CHAPTER 16

Show Commands

The commands in this chapter apply to the Cisco MDS 9000 Family of multilayer directors and fabric switches. All commands are shown here in alphabetical order regardless of command mode. See 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 accounting, page 16-3
- show arp, page 16-4
- show authentication, page 16-5
- show boot, page 16-6
- show callhome, page 16-7
- show clock, page 16-9
- show cores, page 16-10
- show environment, page 16-11
- show fc2, page 16-13
- show fcalias, page 16-16
- show fcanalyzer, page 16-17
- show fcc, page 16-18
- show fcdomain, page 16-19
- show fcdroplatency, page 16-21
- show fcflow stats, page 16-22
- show fcfwd, page 16-23
- show fctimer, page 16-24
- show fcns database, page 16-25
- show fcns statistics, page 16-26
- show fcroute, page 16-27
- show fcs, page 16-30
- show file, page 16-34
- show flash, page 16-35
- show flogi database, page 16-36
- show fspf, page 16-38

- show hardware, page 16-41
- show hosts, page 16-43
- show interface, page 16-45
- show ip route, page 16-50
- show ip routing, page 16-51
- show logging, page 16-52
- show module, page 16-57
- show ntp, page 16-59
- show port-channel, page 16-61
- show processes, page 16-63
- show qos statistics, page 16-66
- show radius-server, page 16-67
- show role, page 16-68
- show rscn, page 16-69
- show running-config, page 16-71
- show scsi-target, page 16-72
- show snmp, page 16-75
- show span session, page 16-77
- show sprom, page 16-79
- show ssh, page 16-82
- show startup-config, page 16-84
- show switchname, page 16-87
- show system, page 16-88
- show system switchover impact, page 16-90
- show tech-support, page 16-92
- show telnet server, page 16-94
- show terminal, page 16-95
- show trunk protocol, page 16-98
- show user-account, page 16-99
- show users, page 16-100
- show version, page 16-101
- show version compatibility, page 16-103
- show vrrp, page 16-104
- show vsan, page 16-106
- show wwn, page 16-108
- show zone, page 16-109
- show zoneset, page 16-112

show accounting

To display configured accounting information, use the **show accounting** command.

show accounting {config | log | logsize}

Syntax Description

config	Shows RADIUS accounting configuration information.
log	Shows accounting log.
logsize	Shows local accounting log file size.

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

To display configured accounting parameters.

```
switch# show accounting config
RADIUS accounting not enabled
local accounting enabled
```

To display configured log size.

```
switch# show accounting logsize
maximum local accounting log size:29000
```

To display the entire log file.

```
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
```

show arp

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

show authentication

To display the configured authentication methods, use the **show authentication** command.

show authentication

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 authentication information.

```
switch# show authentication
authentication method:none
         console:not enabled
         telnet/ssh:not enabled
authentication method:radius
         console:not enabled
         telnet/ssh:not enabled
authentication method:local
         console:enabled
         telnet/ssh:enabled
```

show boot

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

show boot [sup-1 | sup-2]

Syntax Description

show boot	Displays the boot variables in any Cisco MDS 9000 Family switch.
sup-1	Displays the boot variables for the active supervisor module in any Cisco MDS 9500 Series switch.
sup-2	Displays the boot variables for the standby supervisor module in any Cisco MDS 9500 Series switch.

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

None.

Examples

To display the current contents of the boot variable, enter the following command at the switch prompt:

```
switch# show boot
sup-1
KICKSTART variable = bootflash:/kickstart-image
SYSTEM variable = bootflash:/system-image;
sup-2
KICKSTART variable = bootflash:/kickstart-image
SYSTEM variable = bootflash:/system-image;
```

show callhome

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

show callhome [**destination-profile** *profile*] [**transport-email**]

Syntax Description

destination-profile *profile*	Shows callhome destination profile information for the specified profile.
transport-email	Shows callhome email transport 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 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:Site1ManhattanNewYork
customer id:Customer1234
contract id:Andiamo1234
switch priority:0
```

The following example displays 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 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 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
```

show clock

To show 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

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

show cores

To shows 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 environment

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

show environment [clock | fan | power | temperature]

Syntax Description

clock	Display status of chassis clock modules
fan	Display status of chassis fan modules
power	Display status of power supply modules, power supply redundancy mode and power usage summary.
temperature	Display 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


Temperature:
```

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

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

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

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


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


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


Power Usage Summary:
--------------------
Power Supply redundancy mode:                  non-redundant (combined)

Total Power Capacity                           2306.64  W

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

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

Related Commands

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

show fc2

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

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

Syntax Description

bind	Shows fc2 socket bindings.
classf	Shows fc2 classf sessions.
exchange	Shows fc2 active exchanges.
exchresp	Shows fc2 active responder exchanges.
flogi	Shows fc2 flogi table.
nport	Shows fc2 local Nports.
plogi	Shows fc2 plogi sessions.
plogi_pwwn	Shows fc2 plogi pwwn entries.
port *brief*	Shows fc2 physical port table.
socket	Shows fc2 active sockets.
sockexch	Shows fc2 active exchanges for each socket.
socknotify	Shows fc2 local nport plogi/logo notifications per each socket.
socknport	Shows fc2 local nports per each socket.
vsan	Shows 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.

Examples

```
switch# show fc2 socket
SOCKET   REFCNT PROTOCOL       PID   RCVBUF  RMEM_USED     QLEN    NOTSK
b2a64b20        2        0     1421    65535          0        0        0
b2a647e0        3        0     1418   262142          0        0        0
b2a644a0        3        0     1417    65535          0        0        0
b2a64160        3        0     1417   262142          0        0        0
b294b180        3        0     1411    65535          0        0        0
b294ae40        3        0     1411    65535          0        0        0
b294a7c0        3        0     1410    65535          0        0        0
b294a480        2        7     1410    65535          0        0        0
b294a140        3        0     1409   262142          0        0        0
b278bb20        3        0     1409   262142          0        0        0
```

```
b278b4a0        3        0     1407    65535          0        0        0
b278b160        3        0     1407   256000          0        0        0
b278ae20        3        0     1407    65535          0        0        0
b1435b00        3        0     1408    65535          0        0        0
b1434e00        3        0     1406    65535          0        0        0
b1434ac0        3        0     1406   131072          0        0        0
b1434780        3        0     1406    65535          0        0        0
b1434440        2        0     1405   131072          0        0        0
b1434100        3        0     1405   262142          0        0 b1434440
b22e2420        2        0     1372    65535          0        0        0
...
switch# show fc2 bind
  SOCKET RULE   SINDEX   VSAN     D_ID     MASK TYPE  SUBTYPE M_VALUES
b23ba0c0   16  6081000      1        0        0    0 00:00:00 00:00:00:00:00:00:00:00
b2a647e0    7 ffffffff  65535   fffffd   ffffff   22 03:01:00 14:15:16:00:00:00:00:00
b294b180    7 ffffffff  65535   fffffd   ffffff    1 02:01:00 61:62:00:00:00:00:00:00
b294ae40    7 ffffffff  65535   fffc00   ffff00   22 01:01:00 1b:00:00:00:00:00:00:00
b294a7c0    7 ffffffff  65535   fffffd   ffffff    1 01:01:00 10:00:00:00:00:00:00:00
...
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
...
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

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

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

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

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

show fcalias

Use the **show fcalias** command to display fcalias configuration.

show fcalias [name *string***] [active] [vsan** *vsan-range***]**

Syntax Description

name *string*	Shows members of a specified fcalias
active	Shows aliases which are part of active zoneset
vsan *vsan-range*	Shows aliases belonging to the specified VSAN range. The VSAN ID range is from 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 fcalias configuration.

```
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
```

show fcanalyzer

Use the **show fcanalyzer** command to display the list of hosts configured for a remote capture.

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
```

show fcc

Use the **show fcc** commands to view FCC settings.

show fcc

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

Displays Configured FCC Information

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

show fcdomain

To show the fcdomain information, use the **show fcdomain** command.

show fcdomain {address-allocation [cache] | domain-list | fcid persistent | statistics | interface | vsan [*vsan-id* | *vsan-range***]}**

Syntax Description

address-allocation	Shows statistics for the fcid allocation
cache	The cache is used by the principle switch to reassign the FC IDs 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 FC IDs, and mask refers to a single or entire area of FC IDs.
domain-list	Shows list of domain ids granted by the principal sw
fcid persistent	Shows persistent FCIDs (across reboot)
statistics *interface*	Shows the statistics of fcdomain
vsan *vsan-id* | *vsan-range*	The ID or range of the VSAN (from 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

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

Examples

switch# **show fcdomain vsan 1**

```
The local switch is a Subordinated Switch.

