 is active, owned by test
  Monitors 1.3.6.1.2.1.2.2.1.16.16777216 every 256000 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 2 is active, owned by Test2
  Description is CriticalErrors
  Event firing causes log and trap to community eventtrap, last fired 1
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>rmon alarm</b>	Configures RMON alarms.
	<b>rmon event</b>	Configures RMON events.

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## show role

To display roles (and their associated rules) configured on the switch, including those roles that have not yet been committed to persistent storage, use the **show role** command.

**show role [name string | pending | pending-diff | session status | status]**

<b>Syntax Description</b>	<b>name string</b> Specifies a name of the role. <b>pending</b> Displays uncommitted role configuration for fabric distribution. <b>pending-diff</b> Displays the differences between the pending configuration and the active configuration. <b>session status</b> Displays the session status for a role. <b>status</b> Displays the status of the latest Cisco Fabric Services (CFS) operation.
---------------------------	--

**Defaults**      Displays information for all roles.

**Command Modes**      EXEC mode.

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	1.0(2)	This command was introduced.
	2.0(1b)	Added the <b>pending</b> , <b>pending-diff</b> , <b>session</b> , and <b>status</b> options.

**Usage Guidelines**      The rules are displayed by rule number and are based on each role. All roles are displayed even if role name is not specified.

Only network-admin role can access this command.

**Examples**      The following example shows how to display information for all roles.

```

switch# show role
Role: network-admin
Description: Predefined Network Admin group. This role cannot be modified
Access to all the switch commands

Role: network-operator
Description: Predefined Network Operator group. This role cannot be modified
Access to Show commands and selected Exec commands

Role: sangroup
Description: SAN management group
-----
Rule  Type   Command-type   Feature
-----
1.    permit  config        *
2.    deny    config        fspf

```

**■ show role**

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```
3. permit      debug      zone
4. permit      exec       fcping
```

The following examples displays the role session status.

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

#### Related Commands

Command	Description
<b>role abort</b>	Enables authorization role CFS distribution.
<b>role commit</b>	Enables authorization role CFS distribution.
<b>role distribute</b>	Enables authorization role CFS distribution.
<b>role name</b>	Configures authorization roles.

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## show rscn

To display registered state change notification (RSCN) information, use the **show rscn** command.

```
show rscn {scr-table [vsan vsan-id] | statistics [vsan vsan-id]}
```

<b>Syntax Description</b>	<b>scr-table</b> Displays State Change Registration table. <b>statistics</b> Displays RSCN statistics. <b>vsan vsan-id</b> Specifies a VSAN ID. The range is 1 to 4093.
---------------------------	---

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

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

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
------------------------	---

<b>Usage Guidelines</b>	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 <b>show rscn scr-table</b> command does not return any entries, no Nx port is interested in receiving RSCN information.
-------------------------	---

<b>Examples</b>	The following example display 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 display 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
```

```
■ show rscn
```

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```
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
```

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## show running-config

To display the running configuration file, use the **show running-config** command

```
show running-config
[diff |
interface [cpp | fc | fc slot/port | fc-tunnel tunnel-id | fcip fcip-number | gigabitethernet
slot/port | iscsi slot/port | mgmt 0 | port-channel | svc | vsan vsan-id] |
vsan vsan-id]
```

Syntax Description	
<b>diff</b>	Displays the difference between the running and startup configurations.
<b>interface</b>	Displays running configuration information for a range of interfaces.
<b>cpp</b>	Displays the virtualization interface specific to the ASM module (see the “ <a href="#">interface cpp</a> ” section on page 27-18).
<b>fc slot/port</b>	Displays the Fibre Channel interface in the specified slot and port.
<b>fc-tunnel tunnel-id</b>	Displays description of the specified FC tunnel from 1 to 4095.
<b>fcip fcip-number</b>	Displays the description of the specified FCIP interface from 1 to 255.
<b>gigabitethernet slot/port</b>	Displays the description of the Gigabit Ethernet interface in the specified slot and port.
<b>iscsi slot/port</b>	Displays the description of the iSCSI interface in the specified slot and port.
<b>mgmt 0</b>	Displays the description of the management interface.
<b>port-channel</b>	Displays the description of the PortChannel interface.
<b>sup-fc</b>	Displays the inband interface details.
<b>svc</b>	Displays the virtualization interface specific to the CSM module (see the “ <a href="#">interface svc</a> ” section on page 28-16).
<b>vsan vsan-id</b>	Displays VSAN-specific information. The ID ranges from 1 to 4093.

<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC mode.
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
<b>Usage Guidelines</b>	If the running configuration is different from the startup configuration, issue the <b>show startup-config diff</b> command to view the differences.

■ **show running-config**

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## Examples

The following example displays the configuration currently running on the switch.

```
switch# show running-config
Building Configuration ...
  interface fc1/1
  interface fc1/2
  interface fc1/3
  interface fc1/4
  interface mgmt0
  ip address 172.22.95.112 255.255.255.0
  no shutdown
  vsan database
  boot system bootflash:isan-237; sup-1
  boot kickstart bootflash:boot-237 sup-1
  callhome
  ip default-gateway 172.22.95.1
  switchname switch
  trunk protocol enable
  username admin password 5 /AFDAMD4B2xK2 role network-admin
```

The following example displays the difference between the running configuration and the startup configuration.

```
switch# show running-config diff
Building Configuration ...
*** Startup-config
--- Running-config
***** 1,16 *****
  fcip enable

  ip default-gateway 172.22.91.1

  iscsi authentication none
  iscsi enable

  ! iscsi import target fc

  iscsi virtual-target name vt
    pWWN 21:00:00:04:cf:4c:52:c1
    all-initiator-permit

--- 1,20 ----
  fcip enable

+ aaa accounting logsize 500
+
+
+
  ip default-gateway 172.22.91.1

  iscsi authentication none
  iscsi enable

  ! iscsi initiator name junk

  iscsi virtual-target name vt
    pWWN 21:00:00:04:cf:4c:52:c1
    all-initiator-permit
```

The following example displays running configuration information for a specified interface—in this case, the management interface.

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```
switch# show running-config interface mgmt0
interface mgmt0
    ip address 255.255.255.0 255.255.255.0
```

The following example displays running configuration information for a specified feature—in this case, VSANS.

```
switch# show running-config feature vsan
vsan database
vsan 2 suspend
vsan 3
vsan 4

vsan database
vsan 3 interface fc1/1
```

---

 show san-ext-tuner

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

## show san-ext-tuner

To display SAN extension tuner information, use the **show san-ext-tuner** command.

```
show san-ext-tuner {interface gigabitethernet slotport [nport pwwn pwwn-id vsan vsan-id
counters] | nports}
```

Syntax Description	interface	Displays SAN extension tuner information for a specific Gigabit Ethernet interface.
	gigabitethernet slotport	Specifies a Gigabit Ethernet interface.
	nport	Specifies an N port.
	pwwn pwwn-id	Specifies a pWWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number.
	vsan vsan-id	Specifies a VSAN ID. The range is 1 to 4093.
	counters	Specifies SAN extension tuner counters.
	nports	Displays SAN extension tuner information for all nports.

---

**Defaults** None.

---

**Command Modes** EXEC mode.

Command History	Release	Modification
	2.0(1b)	This command was introduced.

---

**Usage Guidelines** None.

---

**Examples** The following example shows how to display SAN extension tuner N port information.

```
switch# show san-ext-tuner nports
```

Related Commands	Command	Description
	san-ext-tuner	Enters SAN extension tuner configuration mode.