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

Local switch configuration information:
        State: Enabled
        Auto-reconfiguration: Disabled
        Contiguous-allocation: Disabled
        Configured fabric name: 41:6e:64:69:61:6d:6f:21
        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
----------------    -------------    ------------
```

```
switch# show fcdomain domain-list vsan 1

Number of domains: 5
Domain ID              WWN
---------    -----------------------
 0x61(97)    10:00:00:60:69:50:0c:fe
 0x62(98)    20:01:00:05:30:00:47:9f
 0x63(99)    10:00:00:60:69:c0:0c:1d
0x64(100)    20:01:00:05:30:00:51:1f [Local]
0x65(101)    10:00:00:60:69:22:32:91 [Principal]
---------    -----------------------
```

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

Local switch run time information:
        State: Stable
        Local switch WWN:    20:01:00:05:30:00:47:9f
        Running fabric name: 10:00:00:60:69:22:32:91
        Running priority: 128
        Current domain ID: 0x62(98) ß verify domain

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: 0x62(98) (preferred)

Principal switch run time information:

        Running priority: 2

Interface               Role          RCF-reject
----------------    -------------    ------------
fc1/1               Upstream         Disabled
fc1/3               Non-principal    Disabled
fc1/6               Non-principal    Disabled
----------------    -------------    ------------
```

show fcdroplatency

To view the configured latency parameters, use the **show fcdroplatency** command.

show fcdroplatency [network | switch]

Syntax Description

network	Network latency in milliseconds.
switch	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

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

show fcflow stats

To view the configured fcflow information, use the **show fcflow stats** command.

show fcflow stats

Syntax Description

aggregated	Shows aggregated fcflow statistics.
module *module-number*	Shows fcflow statistics for a specified module. The module number is a number from 1-9.
usage	Shows flow index 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 aggregated fcflow details for the specified module.

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

The following example displays fcflow details for the specified module.

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

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

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

show fcfwd

To view 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	Shows FC fwd index tables.
interface-to-port	Shows interface index to port index table.
port-to-interface	Shows port index to interface index table.
statistics	Shows index table statistics.
pcmap	Shows FC fwd PortChannel table.
interface	Shows PortChannel table for an interface.
sfib	Shows software forwarding tables.
multicast	Shows multicast software forwarding tables.
statistics	Shows software forwarding statistics.
unicast	Shows unicast software forwarding tables.
spanmap	Shows spanmap tables.
rx	Shows spanmap table in ingress -rx direction.
tx	Shows spanmap 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

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

```
switch# show fcfwd idxmap statistics
idxmap statistics:
```

show fctimer

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

show fctimer [D_S_TOV | E_D_TOV | F_S_TOV | R_A_TOV]

Syntax Description

D_S_TOV	D_S_TOV in milliseconds
E_D_TOV	E_D_TOV in milliseconds
F_S_TOV	F_S_TOV in milliseconds
R_A_TOV	R_A_TOV 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

```
switch# show fctimer
F_S_TOV : 5000 milliseconds
D_S_TOV : 5000 milliseconds
E_D_TOV : 2000 milliseconds
R_A_TOV : 10000 milliseconds
```

show fcns database

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

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

Syntax Description

detail	Shows all objects in each entry.
vsan *vsan-id*	Shows entries for a specified VSAN or VSANs (from 1 to 4093.).
domain *domain-id*	Shows entries in a domain.
fcid *fcid-id*	Shows entry for the given port.
local	Shows local entries.

Defaults

None.

Command Modes

EXEC mode.

Command History

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

Examples

```
switch# show fcns database
VSAN 1:
--------------------------------------------------------------------------
FCID        TYPE  PWWN                    (VENDOR)        FC4-TYPE:FEATURE
--------------------------------------------------------------------------
0x9c0000    N     21:00:00:e0:8b:08:96:22 (Company 1)        scsi-fcp:init
0x9c0100    N     10:00:00:05:30:00:59:1f (Company 2)       ipfc
0x9c0200    N     21:00:00:e0:8b:07:91:36 (Company 3)        scsi-fcp:init
0x9c03d6    NL    21:00:00:20:37:46:78:97 (Company 4)       scsi-fcp:target
0x9c03d9    NL    21:00:00:20:37:5b:cf:b9 (Company 4)       scsi-fcp:target
0x9c03da    NL    21:00:00:20:37:18:6f:90 (Company 4)       scsi-fcp:target
0x9c03dc    NL    21:00:00:20:37:5a:5b:27 (Company 4)       scsi-fcp:target
0x9c03e0    NL    21:00:00:20:37:36:0b:4d (Company 4)       scsi-fcp:target
0x9c03e1    NL    21:00:00:20:37:39:90:6a (Company 4)       scsi-fcp:target
0x9c03e2    NL    21:00:00:20:37:18:d2:45 (Company 4)       scsi-fcp:target
0x9c03e4    NL    21:00:00:20:37:6b:d7:18 (Company 4)       scsi-fcp:target
0x9c03e8    NL    21:00:00:20:37:38:a7:c1 (Company 4)       scsi-fcp:target
0x9c03ef    NL    21:00:00:20:37:18:17:d2 (Company 4)       scsi-fcp:target

Total number of entries = 13
```

show fcns statistics

Use the **show fcns statistics** command to display the statistical information for a specified VSAN or for all VSANs.

show fcns statistics [detail] vsan *vsan-range*

Syntax Description

detail	Shows detailed statistics.
vsan *vsan-range*	Shows statistics for the specified VSAN or VSANs (from 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

```
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

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 vsan** *vsan-id* **|summary vsan** *vsan-id* **| unicast** *fc-id* **vsan** *vsan-id* **| unicast vsan** *vsan-id***]**

distance	Shows FC route preference.
label	Shows label routes.
multicast	Shows FC multicast routes.
summary	Shows FC routes summary.
unicast	Shows FC unicast routes.
vsan *vsan-id*	The ID of the VSAN (from 1 to 4093).
fcid-id	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

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

The following example displays multicast routing information.

```
switch# show fcroute multicast
VSAN FC ID    # Interfaces
---- -------- ------------
1    0xffffff 0
2    0xffffff 1
```

```
3    0xffffff 1
4    0xffffff 0
5    0xffffff 0
6    0xffffff 0
7    0xffffff 0
8    0xffffff 0
9    0xffffff 0
10   0xffffff 0
```

The following example displays FCID information for a specified VSAN.

```
switch# show fcroute multicast vsan 3

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

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

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

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

The following example displays unicast routing information.

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

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

```
switch# show fcroute unicast vsan 4

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

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

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

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

The following example displays route database information.

```
switch# show fcroute summary

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

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

```
switch# show fcroute summary vsan 4

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

show fcs

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

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

Syntax Description

database	Shows local database of FCS.
ie	Shows Interconnect Element Objects Information.
platform	Shows Platform Objects Information.
port	Shows Port Objects Information.
statistics	Shows statistics for FCS packets.
vsan	Shows list of all the VSANs and plat-check-mode for each.
vsan-range	Range of the required VSANs (from 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 FCS database information.

```
switch# show fcs database

FCS Local Database in VSAN: 1
------------------------------
Switch WWN               : 20:01:00:05:30:00:16:df
Switch Domain Id         : 0x7f(127)
Switch Mgmt-Addresses    : snmp://172.22.92.58/eth-ip
                           http://172.22.92.58/eth-ip
Fabric-Name              : 20:01:00:05:30:00:16:df
Switch Logical-Name      : 172.22.92.58
Switch Information List  : [Cisco Systems*DS-C9509*0*20:00:00:05:30:00
Switch Ports:
-----------------------------------------------------------------
Interface  pWWN                      Type     Attached-pWWNs
-----------------------------------------------------------------
fc2/1      20:41:00:05:30:00:16:de  TE       20:01:00:05:30:00:20:de
fc2/2      20:42:00:05:30:00:16:de  Unknown  None
fc2/17     20:51:00:05:30:00:16:de  TE       20:0a:00:05:30:00:20:de

FCS Local Database in VSAN: 5
```

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

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

```
switch# show fcs ie vsan  1

IE List for VSAN: 1
-------------------------------------------------------------------
IE-WWN                   IE-Type                          Mgmt-Id
-------------------------------------------------------------------
20:01:00:05:30:00:16:df  Switch (Local)                   0xfffc7f
20:01:00:05:30:00:20:df  Switch (Adjacent)                0xfffc64
[Total 2 IEs in Fabric]
```

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

```
switch# show fcs ie nwwn 20:01:00:05:30:00:16:df vsan 1
IE Attributes
-------------
Domain-Id = 0x7f(127)
Management-Id = 0xfffc7f
Fabric-Name = 20:01:00:05:30:00:16:df
Logical-Name = 172.22.92.58
Management Address List =
        snmp://172.22.92.58/eth-ip
        http://172.22.92.58/eth-ip
Information List:
        Vendor-Name = Cisco Systems
        Model Name/Number = DS-C9509
        Release-Code = 0
```

This command displays platform information.

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

This command displays platform information within a specified VSAN.

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

This command displays FCS port information within a specified VSAN.

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

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

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

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

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

This command displays ports within a specified WWN.

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

This command displays FCS statistics.

```
switch# show fcs statistics

FCS Statistics for VSAN: 1
--------------------------
FCS Rx Get Reqs   :2
FCS Tx Get Reqs   :7
FCS Rx Reg Reqs   :0
FCS Tx Reg Reqs   :0
FCS Rx Dereg Reqs :0
FCS Tx Dereg Reqs :0
```

```
FCS Rx RSCNs       :0
FCS Tx RSCNs       :3
FCS Rx RJTs        :3
FCS Tx RJTs        :0
FCS Rx ACCs        :4
FCS Tx ACCs        :2
FCS No Response    :0
FCS Retransmit     :0

FCS Statistics for VSAN: 30
---------------------------
FCS Rx Get Reqs    :2
FCS Tx Get Reqs    :2
FCS Rx Reg Reqs    :0
FCS Tx Reg Reqs    :0
FCS Rx Dereg Reqs  :0
FCS Tx Dereg Reqs  :0
FCS Rx RSCNs       :0
FCS Tx RSCNs       :0
FCS Rx RJTs        :0
FCS Tx RJTs        :0
FCS Rx ACCs        :2
FCS Tx ACCs        :2
FCS No Response    :0
FCS Retransmit     :0
```

show file

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

show file *filename*

Syntax Description

filename	The name of the file for which you want to display contents.

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 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
```

show flash

To display the flash usage, use the **show flash** command.

show flash

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 **show flash** command displays the disk usage of various devices.

```
switch# show flash
```

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

fcid	Optional - filters flogi based on the fcid allocated.
interface	Optional - filters flogi based on the logged in interface.
vsan	Optional - filters flogi based on the vsan.
vsan-id	The ID of the VSAN is from 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

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

In a Fibre Channel fabric, each host or disk requires an FC ID. Use the **show flogi** 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

This command 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.
```

This command displays the FLOGI interface.

```
switch# show flogi database interface fc1/11
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.
```

This command 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.
```

This command displays the FLOGI FCID.

```
switch# show flogi database fcid 0xef02e2
--------------------------------------------------------------------------------
INTERFACE  VSAN    FCID           PORT NAME               NODE NAME
--------------------------------------------------------------------------------
fc9/13       1     0xef02e2  22:00:00:20:37:18:d2:45  20:00:00:20:37:18:d2:45

Total number of flogi = 1.
```

Related Commands

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

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 aa LSR can stay before being deleted

show fspf database [vsan *vsan-id***] [domain** *domain-id* **[detail]**

show fspf interface

show fspf [vsan *vsan-id]* [**interface** [*interface range*]]

Syntax Description

database	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.
domain *domain-id*	The domain of the database. The parameter *domain_num* is unsigned integers in the range 0-255.
interface *interface*	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 *interface_range* is of the format fcslot/port - fcslot/port
vsan	Specifies the VSAN.
vsan-id	The ID of the VSAN is from 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

```
switch# show fspf vsan 1 interface fc 2/14
FSPF interface fc2/14 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 0x03(3), Neighbor Interface index is 0x0001060d

Statistics counters :
   Number of packets received :LSU  184  LSA  184  Hello 5477  Error packets 0
   Number of packets transmitted :LSU  184  LSA  184  Hello 5478  Retransmitted
 LSU  0
  Number of times inactivity timer expired for the interface = 0
```

The following example displays FSPF interface information.

```
switch# show fspf interface vsan 1 fc1/1
FSPF interface fc1/1 in VSAN 1
FSPF routing administrative state is active
Interface cost is 500
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is FULL
Neighbor Domain Id is 0x0c(12), Neighbor Interface index is 0x0f100000

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

The following example displays FSPF database information.

```
switch# show fspf database vsan 1

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

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

FSPF Link State Database for VSAN 1 Domain 0xc3(195)
LSR Type                = 1
```

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

This command displays FSPF information for a specified VSAN.

```
switch# show fspf vsan 1
FSPF routing for VSAN 1
FSPF routing administration status is enabled
FSPF routing operational status is UP
It is an intra-domain router
Autonomous region is 0
SPF hold time is 0 msec
MinLsArrival = 1000 msec , MinLsInterval = 5000 msec
Local Domain is 0x65(101)
Number of LSRs = 3, Total Checksum = 0x0001288b

Protocol constants :
   LS_REFRESH_TIME = 1800 sec
   MAX_AGE         = 3600 sec

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

show hardware

Use the **show hardware** command to display switch hardware inventory details.

show hardware

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

```
switch# sho 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)
```

```
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)
```

show hosts

Use the **show hosts** command to display configured DNS host configuration details details.

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 configures hosts including the default domain, domain list, and name servers.

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

show in-order-gaurantee

Use the **show in-order-gaurantee** command to display the present configured state of the in-order delivery feature.

show in-order-gaurantee

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 present configuration status of the in-order delivery feature.

```
switch# show in-order-guarantee
inorder delivery is not guaranteed
```

show interface

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

show interface [**brief | counters | description | fc | mgmt| port-channel |sup-fc | transceiver | trunk vsan** *vsan-id*] [**interface range**]