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## show santap module

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

```
show santap module slot {avt [name | brief] | avtlun | cvt [cvt-id | brief] | dvt [name | brief] |
dvtlun | rvt [name | brief] | rvrlun | session [session-id | brief]}
```

Syntax Description	
<b>slot</b>	Displays SANTap configuration for a module in the specified slot.
<b>avt</b>	Displays the appliance virtual target (AVT) configuration.
<b>avtlun</b>	Displays the appliance AVT LUN configuration.
<b>cvt</b>	Displays the control virtual target (CVT) configuration.
<b>cvt-id</b>	Specifies a user configured CVT ID. The range is 1 to 65536.
<b>dvt</b>	Displays the data virtual target (DVT) configuration.
<b>dvtlun</b>	Displays the DVT LUN configuration.
<b>rvt</b>	Displays the remote virtual target (AVT) configuration.
<b>rvrlun</b>	Displays the RVT LUN configuration.
<b>session</b>	Displays the SANTap session information.
<b>session-id</b>	Specifies a user configured session ID. The range is 1 to 65536.
<b>name</b>	User specified name.
<b>brief</b>	Displays a brief format version of the display.

**Defaults** None.

**Command Modes** EXEC mode.

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

**Usage Guidelines** None.

■ **show santap module**

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### Examples

The following example displays the SANTap AVT configuration.

```
switch# show santap module 2 avt

AVT Information :
    avt pwnn      = 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 pwnn      = 21:00:00:e0:8b:07:61:aa
    tgt pwnn     = 22:00:00:20:37:88:20:ef
    tgt vsan     = 1
```

The following example displays the SANTap configuration AVT LUN.

```
switch# show santap module 2 avtlun

AVT LUN Information :
    avt pwnn      = 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 configuration CVT.

```
switch# show santap module 2 cvt

CVT Information :
    cvt pwnn      = 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 configuration DVT.

```
switch# show santap module 2 dvt

DVT Information :
    dvt pwnn      = 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 configuration DVTLUN.

```
switch# show santap module 2 dvtlun

DVT LUN Information :
    dvt pwnn      = 22:00:00:20:37:88:20:ef
    dvt lun       = 0x0
    xmap id      = 8
    dvt id       = 3
    dvt mode     = 0
    dvt vsan     = 3
    tgt pwnn     = 22:00:00:20:37:88:20:ef
    tgt lun      = 0x0
    tgt vsan     = 1
```

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The following example displays the SANTap configuration session.

```
switch# show santap module 2 session

Session Information :
    session id      = 1
    host pwnn       = 21:00:00:e0:8b:07:61:aa
    dvt pwnn       = 22:00:00:20:37:88:20:ef
    dvt lun        = 0x0
    tgt pwnn       = 00:00:00:00:00:00:00:00
    tgt lun        = 0x0
    adt pwnn       = 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
    pw1 requested  = 1
    iol requested  = 0
```

The following example displays the SANTap configuration RVT.

```
switch# show santap module 2 rvt

RVT Information :
    rvt pwnn       = 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 configuration RVTLUN.

```
switch# show santap module 2 rvrtlun

RVT LUN Information :
    rvt pwnn       = 2a:61:00:05:30:00:22:25
    rvt lun        = 0x0
    xmap id        = 22
    rvt id         = 17
    app pwnn       = 22:00:00:20:37:39:b1:00
    app lun        = 0x0
    app vsan       = 1
```

Table 21-7 describes the significant fields shown in the previous displays.

**Table 21-7 show santap Field Descriptions**

Field	Description
app lun	Displays the appliance LUN.
app pwnn	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 pwnn	Displays the AVT port world wide name

show santap module

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**Table 21-7 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
<a href="#">santap module</a>	Configures the mapping between the SSM and the VSAN where the appliance is configured

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## show scheduler

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

```
show scheduler {config | job [name jobname] | logfile | schedule [name schedulename]}
```

Syntax Description	<b>config</b> Displays command scheduler configuration information. <b>job</b> Displays job information. <b>name <i>jobname</i></b> Restricts the output to a specific job name. Maximum length is 31 characters. <b>logfile</b> Displays the log file. <b>schedule</b> Displays schedule information. <b>name <i>schedulename</i></b> 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(1b)	This command was introduced.

**Usage Guidelines** To use this command, the command scheduler must be enabled using the **scheduler enable** command.

**Examples** The following example displays the command scheduler configuration information.

```
switch# show scheduler config
config terminal
  scheduler enable
end
```

The following example displays the command scheduler schedule information.

```
switch# show scheduler schedule configureVsAn99
Schedule Name : configureVsAn99
-----
User Name : admin
Schedule Type : Run once on Tue Aug 10 09:48:00 2004
Last Execution Time: Tue Aug 10 09:48:00 2004
-----
Job Name      Status
-----
addMemVsAn99  Success (0)
```

**show scheduler**

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The following example displays the command scheduler logfile 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'
'vesan database'
'vesan 99 interface fc1/1'
'vesan 99 interface fc1/2'
'vesan 99 interface fc1/3'
'vesan 99 interface fc1/4'
```

The following example displays the command scheduler configuration information.

```
switch# show scheduler config
config terminal
  scheduler enable
  scheduler logfile size 512
end
config terminal
  scheduler job name addMemVsan99
    config terminal
      vsan database
        vsan 99 interface fc1/1
        vsan 99 interface fc1/2
        vsan 99 interface fc1/3
        vsan 99 interface fc1/4
    end
  config terminal
    scheduler schedule name configureVsan99
      time start 2004:8:10:9:52
      job name addMemVsan99
  end
```

---

**Related Commands**

Command	Description
<b>scheduler enable</b>	Enables the command scheduler.
<b>scheduler job name</b>	Configures command scheduler jobs.
<b>scheduler schedule name</b>	Configures command schedules.

---

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## show scsi-flow

To display SCSI flow information, use the **show scsi-flow** command.

```
show scsi-flow [flow-id flow-id]
    statistics [flow-id flow-id {lun lun-number}]]
```

<b>Syntax Description</b>	<b>flow-id <i>flow-id</i></b> Displays a specific SCSI flow index. <b>statistics</b> Displays the statistics for the SCSI flow. <b>lun <i>lun-number</i></b> Displays statics for a specific LUN number.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(2)	This command was introduced.

<b>Examples</b>	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:
    -----
```

■ show scsi-flow

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```

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 21-8 describes the significant fields shown in the **show scsi-flow** command output.

**Table 21-8 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

```

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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
```

**show scsi-flow****Send documentation comments to mdsfeedback-doc@cisco.com.**

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
```

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## show scsi-target

To display information about existing SCSI target configurations, use the **show scsi-target** command.

```
show scsi-target {auto-poll | custom-list | devices [vsan vsan-id] [fcid fcid-id] | disk [vsan
vsan-id] [fcid fcid-id] | lun [vsan vsan-id] [fcid fcid-id] [os [aix | all | hpx | linux | solaris |
windows] | pwwn | status | tape [vsan vsan-id] [fcid fcid-id]}
```

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was modified in Cisco MDS SAN-OS Release 1.3(4).

**Usage Guidelines** Use the **show scsi-target auto-poll** command to verify automatic discovery of scsi-targets which come online.

**Examples** The following example displays the status of a SCSI discovery.

```
switch# show scsi-target status
discovery completed
```

■ show scsi-target

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The following example displays a customized discovered targets:

```
switch# show scsi-target custom-list
-----
VSAN DOMAIN
-----
1      56
```

The following example displays discovered disk information.

```
switch# show scsi-target disk
-----
VSAN   FCID      PWWN          VENDOR    MODEL      REV
-----
1      0x9c03d6  21:00:00:20:37:46:78:97  Company 4 ST318203FC  0004
1      0x9c03d9  21:00:00:20:37:5b:cf:b9  Company 4 ST318203FC  0004
1      0x9c03da  21:00:00:20:37:18:6f:90  Company 4 ST318203FC  0004
1      0x9c03dc  21:00:00:20:37:5a:5b:27  Company 4 ST318203FC  0004
1      0x9c03e0  21:00:00:20:37:36:0b:4d  Company 4 ST318203FC  0004
1      0x9c03e1  21:00:00:20:37:39:90:6a  Company 4 ST318203 CLAR18  3844
1      0x9c03e2  21:00:00:20:37:18:d2:45  Company 4 ST318203 CLAR18  3844
1      0x9c03e4  21:00:00:20:37:6b:d7:18  Company 4 ST318203 CLAR18  3844
1      0x9c03e8  21:00:00:20:37:38:a7:c1  Company 4 ST318203FC  0004
1      0x9c03ef  21:00:00:20:37:18:17:d2  Company 4 ST318203FC  0004
```

The following example displays the discovered LUNs for all OSs.