Syntax Description

interface range	Enters the selected range of physical interfaces.
brief	Shows brief info of interface.
counters	Shows counters of interface.
description	Shows description of interface.
fc	Fibre Channel interface.
mgmt	Management interface.
port-channel	Port Channel interface.
sup-fc	Inband interface
transceiver	Shows transceiver information for interface.
trunk	Shows trunking information for one or more VSANs
vsan *vsan-id*	Shows 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

```
switch# show interface fc1/1
fc1/1 is up
    Hardware is Fibre Channel, 20:01:ac:16:5e:4a:00:00
    vsan is 1
    Port modeis E
    Speed is 1 Gbps
    Beacon is turned off
    FCID is 0x0b0100
      0 frames input, 0 bytes, 0 discards
      0 runts, 0 jabber, 0 too long, 0 too short
      0 input errors, 0 CRC, 0 invalid transmission words
      0 address id, 0 delimiter
      0 EOF abort, 0 fragmented, 0 unknown class
      0 frames output, 0 bytes, 0 discards
      Received 0 OLS, 0 LRR, 0 NOS, 0 loop inits
      Transmitted 0 OLS, 0 LRR, 0 NOS, 0 loop inits
```

```
switch# show int 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

switch# show int 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

switch# show interface description
fc1/1
    no description
fc1/2
    no description
fc1/15
fcAnl

sup-fc0 is up

mgmt0 is up

vsan1 - IPFC interface

port-channel 15
no description

port-channel 98
no description


switch# show interface fc2/1 - 5 brief
show int brief

--------------------------------------------------------------------------------
Interface  Vsan   Admin  Admin   Status           Oper  Oper    Port-channel
                  Mode   Trunk                    Mode  Speed
                         Mode                           (Gbps)
--------------------------------------------------------------------------------
fc1/1      1      auto   on      down             --    --      --
fc1/2      1      auto   on      fcotAbsent       --    --      --
fc1/3      1      F      --      notConnected     --    --      --
fc1/4      1      auto   on      fcotAbsent       --    --      --
fc1/5      1      F      --      up               F     2       --
fc1/6      1      auto   on      fcotAbsent       --    --      --
fc1/7      1      auto   on      down             --    --      --
fc1/8      1      auto   on      fcotAbsent       --    --      --
fc1/9      1      auto   on      fcotAbsent       --    --      --
fc1/10     1      auto   on      fcotAbsent       --    --      --
fc1/11     1      auto   on      down             --    --      --
fc1/12     1      auto   on      fcotAbsent       --    --      --
fc1/13     1      auto   on      down             --    --      --
fc1/14     1      auto   on      fcotAbsent       --    --      --
```

```
fc1/15     1      auto   on      down             --    --      --
fc1/16     1      auto   on      fcotAbsent       --    --      --
-------------------------------------------------------------------------------
Interface          Status   IP Address               Speed        MTU
-------------------------------------------------------------------------------
sup-fc0            up       --                       1 Gbps       2596
-------------------------------------------------------------------------------
Interface          Status   IP Address               Speed        MTU
-------------------------------------------------------------------------------
mgmt0              up       172.22.95.112/24         100 Mbps     1500
-------------------------------------------------------------------------------
Interface          Status   IP Address               Speed        MTU
-------------------------------------------------------------------------------
vsan1                 up    10.1.1.1/24              1 Gbps       1500


switch# show interface counters
fc1/2
    Class-2 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Class-3 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Class-F 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Total 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Received 0 OLS, 0 LRR, 0 NOS, 0 loop inits
    Transmitted 0 OLS, 0 LRR, 0 NOS, 0 loop inits
    Errors 0 link failures, 0 sync losses
    0 signal losses, 0 primitive sequence protocol
    0 invalid CRCs, 0 invalid transmission words
    0 delimiter, 0 address identifier, 0 transmit wait
    0 runts, 0 jabber, 0 too long, 0 too short
    0 EOF abort, 0 fragmented, 0 unknown class

fc1/5
    Class-2 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Class-3 58 frames output, 25316 bytes
    59 frames input, 3444 bytes, 0 discards
    Class-F 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Total 58 frames output, 25316 bytes
    59 frames input, 3444 bytes, 0 discards
    Received 0 OLS, 0 LRR, 0 NOS, 0 loop inits
    Transmitted 6 OLS, 3 LRR, 1 NOS, 0 loop inits
    Errors 0 link failures, 0 sync losses
    0 signal losses, 0 primitive sequence protocol
    0 invalid CRCs, 0 invalid transmission words
    0 delimiter, 0 address identifier, 0 transmit wait
    0 runts, 0 jabber, 0 too long, 0 too short
    0 EOF abort, 0 fragmented, 0 unknown class

fc1/15
    Class-2 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Class-3 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Class-F 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Total 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Received 0 OLS, 0 LRR, 0 NOS, 0 loop inits
    Transmitted 0 OLS, 0 LRR, 0 NOS, 0 loop inits
```

```
    Errors 0 link failures, 0 sync losses
    0 signal losses, 0 primitive sequence protocol
    0 invalid CRCs, 0 invalid transmission words
    0 delimiter, 0 address identifier, 0 transmit wait
    0 runts, 0 jabber, 0 too long, 0 too short
    0 EOF abort, 0 fragmented, 0 unknown class

fc1/16
    Class-2 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Class-3 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Class-F 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Total 0 frames output, 0 bytes
    0 frames input, 0 bytes, 0 discards
    Received 0 OLS, 0 LRR, 0 NOS, 0 loop inits
    Transmitted 0 OLS, 0 LRR, 0 NOS, 0 loop inits
    Errors 0 link failures, 0 sync losses
    0 signal losses, 0 primitive sequence protocol
    0 invalid CRCs, 0 invalid transmission words
    0 delimiter, 0 address identifier, 0 transmit wait
    0 runts, 0 jabber, 0 too long, 0 too short
    0 EOF abort, 0 fragmented, 0 unknown class

sup-fc0
    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

mgmt0
    630891 packets input, 190902354 bytes
    Received 0 multicast frames, 0 compressed
    0 input errors, 0 frame, 0 overrun 0 fifo
    494455 packets output, 116219488 bytes, 0 underruns
    0 output errors, 50 collisions, 0 fifo
    5 carrier errors


switch# show interface transceiver
fc1/1 fcot is present but not supported
    name is IBM
    part number is IBM42P21SNY
    revision is AA20
    serial number is 53P148700109D
    vendor specific data (bytes 96-127)
      0x49 0x42 0x4D 0x20 0x53 0x46 0x50 0x53
      0x20 0x41 0x52 0x45 0x20 0x43 0x4C 0x41
      0x53 0x53 0x20 0x31 0x20 0x4C 0x41 0x53
      0x45 0x52 0x20 0x53 0x41 0x46 0x45 0x20
fc1/2 fcot not present
fc1/3 fcot is present but not supported
    name is Company
    part number is Company42P21SNY
    revision is AA20
    serial number is 53P1487000ZXR
    vendor specific data (bytes 96-127)
      0x49 0x42 0x4D 0x20 0x53 0x46 0x50 0x53
      0x20 0x41 0x52 0x45 0x20 0x43 0x4C 0x41
      0x53 0x53 0x20 0x31 0x20 0x4C 0x41 0x53
      0x45 0x52 0x20 0x53 0x41 0x46 0x45 0x20
```

```
switch# show interface trunk vsan 1-1000
fc3/1 is not trunking
fc3/7 is trunking
Vsan 1000 is down (Isolation due to vsan not configured on peer)
fc3/10 is trunking
Vsan 1 is up, FCID is 0x760001
Vsan 2 is up, FCID is 0x6f0001
fc3/11 is trunking
Belongs to port-channel 6
Vsan 1 is up, FCID is 0xef0000
Vsan 2 is up, FCID is 0xef0000
port-channel 6 is trunking
Vsan 1 is up, FCID is 0xef0000
Vsan 2 is up, FCID is 0xef0000
```

show ip route

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

show ip route

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

```
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
```

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

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

show logging

Use the **show logging** command to display the current system message logging configuration.

show logging [console | level [auth | authpriv | callhome | cron | daemon | ftp | kernel | local*n* **|lpr | mail | news | security | syslog | user | uucp | vsan] | info | last** *lines* **| logfile | module | monitor | nvram | server** *servername* **]**

Syntax Description

console	Shows console logging configuration.
info	Shows logging configuration.
last	Shows last few lines of logfile.
level	Shows last few lines of logfile.
logfile	Shows contents of logfile.
module	Shows module logging configuration.
monitor	Shows monitor logging configuration.
nvram	Shows NVRAM log.
server *servername*	Shows server logging configuration.

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 current system message logging.

```
switch# show logging

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

syslog_get_levels :: Error(-1) querying severity values for fcmpls at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfwd at SAP 38
```

```
Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
kern                    6                       4
user                    3                       3
mail                    3                       3
daemon                  7                       7
auth                    0                       0
syslog                  3                       3
lpr                     3                       3
news                    3                       3
uucp                    3                       3
cron                    3                       3
authpriv                3                       3
ftp                     3                       3
local0                  3                       3
local1                  3                       3
local2                  3                       3
local3                  3                       3
local4                  3                       3
local5                  3                       3
local6                  3                       3
local7                  3                       3
fspf                    3                       3
fcdomain                2                       2
module                  5                       5
zone                    2                       2
vni                     2                       2
ipconf                  2                       2
ipfc                    2                       2
xbar                    3                       3
fcns                    2                       2
fcs                     2                       2
acl                     2                       2
tlport                  2                       2
port                    5                       5
port_channel            5                       5
fcmpls                  0                       0
wwn                     3                       3
fcc                     2                       2
qos                     3                       3
vrrp_cfg                2                       2
fcfwd                   0                       0
ntp                     2                       2
platform                5                       5
vrrp_eng                2                       2
callhome                2                       2
mcast                   2                       2
rscn                    2                       2
securityd               2                       2
vhbad                   2                       2
rib                     2                       2
vshd                    5                       5

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

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

The following example displays console logging status.

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

The following example displays logging facility status.

```
switch# show logging facility
syslog_get_levels :: Error(-1) querying severity values for fcmpls at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfwd at SAP 38
Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
kern                    6                       4
user                    3                       3
mail                    3                       3
daemon                  7                       7
auth                    0                       0
syslog                  3                       3
lpr                     3                       3
news                    3                       3
uucp                    3                       3
cron                    3                       3
authpriv                3                       3
ftp                     3                       3
local0                  3                       3
local1                  3                       3
local2                  3                       3
local3                  3                       3
local4                  3                       3
local5                  3                       3
local6                  3                       3
local7                  3                       3
fspf                    3                       3
fcdomain                2                       2
module                  5                       5
zone                    2                       2
vni                     2                       2
ipconf                  2                       2
ipfc                    2                       2
xbar                    3                       3
fcns                    2                       2
fcs                     2                       2
acl                     2                       2
tlport                  2                       2
port                    5                       5
port_channel            5                       5
fcmpls                  0                       0
wwn                     3                       3
fcc                     2                       2
qos                     3                       3
vrrp_cfg                2                       2
fcfwd                   0                       0
ntp                     2                       2
platform                5                       5
vrrp_eng                2                       2
callhome                2                       2
mcast                   2                       2
rscn                    2                       2
securityd               2                       2
vhbad                   2                       2
rib                     2                       2
vshd                    5                       5
```

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

The following example displays logging information.

```
switch# show logging info

Logging console:                enabled (Severity: notifications)
Logging monitor:                enabled (Severity: information)
Logging linecard:               enabled (Severity: debugging)
Logging server:                 enabled
{172.22.95.167}
        server severity:        debugging
        server facility:        local7
{172.22.92.58}
        server severity:        debugging
        server facility:        local7
Logging logfile:                enabled
        Name - external/sampleLogFile: Severity - notifications Size - 3000000

syslog_get_levels :: Error(-1) querying severity values for fcmpls at SAP 30
syslog_get_levels :: Error(-1) querying severity values for fcfwd at SAP 38
Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
kern                    6                       4
user                    3                       3
mail                    3                       3
daemon                  7                       7
auth                    0                       0
syslog                  3                       3
lpr                     3                       3
news                    3                       3
uucp                    3                       3
cron                    3                       3
authpriv                3                       3
ftp                     3                       3
local0                  3                       3
local1                  3                       3
local2                  3                       3
local3                  3                       3
local4                  3                       3
local5                  3                       3
local6                  3                       3
local7                  3                       3
fspf                    3                       3
fcdomain                2                       2
module                  5                       5
zone                    2                       2
vni                     2                       2
ipconf                  2                       2
ipfc                    2                       2
xbar                    3                       3
fcns                    2                       2
fcs                     2                       2
acl                     2                       2
tlport                  2                       2
port                    5                       5
port_channel            5                       5
fcmpls                  0                       0
wwn                     3                       3
fcc                     2                       2
```

```
qos                     3                       3
vrrp_cfg                2                       2
fcfwd                   0                       0
ntp                     2                       2
platform                5                       5
vrrp_eng                2                       2
callhome                2                       2
mcast                   2                       2
rscn                    2                       2
securityd               2                       2
vhbad                   2                       2
rib                     2                       2
vshd                    5                       5

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

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

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

The following example displays 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 module

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

show module [diag | *slot*]

Syntax Description

diag	Shows module-related information.
slot	Slot number for the required module (1 - 9 for the MDS 9500 Series switch and 1 - 2 for the MDS 9200 Series switch.

Defaults

None.

Command Modes

EXEC mode.

Command History

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

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.

show module Output	Description
`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 **show environment power** command to determine power consumption issues.
`active`	This module is the active supervisor module and the switch is ready to be configured.

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 and the warm switchover mechanism is enabled.

Examples

```
switch# show module
Mod  Ports  Module-Type                       Model              Status
---  -----  --------------------------------- ------------------ ------------
1    16     1/2 Gbps FC Module                DS-X9016           ok
5    0      Supervisor/Fabric-1               DS-X9530-SF1-K9    active *
6    0      Supervisor/Fabric-1               DS-X9530-SF1-K9    ha-standby
9    16     1/2 Gbps FC Module                DS-X9016           ok

Mod  Sw           Hw      World-Wide-Name(s) (WWN)
---  -----------  ------  --------------------------------------------------
1    1.0(2.34)    0.3     20:01:00:05:30:00:13:9e to 20:10:00:05:30:00:13:9e
5    1.0(2.34)    0.602   --
6    1.0(2.34)    0.0     --
9    1.0(2.34)    0.0     22:01:00:05:30:00:13:9e to 22:10:00:05:30:00:13:9e

Mod  MAC-Address(es)                         Serial-Num
---  --------------------------------------  ----------
1    00-05-30-00-81-6e to 00-05-30-00-81-72  jab063908gj
5    00-05-30-00-84-1a to 00-05-30-00-84-1e  jab063909cv
6    00-05-30-00-2c-5e to 00-05-30-00-2c-62
9    00-05-30-00-03-0c to 00-05-30-00-03-10  123

* this terminal session

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         .
```

show ntp

To display the configured server and peer associations, use the **show ntp** command.

show ntp peers | statistics [io | local | memory | peer (ipaddr | name)] | timestamp-status

Syntax Description

peers	Shows all the peers.
statistics	Shows the NTP statistics
io	Shows the input-output statistics.
local	Shows the counters maintained by the local NTP.
memory	Shows the statistics counters related to memory code.
peer	Shows the per-peer statistics counter of a peer.
ipaddr	Shows the peer statistics for the specified IP address.
name	Shows the peer statistics for the specified peer name.
timestamp-status	Shows if the timestamp check is enabled.

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 the NTP information.

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

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

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

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

switch# show ntp statistics peer ipaddr 10.1.1.1

switch# show ntp statistics peer name Peer1

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

show port-channel

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

show port-channel compatibility-parameters

show port-channel consistency

show port-channel consistency detail

show port-channel database

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

show port-channel summary

show port-channel usage

Syntax Description

compatibility-parameters	Shows compatibility parameters.
consistency	Verify database consistency of all modules.
detail	Shows port channel database information for all modules.
database	Shows port-channel database.
interface port-channel *port channel number*	Port channel number (1-128)
summary	Shows port-channel summary.
usage	Shows port-channel 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
```

The following example shows 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
switch#
```

show processes

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

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

Syntax Description

cpu	Shows processes CPU Info
log	Shows information about process logs
memory	Shows processes Memory Info

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 displays general information abut system processes.

```
switch# show process
PID    State  PC        Start_cnt    TTY   Process
-----  -----  --------  -----------  ----  -------------
  868      S  2ae4f33e            1     -  snmpd
  869      S  2acee33e            1     -  rscn
  870      S  2ac36c24            1     -  qos
  871      S  2ac44c24            1     -  port-channel
  872      S  2ac7a33e            1     -  ntp
    -     ER         -            1     -  mdog
    -     NR         -            0     -  vbuilder


PID: process ID.

State: process state

       D   uninterruptible sleep (usually IO)
       R   runnable (on run queue)
       S   sleeping
       T   traced or stopped
       Z   a defunct ("zombie") process

    NR  not-running
    ER  should be running but currently not-running

PC: Current program counter in hex format

Start_cnt: how many times a process has been started.
```

```
TTY: Terminal that controls the process. A "-" usually means a daemon not
     running on any perticular tty.

Process: name of the process.

=====================================================

2. show processes cpu (new output)
Description: show cpu utilization information about the processes.

switch# show processes cpu

PID    Runtime(ms)  Invoked   uSecs  1Sec   Process
-----  -----------  --------  -----  -----  -----------
  842         3807    137001     27    0.0  sysmgr
 1112         1220     67974     17    0.0  syslogd
 1269          220     13568     16    0.0  fcfwd
 1276         2901     15419    188    0.0  zone
 1277          738     21010     35    0.0  xbar_client
 1278         1159      6789    170    0.0  wwn
 1279          515     67617      7    0.0  vsan


Runtime(ms): cpu time the process has used, expressed in milliseconds
Invoked: Number of times the process has been invoked.
uSecs:  Microseconds of CPU time in average for each process invocation.
1Sec:    CPU utilization in percentage for the last 1 second.

=====================================================
3. show processes mem
Description: show memory information about the processes.

PID    MemAlloc  StackBase/Ptr      Process
-----  --------  -----------------  ----------------
 1277    120632  7ffffcd0/7fffefe4  xbar_client
 1278     56800  7ffffce0/7ffffb5c  wwn
 1279   1210220  7ffffce0/7ffffbac  vsan
 1293    386144  7ffffcf0/7fffebd4  span
 1294   1396892  7ffffce0/7fffdff4  snmpd
 1295    214528  7ffffcf0/7ffff904  rscn
 1296     42064  7ffffce0/7ffffb5c  qos

MemAlloc: total memory allocated by the process.
StackBase/Ptr: process stack base and current stack pointer in hex format


=====================================================
3. show processes log
Decription: 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
lcm               1559             N            Y        N  Jan  2 04:49
rib               1741             N            Y        N  Jan  1 06:05

Normal-exit: whether or not the process exited normally.
Stack-trace: whether or not there is a stack trace in the log.
Core: whether or not there exists a core file.
Log-create-time: when the log file got generated.
```