```
switch# show scsi-target lun os all
ST336607FC from SEAGATE (Rev 0006)
FCID is 0xed0001 in VSAN 7, PWWN is 21:00:00:04:cf:fb:42:f8
-----
OS   LUN      Capacity Status  Serial Number     Device-Id
(MB)
-----
WIN 0x0      36704   Online   3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
AIX 0x0      36704   Online   3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
SOL 0x0      36704   Online   3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
LIN 0x0      36704   Online   3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
HP  0x0      36704   Online   3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
```

The following example displays the discovered LUNs. for the Solaris OS.

```
switch# show scsi-target lun os solaris
ST336607FC from SEAGATE (Rev 0006)
FCID is 0xed0001 in VSAN 7, PWWN is 21:00:00:04:cf:fb:42:f8
-----
OS   LUN      Capacity Status  Serial Number     Device-Id
(MB)
-----
SOL 0x0      36704   Online   3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
```

The following example displays auto-polling information. Each user is indicated by the internal UUID number, which indicates that a CSM or an IPS module is in the chassis.

```
switch# show scsi-target auto-poll
auto-polling is enabled, poll_start:0 poll_count:1 poll_type:0
USERS OF AUTO POLLING
-----
uuid:54
```

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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 snmp**

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## show snmp

To display SNMP status and setting information, use the **show snmp** command.

**show snmp [community | engineid | group | host | sessions | user]**

### Syntax Description

<b>community</b>	Displays SNMP community strings.
<b>engineid</b>	Displays SNMP engine ID information.
<b>group</b>	Displays SNMP group information.
<b>host</b>	Displays SNMP host information.
<b>sessions</b>	Displays SNMP session information.
<b>user</b>	Displays SNMPv3 user information.

### Defaults

Displays the system contact, the system location, packet traffic information, community strings, and user information.

### Command Modes

EXEC mode.

### Command History

Release	Modification
1.0(2)	This command was introduced.
2.0(1b)	Added the <b>engineid</b> , <b>group</b> , and <b>sessions</b> keywords.

### Usage Guidelines

None.

### Examples

The following example displays SNMP information.

```
switch# show snmp
sys contact:
sys location:

1631 SNMP packets input
    0 Bad SNMP versions
    0 Unknown community name
    0 Illegal operation for community name supplied
    0 Encoding errors
    64294 Number of requested variables
    1 Number of altered variables
    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
```

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Community	Access		
-----	-----		
public	rw		
User	Group	Auth	Priv
-----	-----	-----	-----
admin	network-admin	md5	no

The following example displays SNMP user details.

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.

Community	Access
-----	-----
private	rw
public	ro
v93RACqPNH	ro

The following example displays SNMP host information.

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: 800000090300053000A79E
```

**show snmp**

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The following example displays SNMP group information.

```
switch# show snmp group
groupname: network-admin
security model: any
security level: noAuthNoPriv
readview: network-admin-rd
writeview: network-admin-wr
notifyview: network-admin-rd
storage-type: permanent
row status: active

groupname: network-admin
security model: any
security level: authNoPriv
readview: network-admin-rd
writeview: network-admin-wr
notifyview: network-admin-rd
storage-type: permanent
row status: active

groupname: network-operator
security model: any
security level: noAuthNoPriv
readview: network-operator-rd
writeview: network-operator-wr
notifyview: network-operator-rd
storage-type: permanent
row status: active

groupname: network-operator
security model: any
security level: authNoPriv
readview: network-operator-rd
writeview: network-operator-wr
notifyview: network-operator-rd
storage-type: permanent
row status: active
```

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## show span session

To display specific information about a Switched Port Analyzer (SPAN) session, use the **show span session** command.

**show span session [session-id [brief] | brief]**

<b>Syntax Description</b>	<table border="0"> <tr> <td><i>session-id</i></td><td>SPAN session ID (1-16).</td></tr> <tr> <td><b>brief</b></td><td>Displays SPAN session configuration in brief format.</td></tr> </table>	<i>session-id</i>	SPAN session ID (1-16).	<b>brief</b>	Displays SPAN session configuration in brief format.
<i>session-id</i>	SPAN session ID (1-16).				
<b>brief</b>	Displays SPAN session configuration in brief format.				

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was modified in Cisco MDS SAN-OS Release 1.2(1).

**Usage Guidelines** None.

**Examples** The following example displays SPAN sessions in a brief format.

```
switch# show span session brief
-----
Session Admin Oper Destination
      State State Interface
-----
7       no suspend active   fc2/7
```

The following example displays a specific SPAN session details.

```
switch# show span session 7
Session 7 (active)
  Destination is fc2/7
  No session filters configured
  No ingress (rx) sources
  Egress (tx) sources are
    port-channel 7,
```

---

 show span session

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The following example displays all SPAN sessions.

```
switch# show span session
Session 1 (inactive as no destination)
Destination is not specified
  Session filter vsans are 1
  No ingress (rx) sources
  No egress (tx) sources

Session 2 (active)
  Destination is fc9/5
  No session filters configured
  Ingress (rx) sources are
    vsans 1
    sup-fc0,
  Egress (tx) sources are
    sup-fc0,
```

The following example displays a SPAN session mapped to a FC tunnel interface.

```
switch# show span session
Session 2 (active)
  Destination is fc-tunnel 100
  No session filters configured
  Ingress (rx) sources are
    fc2/16,
  Egress (tx) sources are
    fc2/16,
```

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## show sprom

To display vendor ID, product component attributes, 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	
<b>backplane</b>	Display attributes that can be used to uniquely identify a switch. The range is 1 to 2.
<b>clock</b>	Display attributes of the clock module. There are two clock modules in a switch. This module is absent in MDS9216 type switch. The range is 1 to 2.
<b>fan</b>	Display attributes that uniquely identified fan.
<b>mgmt-module</b>	Display attributes of management module. This module is only present in MDS9216 type switch.
<b>module</b> <i>module-number</i>	Display Vendor ID, product's component attributes for the given switching module. There can be up to 4 sub-components in a module. Each of them will have a SPROM associated with it.
<b>powersupply</b>	Displays attributes of the first or the second power-supply. This contains information about the powersupply capacity in watts when it is used in 110Volts and 220Volts respectively. This information is used for power-budget allocation. The range is 1 to 2.
<b>sup</b>	Display Vendor ID, product's component attributes for the current supervisor module

<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC mode.
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
<b>Usage Guidelines</b>	Use the <b>show sprom</b> command to get unique information about a specific module, supervisor module, switch, power-supply module, or a fan module. If the customer needs to report a problem with a module, supervisor module, switch, power-supply module, or a fan module and does not have access to management station, then he can extract serial number information from <b>show sprom</b> .

■ **show sprom**

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

### 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
```

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```

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
<b>show hardware</b>	Displays brief information about the list of field replacable units in the switch.

**show ssh**

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## show ssh

To display Secure Shell information (SSH), use the **show ssh** command.