The following example displays the detail log information about a particular process.

```
switch# show processes log pid 1339
Service: fspf
Description: FSPF Routing Protocol Application

Started at Sat Jan  5 03:23:44 1980 (545631 us)
Stopped at Sat Jan  5 04:25:57 1980 (819598 us)
Uptime: 1 hours 2 minutes 2 seconds

Start type: SRV_OPTION_RESTART_STATELESS (23)
Death reason: SYSMGR_DEATH_REASON_FAILURE_SIGNAL (2)
Exit code: signal 9 (no core)
CWD: /var/sysmgr/work

Virtual Memory:

    CODE      08048000 - 0809A100
    DATA      0809B100 - 0809B65C
    BRK       0809D988 - 080CD000
    STACK     7FFFFD20
    TOTAL     23764 KB

Register Set:

    EBX 00000005         ECX 7FFFF8CC         EDX 00000000
    ESI 00000000         EDI 7FFFF6CC         EBP 7FFFF95C
    EAX FFFFFDFE         XDS 8010002B         XES 0000002B
    EAX 0000008E (orig)  EIP 2ACE133E         XCS 00000023
    EFL 00000207         ESP 7FFFF654         XSS 0000002B

Stack: 1740 bytes. ESP 7FFFF654, TOP 7FFFFD20

0x7FFFF654: 00000000 00000008 00000003 08051E95 ................
0x7FFFF664: 00000005 7FFFF8CC 00000000 00000000 ................
0x7FFFF674: 7FFFF6CC 00000001 7FFFF95C 080522CD ........\....".."
0x7FFFF684: 7FFFF9A4 00000008 7FFFFC34 2AC1F18C ........4......*
```

show qos statistics

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

show qos statistics

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 configures QoS statistics.

```
switch# show qos statistics
Total number of FC frames transmitted from the Supervisor= 15767
Number of highest-priority FC frames transmitted = 8224
Current priority of FC control frames = 0 (0 = lowest; 7 = highest)
```

show radius-server

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

show radius-server

Syntax Description

This command has no keywords or arguments.

Defaults

None.

Command Modes

EXEC mode.

Command History

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

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 role

To display rules (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*]

Syntax Description

name *string*	The name of the role for which you want to display information.

Defaults

None.

Command Modes

EXEC mode.

Command History

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

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

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

show rscn

To display RSCN information, use the **show rscn** command.

show rscn [scr-table vsan *vsan-range* **| statistics vsan** *vsan-range***]**

Syntax Description

scr-table	Shows State Change Registration table.
statistics	Shows RSCN statistics.
vsan *vsan-range*	Range of the required VSANs (from 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

The SCR table cannot be configured, it is only populated if one or more Nx ports send SCR frames to register for RSCN information. If the **show rscn scr-table** command does not return any entries, no Nx port is interested in receiving RSCN information.

Examples

The following examples 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


switch# show rscn statistics vsan 1

Statistics for VSAN: 1
-------------------------

Number of SCR received         = 0
Number of SCR ACC sent         = 0
Number of SCR RJT sent         = 0
Number of RSCN received        = 0
Number of RSCN sent            = 0
Number of RSCN ACC received    = 0
Number of RSCN ACC sent        = 0
Number of RSCN RJT received    = 0
Number of RSCN RJT sent        = 0
Number of SW-RSCN received     = 0
Number of SW-RSCN sent         = 0
```

```
Number of SW-RSCN ACC received = 0
Number of SW-RSCN ACC sent     = 0
Number of SW-RSCN RJT received = 0
Number of SW-RSCN RJT sent     = 0
```

show running-config

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

show running-config [diff]

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

If the running configuration is different from the startup configuration, issue the **show startup-config** command to view the ASCII version of the current startup configuration that was used to boot the switch.

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
```

show scsi-target

Use the **show scsi target** command to view specific information about existing SCSI configurations.

show scsi target {devices [vsan *vsan-range* **| fcid** *fcid-id***] | disk [vsan** *vsan-range* **| fcid** *fcid-id***] | lun [vsan** *vsan-range* **| fcid** *fcid-id***] | status | tape [vsan** *vsan-range* **| fcid** *fcid-id***]}**

Syntax Description

devices	Shows discovered scsi-target devices information
disk	Shows discovered disk information.
lun	Shows discovered SCSI target LUN information.
vsan *vsan-range*	Specifies the VSAN ID or VSAN range (from 1 to 4093).
fcid *fcid-id*	Specifies the FCID of the SCSI target to display.
status	Shows SCSI target discovery status.
tape	Shows discovered tape 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 example displays the status of a SCSI discovery.

```
switch# show scsi-target status
discovery completed
```

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.

```
switch# show scsi-target lun
- ST318203FC       from Company 4  (Rev 0004)
  FCID is 0x9c03d6 in VSAN 1, PWWN is 21:00:00:20:37:46:78:97
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18210      Online LRA2510000007027 C:1 A:0 T:3 20:00:00:20:37:46:78:97
- ST318203FC       from Company 4  (Rev 0004)
  FCID is 0x9c03d9 in VSAN 1, PWWN is 21:00:00:20:37:5b:cf:b9
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18210      Online LR94873000007029 C:1 A:0 T:3 20:00:00:20:37:5b:cf:b9
- ST318203FC       from Company 4  (Rev 0004)
  FCID is 0x9c03da in VSAN 1, PWWN is 21:00:00:20:37:18:6f:90
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18210      Online LR18591800001004 C:1 A:0 T:3 20:00:00:20:37:18:6f:90
- ST318203FC       from Company 4  (Rev 0004)
  FCID is 0x9c03dc in VSAN 1, PWWN is 21:00:00:20:37:5a:5b:27
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18210      Online LRC4498200007031 C:1 A:0 T:3 20:00:00:20:37:5a:5b:27
- ST318203FC       from Company 4  (Rev 0004)
  FCID is 0x9c03e0 in VSAN 1, PWWN is 21:00:00:20:37:36:0b:4d
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18210      Online LR18184700007024 C:1 A:0 T:3 20:00:00:20:37:36:0b:4d
- ST318203 CLAR18  from Company 4  (Rev 3844)
  FCID is 0x9c03e1 in VSAN 1, PWWN is 21:00:00:20:37:39:90:6a
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18200      Online LR64147100001017 C:1 A:0 T:3 20:00:00:20:37:39:90:6a
- ST318203 CLAR18  from Company 2  (Rev 3844)
  FCID is 0x9c03e2 in VSAN 1, PWWN is 21:00:00:20:37:18:d2:45
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18200      Online LR28349500001952 C:1 A:0 T:3 20:00:00:20:37:18:d2:45
- ST318203 CLAR18  from Company 2  (Rev 3844)
  FCID is 0x9c03e4 in VSAN 1, PWWN is 21:00:00:20:37:6b:d7:18
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18200      Online LRF7150500001041 C:1 A:0 T:3 20:00:00:20:37:6b:d7:18
- ST318203FC       from Company 2  (Rev 0004)
  FCID is 0x9c03e8 in VSAN 1, PWWN is 21:00:00:20:37:38:a7:c1
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18210      Online LR43588300001011 C:1 A:0 T:3 20:00:00:20:37:38:a7:c1
```

```
- ST318203FC       from Company 2  (Rev 0004)
  FCID is 0x9c03ef in VSAN 1, PWWN is 21:00:00:20:37:18:17:d2
  --------------------------------------------------------------------------------
  LUN     Capacity   Status Serial Number    Device-Id
          (MB)
  --------------------------------------------------------------------------------
  0x0     18210      Online LR06903200001949 C:1 A:0 T:3 20:00:00:20:37:18:17:d2
```

show snmp

The **show snmp** command displays the count information for all SNMP settings.

show snmp [community | host |user]

Syntax Description

community	Shows SNMP community strings.
host	Shows snmp hosts.
user	Shows SNMPv3 users.

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 SNMP information.

```
switch# show snmp
sys contact:
sys location:

1631 SNMP packets input
        0 Bad SNMP versions
        0 Unknown community name
        0 Illegal operation for community name supplied
        0 Encoding errors
        64294 Number of requested variables
        1 Number of altered variables
        1628 Get-request PDUs
        0 Get-next PDUs
        1 Set-request PDUs
152725 SNMP packets output
        0 Too big errors
        1 No such name errors
        0 Bad values errors
        0 General errors

Community                      Access
---------                      ------
public                          rw

User                          Group                         Auth  Priv
____                          _____                         ____  ____
admin                         network-admin                 md5   no
```

The following example displays SNMP user details.

```
switch# show snmp user
User                           Group                          Auth  Priv
____                           _____                          ____  ____
steve                          network-admin                  md5   des
sadmin                         network-admin                  md5   des
stever                         network-operator               md5   des
```

The following example displays SNMP community information.

```
switch# show snmp community
Community                      Access
---------                      ------
private                         rw
public                          ro
v93RACqPNH                      ro
```

The following example displays SNMP host information.

```
switch# show snmp host
Host                            Port Version  Level  Type   SecName
____                            ____ _______  ______ ____   ______
171.16.126.34                   2162 v2c      noauth trap   public
171.16.75.106                   2162 v2c      noauth trap   public
171.31.124.81                   2162 v2c      noauth trap   public
171.31.157.193                  2162 v2c      noauth trap   public
171.31.157.98                   2162 v2c      noauth trap   public
171.31.49.25                    2162 v2c      noauth trap   public
171.31.49.32                    2188 v2c      noauth trap   public
171.31.49.49                    2162 v2c      noauth trap   public
171.31.49.49                    3514 v2c      noauth trap   public
171.31.49.54                    2162 v2c      noauth trap   public
171.31.58.54                    2162 v2c      noauth trap   public
171.31.58.81                    2162 v2c      noauth trap   public
171.31.58.97                    1635 v2c      noauth trap   public
171.31.58.97                    2162 v2c      auth   trap   public
171.31.58.97                    3545 v2c      auth   trap   public
172.22.00.43                    2162 v2c      noauth trap   public
172.22.00.65                    2162 v2c      noauth trap   public
172.22.05.234                   2162 v2c      noauth trap   public
172.22.05.98                    1050 v2c      noauth trap   public
```

show span session

Use the **show span session** command to view specific information about a SPAN session.

show span session [*session-id* **[brief]** | **brief]**

Syntax Description

session	Shows SPAN session configuration.
session-id	SPAN session ID (1-16).
brief	Shows SPAN session configuration in brief format.

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 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,
```

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,
```

show sprom

To show vendor ID, product's component attributes, serial number information that can be used to track field replacable units, use the **show sprom** command.

show sprom sup

show sprom clock *clock-module-index*

show sprom backplane *backplane-index*

show sprom module *module-number sprom-index*

show sprom fan

show sprom powersupply *powersupply-index*

show sprom mgmt-module

Syntax Description

sup	Display Vendor ID, product's component attributes for the current supervisor module
module *module-number sprom-index*	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.
clock clock-module-index>	Display attributes of the clock module. There are two clock modules in a switch. This module is absent in MDS9216 type switch.
backplane <backplane-index>	Display attributes that can be used to uniquely identify a switch.
powersupply <powersupply-index>	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.
fan	Display attributes that uniquely identified fan.
mgmt-module	Display attributes of management module. This module is only present in MDS9216 type switch.

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 sprom** command to get unique information about a specific module, supervisor module, switch, power-supply module, or a fan module. If the customer needs to report a problem with a module, supervisor module, switch, power-supply module, or a fan module and does not have access to management station, then he can extract serial number information from **show sprom**.

Examples

The following example displays management module information. This module and command are specific to the Cisco MDS 9216 switch.

```
switch# show sprom mgmt-module
DISPLAY SAM sprom contents:
Common block:
 Block Signature :0xabab
 Block Version   :2
 Block Length    :156
 Block Checksum  :0x1295
 EEPROM Size     :0
 Block Count     :2
 FRU Major Type  :0x0
 FRU Minor Type  :0x0
 OEM String      :Cisco Systems Inc
 Product Number  :SAM SMITH
 Serial Number   :12345678901
 Part Number     :SAM-SMITH-06
 Part Revision   :A0
 Mfg Deviation   :
 H/W Version     :1.0
 Mfg Bits        :1
 Engineer Use    :0
 snmpOID         :0.0.0.0.0.0.0.0
 Power Consump   :-200
 RMA Code        :0-0-0-0
Linecard Module specific block:
 Block Signature :0x6003
 Block Version   :2
 Block Length    :103
 Block Checksum  :0x3c7
 Feature Bits    :0x0
 HW Changes Bits :0x0
 Card Index      :9009
 MAC Addresses   :00-12-34-56-78-90
 Number of MACs  :4
 Number of EOBC links :4
 Number of EPLD  :0
 Port Type-Num   :200-16
 SRAM size       :0
 Sensor #1       :0,0
 Sensor #2       :0,0
 Sensor #3       :0,0
 Sensor #4       :0,0
 Sensor #5       :0,0
 Sensor #6       :0,0
 Sensor #7       :0,0
 Sensor #8       :0,0
```

The following command displays supervisor module information.

```
switch# show sprom sup
DISPLAY supervisor sprom contents:
Common block:
 Block Signature : 0xabab
```

```
 Block Version    : 2
 Block Length     : 156
 Block Checksum   : 0x10a8
 EEPROM Size      : 512
 Block Count      : 2
 FRU Major Type   : 0x6002
 FRU Minor Type   : 0x7d0
 OEM String       : Cisco Systems
 Product Number   : DS-X9530-SF1-K9
 Serial Number    : abcdefgh
 Part Number      : 73-7523-06
 Part Revision    : 0.0
 Mfg Deviation    : 0.0
 H/W Version      : 0.0
 Mfg Bits         : 0
 Engineer Use     : 0
 snmpOID          : 9.5.1.3.1.1.2.2000
 Power Consump    : -524
 RMA Code         : 0-0-0-0
Supervisor Module specific block:
 Block Signature : 0x6002
 Block Version    : 2
 Block Length     : 103
 Block Checksum   : 0x927
 Feature Bits     : 0x0
 HW Changes Bits : 0x0
 Card Index       : 9003
 MAC Addresses    : 00-05-30-00-18-be
 Number of MACs   : 4
 Number of EPLD   : 1
 EPLD A           : 0x0
 Sensor #1        : 75,60
 Sensor #2        : 60,55
 Sensor #3        : -127,-127
 Sensor #4        : -127,-127
 Sensor #5        : -128,-128
 Sensor #6        : -128,-128
 Sensor #7        : -128,-128
 Sensor #8        : -128,-128
```

Related Commands

Command	Description
show hardware	Displays brief information about the list of field replacable units in the switch.

show ssh

Use the **show ssh key** command to display the host key pair details for the specified key or for all keys, if no key is specified.Use the **show ssh server** command to display the status of the SSH protocol (enabled or disabled) and the versions that are enabled for that switch.show ssh key

show ssh [key [dsa | rsa | rsa1] | server]

Syntax Description

key	Shows ssh keys.
server	Shows whether ssh server is enabled or not.
dsa	Shows dsa ssh keys.
rsa	Shows rsa ssh keys.
rsa1	Shows rsa1 ssh keys.

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 SSH protocol status.

```
switch# show ssh server
ssh is enabled
version 1 enabled
version 2 enabled
```

The following example displays Host Key Pair details.

```
switch# show ssh key
rsa1 Keys generated:Sun Jan 13 07:16:26 1980

1024 35

fingerprint:
1024 67:76:02:bd:3e:8d:f5:ad:59:5a:1e:c4:5e:44:03:07

could not retrieve rsa key information

dsa Keys generated:Sun Jan 13 07:40:08 1980

ssh-dss AAAAB3NzaC1kc3MAAABBAJTCRQOydNRel2v7uiO6Fix+OTn8eGdnnDVxw5eJs5OcOEXOyjaW
cMMYsEgxc9ada1NElp8Wy7GPMWGOQYj9CU0AAAAVAMCcWhNN18zFNOIPo7cU3t7d0iEbAAAAQBdQ8UAO
i/Cti84qFb3kTqXlS9mEhdQUo0lHcH5bw5PKfj2Y/dLR437zCBKXetPj4p7mhQ6Fq5os8RZtJEyOsNsA
AABAA0oxZbPyWeR5NHATXiyXdPI7j9i8fgyn9FNipMkOF2Mn75Mi/lqQ4NIq0gQNvQOx27uCeQlRts/Q
```

```
wI4q68/eaw==

fingerprint:
512 f7:cc:90:3d:f5:8a:a9:ca:48:76:9f:f8:6e:71:d4:ae
```

show startup-config

To view the startup configuration file, use the **show startup-config** command

show startup-config [log]

Syntax Description

log	Displays execution log of last used ascii startup configuration.

Defaults

None.

Command Modes

EXEC mode.

Command History

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

Usage Guidelines

None.