```
show ssh {key [dsa | rsa | rsa1] | server}
```

Syntax Description	
<b>key</b>	Displays SSH keys.
<b>server</b>	Displays the SSH server status.
<b>dsa</b>	Displays DSA SSH keys.
<b>rsa</b>	Displays RSA SSH keys.
<b>rsa1</b>	Displays RSA1 SSH keys.

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

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

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
------------------------	---

<b>Usage Guidelines</b>	To display the host key pair details for the specified key or for all keys, if no key is specified, use the <b>show ssh key</b> command. To display the status of the SSH protocol (enabled or disabled) and the versions that are enabled for that switch, use the <b>show ssh server</b> command.
-------------------------	---

<b>Examples</b>	The following example displays SSH server status.
-----------------	---

```
switch# show ssh server
ssh is enabled
version 1 enabled
version 2 enabled
```

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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 AAAAB3NzaC1kc3MAAABBAJTCRQOydNRe12v7uiO6Fix+OTn8eGdnnDVxw5eJs5OcOEXOyjaW
cMMYsEgxc9ada1NELp8Wy7GPMWGOQYj9CU0AAAAVAMCcWhNN18zFNOIPo7cU3t7d0iEbAAAAQBdQ8UAO
i/Cti84qFb3kTqx1S9mEhdQUo01Hch5bw5PKfj2Y/dLR437zCBKXetPj4p7mhQ6Fq5os8RZtJEyOsNsA
AABAA0oxZbPyWer5NHATXiyxXdPI7j9i8fgyn9FNipMkOF2Mn75Mi/1qQ4NIq0gQNvQOx27uCeQIRts/Q
wI4q68/eaw==

fingerprint:
512 f7:cc:90:3d:f5:8a:a9:ca:48:76:9f:f8:6e:71:d4:ae
```

---

 show ssm provisioning

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## show ssm provisioning

To display the attributes of the Storage Services Module (SSM) installed, use the **show ssm provisioning** command.

**show ssm provisioning**

---

Command History	Release	Modification
	2.0(2)	This command was introduced.
	2.1(1a)	Added Provisioning Status column to the display.

---

### 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 21-9 describes the significant fields shown in the **show ssm provisioning** command output.

**Table 21-9 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
<a href="#">ssm enable feature</a>	Enables the SCSI flow feature on the SSM.

---

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## show startup-config

To display the startup configuration file, use the **show startup-config** command

**show startup-config [log]**

<b>Syntax Description</b>	<b>log</b> Displays execution log of last used ASCII startup configuration.
<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC mode.
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
<b>Usage Guidelines</b>	None.
<b>Examples</b>	<p>The following example displays the switch configuration at startup.</p> <pre> 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 </pre>

■ show startup-config

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```

        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 0xe84b06201ae3fb726a2eab9f485eb57
localizedkey
snmp-server host 171.69.126.34 traps version 2c public udp-port 2162
snmp-server host 171.69.75.106 traps version 2c public udp-port 2162
vsan database
vsan 3 interface fc2/9
vsan 3 interface fc2/14
vsan 5 interface fc9/11
vsan 2 interface fc9/12
vsan 3 interface port-channel 3
vsan 3 interface port-channel 4
vsan 100 interface port-channel 8

boot system bootflash:/isan-8b-u sup-1
boot kickstart bootflash:/boot-3b sup-1
boot system bootflash:/isan-8b-u sup-2
boot kickstart bootflash:/boot-3b sup-2

ip default-gateway 172.22.90.1
power redundancy-mode combined force

username admin password 5 HyLyYqb4.q74Y role network-admin
zone name Z1 vsan 1
    member pwnn 10:00:00:00:77:99:60:2c
    member pwnn 21:00:00:20:37:a6:be:14

zone default-zone permit vsan 1
zoneset distribute full vsan 51-58

zoneset name ZS1 vsan 1
    member Z1

zoneset activate name ZS1 vsan 1

        interface fc2/1
switchport mode E
switchport trunk mode off
no shutdown

        interface fc2/2

        interface fc2/3
channel-group 1 force
no shutdown

```

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```
interface fc2/6
channel-group 2 force
no shutdown

interface fc2/7
switchport mode E
no shutdown
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-25

interface fc2/9
switchport mode E
switchport trunk mode off
no shutdown

interface fc2/10
channel-group 3 force
no shutdown

interface fc2/12
channel-group 4 force
no shutdown

interface fc2/14
switchport mode E
no shutdown
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093

interface fc2/15
channel-group 6 force
no shutdown

interface fc2/16
channel-group 6 force
no shutdown

.
.
.

interface fc9/10
switchport mode F
no shutdown

interface fc9/11
switchport trunk mode off
no shutdown

interface fc9/12
switchport mode E
switchport speed 1000
switchport trunk mode off
no shutdown

interface fc9/15
no shutdown
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093
```

■ show startup-config

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```
interface fc9/16
switchport mode FL
no shutdown

interface mgmt0
ip address 172.22.90.38 255.255.255.0
no shutdown
```

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## show switchname

To display the switch network name, use the **show switchname** command.

**show switchname [serialnum]**

<b>Syntax Description</b>	<b>serialnum</b> Displays switch serial number.
<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC mode.
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
<b>Usage Guidelines</b>	None.
<b>Examples</b>	<p>The following example displays the name of the switch.</p> <pre>switch# show switchname switch-123</pre> <p>The following example displays the switch name and serial number.</p> <pre>switch# show switchname switch-123 Serial Number #1    : FOX0712S007 Serial Number #2    :</pre>

**show system**

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## show system

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

```
show system {cores | default switchport | directory information | error-id {hex-id | list} |
exception-info | pss shrink status [details] | redundancy status | reset-reason [module slot]
| resources | uptime}
```

<b>Syntax Description</b>	
<b>cores</b>	Displays core transfer option.
<b>default switchport</b>	Displays system default values.
<b>directory information</b>	Directory information of System Manager.
<b>error-id</b>	Displays description about errors.
<i>hex-id</i>	Specifies the error ID in hexadecimal format. The range is 0x0 to 0xffffffff.
<b>list</b>	Specifies all error IDs.
<b>exception-info</b>	Displays last exception log information.
<b>pss shrink status</b>	Displays the last PSS shrink status.
<b>details</b>	Displays detailed information on the last PSS shrink status.
<b>redundancy status</b>	Redundancy status.
<b>reset-reason</b>	Displays the last four reset reason codes.
<b>module slot</b>	Specifies the module number to display the reset-reason codes.
<b>resources</b>	Show the CPU and memory statistics.
<b>uptime</b>	Displays how long the system has been up and running.

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** Use the **show system redundancy status** command to ensure that the system is ready to accept a switchover.

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**Examples**

The following example displays the system redundancy status.

```
switch# show system redundancy status
Redundancy mode
-----
      administrative: HA
      operational: None

This supervisor (sup-2)
-----
      Redundancy state: Active
      Supervisor state: Active
      Internal state: Active with no standby

Other supervisor (sup-1)
-----
      Redundancy state: Not present
```

The following example displays the default switch port states.

```
switch# show system default switchport
System default port state is down
System default trunk mode is on
```

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
System Health Services iteration frequency 5 seconds
Active SUP arbiter is Working
Active SUP bootflash is Working
```

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)
```

■ show system

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The following example displays system-related CPU and memory statistics.

```
switch# show system resources
Load average: 1 minute: 0.43 5 minutes: 0.17 15 minutes: 0.11
Processes : 100 total, 2 running
CPU states : 0.0% user, 0.0% kernel, 100.0% idle
Memory usage: 1027628K total, 313424K used, 714204K free
               3620K buffers, 22278K cache
```

The following example displays the system uptime.

```
switch# show system uptime
Start Time: Sun Oct 13 18:09:23 2030
Up Time: 0 days, 9 hours, 46 minutes, 26 seconds
```

Use the **show system cores** command to display the currently configured scheme for copying cores.

```
switch# show system cores
Transfer of cores is enabled
```

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## show system health

To display configured Online System Health Management (OSHM) information, use the **show system health** command.

```
show system health [module slot | statistics [loopback [interface {fc slot/port|iscsi slot/port} | module slot [timelog] | timelog] | module slot]
```

<b>Syntax Description</b>	
<b>module slot</b>	Displays information for a module in the switch,
<b>statistics</b>	Displays OHMS statistics.
<b>interface</b>	Specifies the required interface.
<b>fc slot/port</b>	Specifies the Fiber Channel interface at the specified slot and port.
<b>iscsi slot/port</b>	Specifies the iSCSI interface at the specified slot and port.
<b>loopback</b>	Displays the OHMS loopback test statistics.
<b>timelog</b>	Displays the loopback round trip times.

**Defaults** None

**Command Modes** EXEC mode

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.3(4).

**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 2.

Test	Frequency	Status	Action
<hr/>			
Bootflash	5 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Loopback	5 Sec	Running	Enabled

Current health information for module 6.

Test	Frequency	Status	Action
<hr/>			
InBand	5 Sec	Running	Enabled
Bootflash	5 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Management Port	5 Sec	Running	Enabled

■ show system health

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The following example displays the current health of a specified module.

```
switch# show system health module 8
```

Current health information for module 8.

Test	Frequency	Status	Action
Bootflash	5 Sec	Running	Enabled
EOBC	5 Sec	Running	Enabled
Loopback	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

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The following example displays the statistics for a specified 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



**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

---

 show tacacs+

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

## 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}
```

<b>Syntax Description</b>	<b>distribution status</b> Displays the status of the TACACS+ CFS distribution. <b>pending</b> Displays the pending configuration that is not yet applied. <b>pending-diff</b> Displays the difference between the active configuration and the pending configuration.
---------------------------	--

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

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	This command was introduced.

<b>Usage Guidelines</b>	To use this command, TACACS+ must be enabled using the <b>tacacs+ enable</b> command.
-------------------------	---

<b>Examples</b>	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
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>tacacs+ enable</b>	Enables TACACS+.
	<b>tacacs+ distribute</b>	Initiates TACACS+ configuration distribution.

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

## show tacacs-server

To display configured TACACS+ servers and groups information, use the **show tacacs-server** command.

**show tacacs-server [groups | sorted]**

<b>Syntax Description</b>	<b>groups</b> Displays configured TACACS+ server group information. <b>sorted</b> Displays TACACS+ server information sorted by name.
---------------------------	--

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.3(1).

**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

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## show tech-support

To display information useful to technical support when reporting a problem, use the **show tech-support** command.

```
show tech-support [brief | details | interface {fc slot/port | gigabitethernet slot/port} vsan
vsan-id | module slot | vsan vsan-id]
```

Syntax Description	
<b>brief</b>	Provides a summary of the current running state of the switch.
<b>details</b>	Provides detailed information for each <b>show</b> command
<b>interface</b>	Display interface status and configuration information
<b>fc slot/port</b>	Specifies the Fiber Channel interface at the specified slot and port.
<b>gigabitethernet slot/port</b>	Specifies the Gigabit Ethernet interface at the specified slot and port.
<b>module</b>	Display module status information
<b>vsan vsan-id</b>	Display VSAN status and configuration information. The range is 1 to 4093.

---

### Defaults

The default displays output on a per-command basis, with each command being the title of the output that follows. A line separates the output from the next command. The software removes passwords and other security information.

---

### Command Modes

EXEC mode.

---

### Command History

This command was modified in Cisco MDS SAN-OS Release 1.3(4).

---

### Usage Guidelines

The **show tech-support** command is a compilation of several **show** commands and can be quite lengthy. For a sample display of the output of the **show tech-support** command, see the individual command explanation for the following commands.

If you enter the **show tech-support** command without arguments, the output displays the equivalent of all 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**

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- show processes log details

**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
```

show tech-support

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The **show tech-support brief** command provides a summary of the current running state of the switch.

```
vegas01# 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 Mode	Admin Trunk Mode	Status	FCOT	Oper Mode	Oper Speed (Gbps)	Port Channel
fc1/1	1	auto	on	fcotAbsent	--	--	--	
fc1/2	1	auto	on	fcotAbsent	--	--	--	
fc1/3	1	auto	on	fcotAbsent	--	--	--	
fc1/4	1	auto	on	fcotAbsent	--	--	--	
fc1/5	1	auto	on	notConnected	swl	--	--	
fc1/6	1	auto	on	fcotAbsent	--	--	--	
fc1/7	1	auto	on	fcotAbsent	--	--	--	
fc1/8	1	auto	on	fcotAbsent	--	--	--	
fc1/9	1	auto	on	fcotAbsent	--	--	--	
fc1/10	1	auto	on	fcotAbsent	--	--	--	

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fc1/11	1	auto	on	fcotAbsent	--	--	--					
fc1/12	1	auto	on	fcotAbsent	--	--	--					
fc1/13	1	auto	on	fcotAbsent	--	--	--					
fc1/14	1	auto	on	fcotAbsent	--	--	--					
fc1/15	1	auto	on	fcotAbsent	--	--	--					
fc1/16	1	auto	on	fcotAbsent	--	--	--					
<hr/>												
Interface	Status			Speed (Gbps)								
sup-fc0	up			1								
<hr/>												
Interface	Status		IP Address	Speed	MTU							
mgmt0	up		10.76.100.164/24	100 Mbps	1500							
<hr/>												
Power Supply:												
PS	Model	Power (Watts)	Power (Amp @42V)	Status								
1	WS-CAC-950W	919.38	21.89	ok								
2		--	--	absent								
<hr/>												
Mod	Model	Power Requested (Watts)	Power Requested (Amp @42V)	Power Allocated (Watts)	Power Allocated (Amp @42V)	Status						
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						
<hr/>												
Power Usage Summary:												
<hr/>												
Power Supply redundancy mode:						redundant						
<hr/>												
Total Power Capacity						919.38	W					
<hr/>												
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					
<hr/>												
Total Power Available						451.50						

**show telnet server**

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## show telnet server

To display the state of the Telnet access configuration, use the **show telnet server** command.

**show telnet server**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

**Examples** The following example displays the status of the Telnet server.

```
switch# show telnet server
telnet service enabled
```

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## show terminal

To display the terminal information, use the **show terminal** command

**show terminal**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**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**

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## show tlport

To display configured TL port information, use the **show tlport** command

```
show tlport {alpa-cache | discapp fcid fcid-id [vsan vsan-id] [verbose] | interface fc slot/port {all | private | proxied | topology | unsupported} | list [vsan vsan-id]}
```

Syntax Description	
<b>alpa-cache</b>	Displays the contents of the ALPA cache.
<b>discapp</b>	Displays private N port parameters.
<b>fcid <i>fcid-id</i></b>	Specifies the FCID of the N port.
<b>verbose</b>	Specifies the verbose mode.
<b>vsan <i>vsan-id</i></b>	Specifies the N port VSAN ID. The range is 1 to 4093.
<b>interface</b>	Displays TL ports in the selected interface.
<b>fc <i>slot/port</i></b>	Specifies the Fiber Channel interface at the specified slot and port.
<b>all</b>	Displays all proxied & private devices on this TL Port.
<b>private</b>	Displays all private devices on this TL Port.
<b>proxied</b>	Displays all proxied devices on this TL Port.
<b>topology</b>	Displays loop topology for this TL Port.
<b>unsupported</b>	Displays all unsupported devices on this TL Port.
<b>list</b>	Displays TL ports in all VSANs.

<b>Defaults</b>	None.
<b>Command Modes</b>	EXEC mode.
<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
<b>Usage Guidelines</b>	The <b>show tlport</b> 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).

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**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 0xffffc42
0x73 22:00:00:20:37:39:ae:54 20:00:00:20:37:39:ae:54 Target   Private 0x420073
0xef 20:10:00:05:30:00:4a:de 20:00:00:05:30:00:4a:de Initiator Switch  0x0000ef
```

The following example displays TL port information for private devices.

```
switch# show tlport int fc1/16 pri
fc1/16 is up, vsan 1, FCID 0x420000
-----
alpa pWWN          nWWN          SCSI Type FC-ID
-----
0x73 22:00:00:20:37:39:ae:54 20:00:00:20:37:39:ae:54 Target   0x420073
0x74 22:00:00:20:37:38:d3:de 20:00:00:20:37:38:d3:de Target  0x420074
```

The following example displays TL port information for proxied devices.

```
switch# show tlport int fc1/16 prox
fc1/16 is up, vsan 1, FCID 0x420000
-----
alpa pWWN          nWWN          SCSI Type FC-ID
-----
0x01 20:10:00:05:30:00:4a:de 20:00:00:05:30:00:4a:de Initiator 0xffffc42
0x02 21:00:00:e0:8b:01:95:e7 20:00:00:e0:8b:01:95:e7 Initiator 0x420100
```

The following example displays the contents of the alpa-cache.

```
switch# show tlport alpa-cache
-----
alpa          pWWN          Interface
-----
0x02 22:00:00:20:37:46:09:bd  fc1/2
0x04 23:00:00:20:37:46:09:bd  fc1/2
```

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

## show topology

To display topology information for connected switches, use the **show topology** command.

**show topology [vsan *vsan-id*]**

<b>Syntax Description</b>	<b>vsan <i>vsan-id</i></b>	Displays information for a VSAN. The range is 1 to 4093.
---------------------------	----------------------------	--

<b>Defaults</b>	Displays information for all VSANs.
-----------------	-------------------------------------

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

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	This command was introduced.

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

<b>Examples</b>	The following example displays topology information.
-----------------	--

```
switch# show topology

FC Topology for VSAN 1 :
-----
      Interface        Peer Domain       Peer Interface      Peer IP Address
-----
          fc1/1           0xef(239)           fc2/15            172.22.46.220
          fc1/5           0xe6(230)            fc1/5            172.22.46.222
          fc1/6           0xe6(230)            fc1/6            172.22.46.222
          fc1/7           0xe6(230)            fc1/7            172.22.46.222
          fc1/8           0xe3(227)            fc1/1            172.22.46.233
          fc1/10          0xe6(230)            fc1/10           172.22.46.222
          fc1/11          0xe6(230)            fc1/11           172.22.46.222
          fc1/12          0xe6(230)            fc1/12           172.22.46.222
          fc1/13          0xe6(230)            fc1/13           172.22.46.222
          fc1/14          0xe6(230)            fc1/14           172.22.46.222
          fc1/15          0xe6(230)            fc1/15           172.22.46.222
          fc1/16          0xe6(230)            fc1/16           172.22.46.222
          fcip2           0xef(239)           fcip2            172.22.46.220

FC Topology for VSAN 73 :
-----
      Interface        Peer Domain       Peer Interface      Peer IP Address
-----
          fc1/1           0x65(101)           fc2/15            172.22.46.220
          fcip2           0x65(101)            fcip2            172.22.46.220
```

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FC Topology for VSAN 4001 :

Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/1	0xef(239)	fc2/15	172.22.46.220
fc1/5	0xeb(235)	fc1/5	172.22.46.222
fc1/6	0xeb(235)	fc1/6	172.22.46.222
fc1/7	0xeb(235)	fc1/7	172.22.46.222
fc1/8	0xed(237)	fc1/1	172.22.46.233
fc1/10	0xeb(235)	fc1/10	172.22.46.222
fc1/11	0xeb(235)	fc1/11	172.22.46.222
fc1/12	0xeb(235)	fc1/12	172.22.46.222
fc1/13	0xeb(235)	fc1/13	172.22.46.222
fc1/14	0xeb(235)	fc1/14	172.22.46.222
fc1/15	0xeb(235)	fc1/15	172.22.46.222
fc1/16	0xeb(235)	fc1/16	172.22.46.222
fcip2	0xef(239)	fcip2	172.22.46.220

FC Topology for VSAN 4002 :

Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/1	0xeb(235)	fc2/15	172.22.46.220
fc1/5	0xe9(233)	fc1/5	172.22.46.222
fc1/6	0xe9(233)	fc1/6	172.22.46.222
fc1/7	0xe9(233)	fc1/7	172.22.46.222
fc1/8	0x1c(28)	fc1/1	172.22.46.233
fc1/10	0xe9(233)	fc1/10	172.22.46.222
fc1/11	0xe9(233)	fc1/11	172.22.46.222
fc1/12	0xe9(233)	fc1/12	172.22.46.222
fc1/13	0xe9(233)	fc1/13	172.22.46.222
fc1/14	0xe9(233)	fc1/14	172.22.46.222
fc1/15	0xe9(233)	fc1/15	172.22.46.222
fc1/16	0xe9(233)	fc1/16	172.22.46.222
fcip2	0xeb(235)	fcip2	172.22.46.220

FC Topology for VSAN 4003 :

Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/1	0xdd(221)	fc2/15	172.22.46.220
fc1/5	0xdb(219)	fc1/5	172.22.46.222
fc1/6	0xdb(219)	fc1/6	172.22.46.222
fc1/7	0xdb(219)	fc1/7	172.22.46.222
fc1/8	0x60(96)	fc1/1	172.22.46.233
fc1/10	0xdb(219)	fc1/10	172.22.46.222
fc1/11	0xdb(219)	fc1/11	172.22.46.222
fc1/12	0xdb(219)	fc1/12	172.22.46.222
fc1/13	0xdb(219)	fc1/13	172.22.46.222
fc1/14	0xdb(219)	fc1/14	172.22.46.222
fc1/15	0xdb(219)	fc1/15	172.22.46.222
fc1/16	0xdb(219)	fc1/16	172.22.46.222
fcip2	0xdd(221)	fcip2	172.22.46.220

FC Topology for VSAN 4004 :

Interface	Peer Domain	Peer Interface	Peer IP Address
fc1/9	0x01(1)	Port 1	172.22.46.226

**show trunk protocol**

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

## 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** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

**Examples** The following example displays trunk protocol status.

```
switch# show trunk protocol  
Trunk protocol is enabled
```

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

## show user-account

To display configured information about user accounts, use the **show user-account** command.

**show user-account [user-name | iscsi]**

<b>Syntax Description</b>	<table border="0"> <tr> <td><i>user-name</i></td><td>Displays the user account information for the specified user name.</td></tr> <tr> <td><b>iscsi</b></td><td>Displays the iSCSI user account information.</td></tr> </table>	<i>user-name</i>	Displays the user account information for the specified user name.	<b>iscsi</b>	Displays the iSCSI user account information.
<i>user-name</i>	Displays the user account information for the specified user name.				
<b>iscsi</b>	Displays the iSCSI user account information.				

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

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

<b>Command History</b>	This command was introduced in Cisco MDS SAN-OS Release 1.0(2).
------------------------	---

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

<b>Examples</b>	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**

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

## show users

To display all users currently accessing the switch, use the **show users** command.

**show users**

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

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**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)
```

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

## show version

To display the version of system software that is currently running on the switch, use the **show version** command.

**show version [epld url | image {bootflash: | slot0: | volatile:}image-filename | module slot [epld]]**

Syntax Description	<b>epld url</b> Displays all EPLD versions that are available at the specified URL (bootflash:, ftp:, scp:, sftp:, slot0:, tftp:, or volatile:)
<b>image</b>	Displays the software version of a given image.
<b>bootflash:</b>	Specifies internal bootflash memory.
<b>slot0:</b>	Specifies CompactFlash memory or PCMCIA card.
<b>volatile:</b>	Specifies the volatile directory.
<i>image-filename</i>	Specifies the name of the system or kickstart image.
<b>module slot</b>	Displays the software version of a module in the specified slot.
<b>epld</b>	Displays all current versions of EPLDs on a specified module.

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2) and modified in Release 1.0(3).

**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
```

**■ show version**

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```
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
```

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

The following example displays the entire output for the show version command.

```

switch# show version
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2003, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
Andiamo Systems, Inc. and/or 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 1.0.8
  loader:    version 1.1(2)
  kickstart: version 2.0(1b) [build 2.0(0.6)] [gdb]
  system:    version 2.0(1b) [build 2.0(0.6)] [gdb]

  BIOS compile time:      08/07/03
  kickstart image file is: bootflash:///m9500-sf1ek9-kickstart-mzg.2.0.0.6.bin
  kickstart compile time: 10/25/2010 12:00:00
  system image file is:   bootflash:///m9500-sf1ek9-mzg.2.0.0.6.bin
  system compile time:   10/25/2020 12:00:00

Hardware
  RAM 1024584 kB

  bootflash: 1000944 blocks (block size 512b)
  slot0:       0 blocks (block size 512b)

  172.22.92.181 uptime is 0 days 2 hours 18 minute(s) 1 second(s)

Last reset at 970069 usecs after Tue Sep 16 22:31:25 1980
  Reason: Reset Requested by CLI command reload
  System version: 2.0(0.6)
  Service:
```

The following examples displays a before and after comparison scenario after the loader version is updated.

```

switch# show version
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2003 by Cisco Systems, Inc. All rights reserved.
The copyright for certain works contained herein are owned by
Andiamo Systems, Inc. and/or other third parties and are used and
distributed under license.

Software
  BIOS:      version 1.0(3)
  loader:    version 1.0(2) <-----existing version
  kickstart: version 1.0(3)
  system:    version 1.0(3)

  BIOS compile time:      11/18/02
  kickstart image file is: bootflash:/kickstart_image
  kickstart compile time: 1/20/2003 12:00:00
  system image file is:   bootflash:/system_image
  system compile time:   1/20/2003 12:00:00

switch# show version
Cisco Storage Area Networking Operating System (SAN-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2003 by Cisco Systems, Inc. All rights reserved.
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```

**■ show version**

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**Software**

BIOS: version 1.0(3)  
loader: version 1.0(3) <-----new version  
....

The following example displays the version details for a specified module.

```
switch# show ver mod 4
Mod No    Mod Type      SW Version      SW Interim Version
 4        LC            1.0(3)          1.0(3)
```

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## show vrrp

To display the VRRP configuration information, use the **show vrrp** command.

**show vrrp [statistics | vr *group* [interface *type*]]**

<b>Syntax Description</b>	<b>statistics</b> Displays cumulative vrrp statistics for this machine. <b>vr</b> Displays virtual router information. <b>group</b> Specifies the group ID. The range is 1 to 255. <b>interface type</b> Enter <b>mgmt 0</b> for management interface, or VSAN for the IPFC VSAN interface.
---------------------------	--

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**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
```

**show vrrp**

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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
```

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## show vsan

To display information about configured VSAN, use the **show vsan** command.

```
show vsan [vsan-id [membership] | membership interface {fc slot/port | fcip fcip-id |
    fv slot/dpp-number/fv-port | iscsi slot/port |
    portchannel portchannel-number.subinterface-number}] | usage]
```

<b>Syntax Description</b>	
<b>vsan</b> <i>vsan-id</i>	Displays information for the specified VSAN ID. The range is 1 to 4093.
<b>membership</b>	Displays membership information.
<b>interface</b>	Specifies the interface type.
<b>fc</b> <i>slot/port</i>	Specifies a Fibre Channel interface by the slot and port.
<b>fcip</b> <i>fcip-id</i>	Specifies a FC IP interface ID. The range is 1 to 255.
<b>fv</b> <i>slot/dpp-number/fv-port</i>	Specifies a virtual F port (FV port) interface in the specified slot along with the data path processor (DPP) number and the FV port number.
<b>port-channel</b> <i>portchannel-number.subinterface-number</i>	Specifies a PortChannel interface specified by the PortChannel number followed by a dot (.) indicator and the subinterface number.
<b>usage</b>	Displays VSAN usage in the system.

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was modified in Cisco MDS SAN-OS Release 1.2(2).

**Usage Guidelines** For the **show vsan membership interface** command, interface information is not displayed if interfaces are not configured on this VSAN.

The interface range must be in ascending order and non-overlapping. You can specify a range using a hyphen and several interfaces using commas:

- The interface range format for an FC interface range is  
**fcslot/port - port**, **fcslot/port**, **fcslot/port**  
 (For example, **show int fc1/1 - 3 , fc1/5 , fc2/5**)
- The interface range format for an FV interface range is  
**fvslot/dpp/fvport - fvport**, **fvslot/dpp/port**, **fvslot/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**)

**show vsan**

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**Examples**

The following examples displays configured VSAN information.

```
switch# show vsan 1
vsan 1 information
    name:VSAN0001 state:active
    interoperability mode:yes & verify mode
    loadbalancing:src-id/dst-id/oxid
    operational state:up

switch# show vsan usage
4 vsan configured
configured vsans:1-4
vsans available for configuration:5-4093

switch # show vsan 1 membership
vsan 1 interfaces:
    fc1/1   fc1/2   fc1/3   fc1/4   fc1/5   fc1/6   fc1/7   fc1/9
    fc1/10  fc1/11  fc1/12  fc1/13  fc1/14  fc1/15  fc1/16  port-channel 99
```

The following example displays membership information for all VSANs.

```
switch # show vsan membership
vsan 1 interfaces:
    fc2/16  fc2/15  fc2/14  fc2/13  fc2/12  fc2/11  fc2/10  fc2/9
    fc2/8   fc2/7   fc2/6   fc2/5   fc2/4   fc2/3   fc2/2   fc2/1
    fc1/16  fc1/15  fc1/14  fc1/13  fc1/12  fc1/11  fc1/10  fc1/9
    fc1/7   fc1/6   fc1/5   fc1/4   fc1/3   fc1/2   fc1/1

vsan 2 interfaces:
vsan 7 interfaces:
    fc1/8

vsan 100 interfaces:
vsan 4094(isolated vsan) interfaces:
```

The following example displays membership information for a specified interface.

```
switch # show vsan membership interface fc1/1
fc1/1
    vsan:1
    allowed list:1-4093
```

```
switch# show vsan
vsan 1 information
    name:VSAN0001 state:active
    interoperability mode:default
    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
```

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```
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
```

**show wwn**

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## show wwn

To display the status of the WWN configuration, use the **show wwn** commands.

**show wwn {status block-id *number* | switch}**

<b>Syntax Description</b>	<b>status block-id <i>number</i></b> Displays WWN usage and alarm status for a block ID. The range is 34 to 1793. <b>switch</b> Displays switch WWN.
---------------------------	---

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

**Usage Guidelines** None.

**Examples** The following example displays the WWN of the switch.

```
switch# show wnn switch
Switch WNN is 20:01:ac:16:5e:52:00:01
```

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## show zone

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

```
show zone
  [active [vsan vsan-id] |
   ess [vsan vsan-id] |
   member {fcalias alias-name | fcid fcid-id [lun lun-id] | pwwn wwn [lun lun-id]} [active | vsan
   vsan-id] |
   name string [active] [vsan vsan-id] |
   statistics [lun-zoning [vsan vsan-id] | read-only-zoning [vsan vsan-id] | vsan vsan-id] |
   status [vsan vsan-range]
   vsan [vsan vsan-id]]
```

Syntax Description	<b>active</b>	Displays zones which are part of active zone set.
	<b>ess</b>	Displays ESS information.
	<b>member</b>	Displays all zones in which the given member is part of.
	<b>name</b>	Displays members of a specified zone.
	<b>statistics</b>	Displays zone server statistics.
	<b>status</b>	Displays zone server current status.
	<b>vsan vsan-id</b>	Displays zones belonging to the specified VSAN ID. The range is 1 to 4093.
	<b>lun lun-id</b>	Specifies a LUN ID.
	<b>lun-zoning</b>	Displays LUN zoning related statistics
	<b>read-only-zoning</b>	Displays read-only zoning related statistics

**Defaults** None.

**Command Modes** EXEC mode.

Command History	Release	Modification
	1.3(4)	This command was introduced.
	2.1(1a)	Modified the <b>show zone status</b> display.

**Usage Guidelines** None.

**Examples** The following example displays configured zone information.

```
switch# show zone
zone name Zone3 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:9c:48:e5
zone name Zone2 vsan 2
```

**show zone**

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```
fwwn 20:41:00:05:30:00:2a:1e
fwwn 20:42:00:05:30:00:2a:1e
fwwn 20:43:00:05:30:00:2a:1e
zone name Zone1 vsan 1
    pwwn 21:00:00:20:37:6f:db:dd
    pwwn 21:00:00:20:37:a6:be:2f
    pwwn 21:00:00:20:37:9c:48:e5
    fcalias Alias1
zone name Techdocs vsan 3
    ip-address 10.15.0.0 255.255.255.0
```

The following example displays zone information for a specific VSAN.

```
switch# show zone vsan 1
zone name Zone3 vsan 1
    pwwn 21:00:00:20:37:6f:db:dd
    pwwn 21:00:00:20:37:9c:48:e5
zone name Zone2 vsan 1
    fwwn 20:41:00:05:30:00:2a:1e
    fwwn 20:42:00:05:30:00:2a:1e
    fwwn 20:43:00:05:30:00:2a:1e
    fwwn 20:44:00:05:30:00:2a:1e
    fwwn 20:45:00:05:30:00:2a:1e
    fwwn 20:46:00:05:30:00:2a:1e
    fwwn 20:47:00:05:30:00:2a:1e
    fwwn 20:48:00:05:30:00:2a:1e
    fwwn 20:49:00:05:30:00:2a:1e
    fwwn 20:4a:00:05:30:00:2a:1e
    fwwn 20:4b:00:05:30:00:2a:1e
    fwwn 20:4c:00:05:30:00:2a:1e
    fwwn 20:4d:00:05:30:00:2a:1e
    fwwn 20:4e:00:05:30:00:2a:1e
    fwwn 20:4f:00:05:30:00:2a:1e
    fwwn 20:50:00:05:30:00:2a:1e
    fwwn 20:51:00:05:30:00:2a:1e
    fwwn 20:52:00:05:30:00:2a:1e
    fwwn 20:53:00:05:30:00:2a:1e
    fwwn 20:54:00:05:30:00:2a:1e
    fwwn 20:55:00:05:30:00:2a:1e
    fwwn 20:56:00:05:30:00:2a:1e
    fwwn 20:57:00:05:30:00:2a:1e
    fwwn 20:58:00:05:30:00:2a:1e
    fwwn 20:59:00:05:30:00:2a:1e
    fwwn 20:5a:00:05:30:00:2a:1e
    fwwn 20:5b:00:05:30:00:2a:1e
    fwwn 20:5c:00:05:30:00:2a:1e
    fwwn 20:5d:00:05:30:00:2a:1e
    fwwn 20:5e:00:05:30:00:2a:1e
    fwwn 20:5f:00:05:30:00:2a:1e
    fwwn 20:60:00:05:30:00:2a:1e
zone name Zone1 vsan 1
    pwwn 21:00:00:20:37:6f:db:dd
    pwwn 21:00:00:20:37:a6:be:2f
    pwwn 21:00:00:20:37:9c:48:e5
    fcalias Alias1
```

The following example displays members of a specific zone.

```
switch# show zone name Zone1
zone name Zone1 vsan 1
    pwwn 21:00:00:20:37:6f:db:dd
    pwwn 21:00:00:20:37:a6:be:2f
    pwwn 21:00:00:20:37:9c:48:e5
    fcalias Alias1
```

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The following example displays all zones to which a member belongs using the FCID.

```
switch# show zone member pwnn 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: 00:00:00:00:00:00:64
-----
Number of Data Protect Check Condition Sent: 12
```

show zone

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The following example displays the status of the configured zones.

```
switch# show zone status
VSAN: 1 default-zone: deny distribute: active only Interop: default
      mode: basic merge-control: allow session: none
      hard-zoning: enabled
Default zone:
      qos: low broadcast: disabled ronly: disabled
Full Zoning Database :
      Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
      Database Not Available
Status:
.....
VSAN: 3 default-zone: deny distribute: active only Interop: default
      mode: basic merge-control: allow session: none
      hard-zoning: enabled
Default zone:
      qos: low broadcast: disabled ronly: disabled
Full Zoning Database :
      Zonesets:0 Zones:0 Aliases: 0
Active Zoning Database :
      Database Not Available
Status:
```

The following example checks the status of the **zoneset distribute vsan** command and displays the default zone attributes of a specific VSAN or all active VSANs.

```
switch# show zone status vsan 1
VSAN:1 default-zone:deny distribute:active only Interop:default
      mode:basic merge-control:allow session:none
      hard-zoning:enabled
Default zone:
      qos:low broadcast:disabled ronly:disabled
Full Zoning Database :
      Zonesets:0 Zones:0 Aliases:0
Active Zoning Database :
      Database Not Available
Status:
```

Table 21-10 describes the significant fields shown in the **show zone status vsan** display.

**Table 21-10 show zone status Field Descriptions**

Field	Description
VSAN:	VSAN number displayed
default-zone:	Default-zone policy either permit or deny.
Default zone:	The Default zone field displays the attributes for the specified VSAN. The attributes include: Qos level, broadcast zoning enabled/disabled, and read-only zoning enabled/disabled.
distribute:	Distribute full-zone set (full) or active-zone set (active only).
Interop:	Displays interop mode. 100 = default, 1 = standard, 2 and 3 = Non-Cisco Vendors.
mode:	Displays zoning mode either basic or enhanced.
merge control:	Displays merge policy either allow or restrict.
Hard zoning is enabled	If hardware resources (TCAM) becomes full, hard zoning is automatically disabled.

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**Table 21-10 show zone status Field Descriptions (continued)**

Field	Description
Full Zoning Database:	Displays values of zone database.
Active Zoning Database:	Displays values of active zone database.
Status:	Displays status of last zone distribution.

---

 show zone-attribute-group

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## show zone-attribute-group

To display the device name information, use the **show zone-attribute-group** command.

**show zone-attribute-group [name *group-name*] [pending] [vsan *vsan-id*]**

<b>Syntax Description</b>	<b>name <i>group-name</i></b> Displays the entire device name database. <b>pending</b> Displays the pending device name database information. <b>vsan <i>vsan-id</i></b> Specifies a VSAN ID. The range is 1 to 4093.
---------------------------	---

---

<b>Defaults</b>	Displays information for default zone attribute groups.
-----------------	---

---

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

---

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(1b)	This command was introduced.

---



---

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

---

<b>Examples</b>	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
```

---

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>zone-attribute-group name</b>	Configures zone attribute groups.

---

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## show zoneset

To display the configured zone sets, use the **show zoneset** command.

**show zoneset [name *zoneset-name*] [brief] [active] [vsan *vsan-id*]**

<b>Syntax Description</b>	<b>name <i>zoneset-name</i></b> Displays members of a specified zone set. Maximum length is 64 characters. <b>brief</b> Displays members in brief mode. <b>active</b> Displays only active zone sets. <b>vsan <i>vsan-id</i></b> Displays zone sets belonging to the specified VSAN ID. The range is 1 to 4093.
---------------------------	--

**Defaults** None.

**Command Modes** EXEC mode.

**Command History** This command was modified in Cisco MDS SAN-OS Release 1.2(2).

**Usage Guidelines** None.

**Examples** The following example displays configured zone set information.

```
switch# show zoneset vsan 1
zoneset name ZoneSet2 vsan 1
  zone name Zone2 vsan 1
    fwwn 20:4e:00:05:30:00:2a:1e
    fwwn 20:4f:00:05:30:00:2a:1e
    fwwn 20:50:00:05:30:00:2a:1e
    fwwn 20:51:00:05:30:00:2a:1e
    fwwn 20:52:00:05:30:00:2a:1e
  zone name Zone1 vsan 1
    pwwn 21:00:00:20:37:6f:db:dd
    pwwn 21:00:00:20:37:a6:be:2f
    pwwn 21:00:00:20:37:9c:48:e5
    fcalias Alias1
zoneset name ZoneSet1 vsan 1
  zone name Zone1 vsan 1
    pwwn 21:00:00:20:37:6f:db:dd
    pwwn 21:00:00:20:37:a6:be:2f
    pwwn 21:00:00:20:37:9c:48:e5
    fcalias Alias1
```

show zoneset

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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
```