Examples

The following example displays the switch configuration at startup.

```
switch# show startup-config
vsan database
vsan 2
vsan 3
vsan 4
vsan 5
vsan 31
vsan 32 suspend
vsan 100
vsan 300

 interface port-channel 1
switchport mode E
switchport trunk mode off

 interface port-channel 2
fspf cost 100 vsan 2
switchport mode E
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093

 interface port-channel 3
switchport mode E
switchport trunk mode off

 interface port-channel 4
switchport mode E
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093
```

```
 interface port-channel 5
switchport mode E
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-10interface port-channel 5
switchport mode E
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-10

interface port-channel 8
switchport mode E

 interface vsan1

no shutdown

snmp-server community public rw
snmp-server user admin network-admin auth md5 0xe84b06201ae3bfb726a2eab9f485eb57
 localizedkey
snmp-server host 171.69.126.34 traps version 2c public udp-port 2162
snmp-server host 171.69.75.106 traps version 2c public udp-port 2162
vsan database
vsan 3 interface fc2/9
vsan 3 interface fc2/14
vsan 5 interface fc9/11
vsan 2 interface fc9/12
vsan 3 interface port-channel 3
vsan 3 interface port-channel 4
vsan 100 interface port-channel 8

boot system bootflash:/isan-8b-u sup-1
boot kickstart bootflash:/boot-3b sup-1
boot system bootflash:/isan-8b-u sup-2
boot kickstart bootflash:/boot-3b sup-2

ip default-gateway 172.22.90.1
power redundancy-mode combined force

username admin password 5 HyLyYqb4.q74Y  role network-admin
zone name Z1 vsan 1
  member pwwn 10:00:00:00:77:99:60:2c
  member pwwn 21:00:00:20:37:a6:be:14

zone default-zone permit vsan 1
zoneset distribute full vsan 51-58

zoneset name ZS1 vsan 1
  member Z1

zoneset  activate name ZS1 vsan 1

 interface fc2/1
switchport mode E
switchport trunk mode off
no shutdown

 interface fc2/2

 interface fc2/3
channel-group 1 force
no shutdown

interface fc2/6
channel-group 2 force
no shutdown
```

```
 interface fc2/7
switchport mode E
no shutdown
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-25

interface fc2/9
switchport mode E
switchport trunk mode off
no shutdown

 interface fc2/10
channel-group 3 force
no shutdown

 interface fc2/12
channel-group 4 force
no shutdown

 interface fc2/14
switchport mode E
no shutdown
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093

 interface fc2/15
channel-group 6 force
no shutdown

 interface fc2/16
channel-group 6 force
no shutdown
.
.
.
interface fc9/10
switchport mode F
no shutdown

 interface fc9/11
switchport trunk mode off
no shutdown

 interface fc9/12
switchport mode E
switchport speed 1000
switchport trunk mode off
no shutdown

 interface fc9/15
no shutdown
no switchport trunk allowed vsan all
switchport trunk allowed vsan add 1-99
switchport trunk allowed vsan add 101-4093

 interface fc9/16
switchport mode FL
no shutdown

 interface mgmt0
ip address 172.22.90.38 255.255.255.0
no shutdown
```

show switchname

To view the switch's network name, use the **show switchname** command.

show switchname

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 name of the switch.

```
switch# show switchname
switch-123
```

show system

To show the system information use the **show system** command.

show system autosync | cores |default switchport | directory information |error-id [*list* | *hex***] | exception-info | redundancy status | reset-reason | uptime**

Syntax Description

autosync	Shows image autosync status
cores	Displays core transfer option
default switchport	Shows system default values
directory information	Directory information of System Manager
error-id	Shows description about errors
exception-info	Shows last exception log information
redundancy status	Redundancy status
reset-reason	Shows last reset reason
uptime	Shows 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.

Examples

The following example displays the system redundancy status.

```
switch# show system redundancy status
This supervisor
---------------
    Redundancy state:   Active
    Supervisor state:   Active
      Internal state:   Active with no standby

Other supervisor
----------------
    Redundancy state:   Initializing
```

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 reset information.

```
switch# show system reset reason
1) No time
    Reason: Watchdog Timeout
    Service:
    Version: 1.0(0.253e)

2) At 125982 usecs after Tue Jan  1 06:45:55 1980
    Reason: Reset Requested CLI command reload
    Service:
    Version: 1.0(0.253e)
```

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
```

show system switchover impact

To compare the image files between kickstart, system, and module images, use the **show system switchover** command.

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

Syntax Description.

show system switchover impact	Upgrades the BIOS for a supervisor or switching module.
bootflash:	Source or destination location for internal bootflash memory
slot0:	Source or destination location for the CompactFlash memory or PCMCIA card.
volatile:	Source location for the volatile file system.
image-filename	The name of the system or kickstart image.

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(3).

Usage Guidelines

None.

Examples

This command shows the output if this command is issued on a single supervisor switch:

```
switch# show system switchover impact
No standby supervisor present.
```

This command shows the effects of the switchover assuming that the standby supervisor module is running 1.0(2) and the active supervisor module is running 1.0(2) system image.

```
switch# show system switchover impact
Effects of switching-over to m9500-sf1ek9-mz.1.0.2.bin from m9500-sf1ek9-mz.1.0.1.bin
Switchover type:            HA
Impact on modules:          modules 1, 2 will reset

Per module compatibility with system image 1.0(2) running on the standby supervisor
Module  Compatibility check
1       Module running version 1.0(2): not compatible
2       Module running version 1.0(2): not compatible
7       Module running version 1.0(2): compatible
```

If a switchover is issue to sup 6 (new active), switching modules 1 and 2 will reset, switching module 7 will remain active after the switchover.

This command shows the effects of the switchover assuming that standby supervisor module has a new_system.bin, and is running 1.0(2) image.

```
switch# show system switchover impact bootflash:new_system.bin
Effects of switching-over to m9500-sf1ek9-mz.1.0.2.bin from m9500-sf1ek9-mz.1.0.1.bin
Switchover type:             HA
Impact on modules:           modules 1, 2 will reset

Per module compatibility with system image 1.0(2) running on the standby supervisor
Module  Compatibility check
1       Module running version 1.0(2): not compatible
2       Module running version 1.0(2): not compatible
7       Module running version 1.0(2): compatible
```

This command shows the effects of the switchover to view the effects of a matrix between two images, instead of comparing it to running images.

```
switch# show system switchover impact bootflash:new_system.bin bootflash:old_system.bin
Effects of switching-over to m9500-sf1ek9-mz.1.0.2.bin from m9500-sf1ek9-mz.1.0.1.bin
Switchover type:             HA
Impact on modules:           module(s) will reset

Per module compatibility with system image 1.0(2) running on the standby supervisor
Module  Compatibility check
-       Module running version 1.0(2): not compatible
```

This command shows the effects of the switchover if the parameters in the above display are swapped.

```
switch# show system switchover impact bootflash:old_system.bin bootflash:new_system.bin
Effects of switching-over to m9500-sf1ek9-mz.1.0.1.bin from m9500-sf1ek9-mz.1.0.2.bin
Switchover type:             warm
Impact on modules:           module(s) will reset

Per module compatibility with system image 1.0(2) running on the standby supervisor
Module  Compatibility check
-       Module running version 1.0(2): not compatible
```

This displays shows that a warm switchover is possible and a HA switchover is not possible because image 1.0(2) is superseded by 1.0(2).

show tech-support

To display relevant information about entities like modules, interfaces that can be provided to technical support, use the **show tech-support** command.

show tech-support [interface | module | vsan *vsan-id***]**

Syntax Description

interface	Display interface status and configuration information
module	Display module status information
vsan	Display vsan status and configuration information
vsan-id	The ID of the VSAN is from 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

The 'show tech-support internal' option provides internal information relevant to troubleshooting problems associated with modules, interfaces and VSANs that can be provided to technical support personnel.

Examples

switch# **sho 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


Power Supply:
-----------------------------------------------------
PS  Model                Power     Power       Status
                         (Watts)   (Amp @42V)
-----------------------------------------------------
1   WS-CAC-950W          919.38    21.89       ok
2                        --        --          absent


Mod Model                Power     Power       Power     Power       Status
                         Requested Requested   Allocated Allocated
                         (Watts)   (Amp @42V)  (Watts)   (Amp @42V)
--- -------------------  -------   ----------  --------- ----------  ----------
1    DS-X9216-K9-SUP     220.08    5.24        220.08    5.24        powered-up
2    DS-X9032            199.92    4.76        199.92    4.76        powered-up


Power Usage Summary:
--------------------
Power Supply redundancy mode:                  redundant

Total Power Capacity                           919.38   W

Power reserved for Supervisor(s)[-]            220.08   W
Power reserved for Fan Module(s)[-]            47.88    W
Power currently used by Modules[-]             199.92   W

                                               -------
Total Power Available                          451.50
```

show telnet server

The **show telnet server** command displays the state of the Telnet access configuration.

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

```
switch# show telnet server
telnet service enabled
```

show terminal

To view 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

To view configured TL port information, use the **show tlport** command

show tlport {discapp [fcid *fcid-id* **| verbose | vsan** *vsan-id***] | interface [all | private | proxied | topology | unsupported] | list [vsan** *vsan-id***]}**

Syntax Description

discapp	Shows private N port parameters.
fcid *fcid-id*	Specifies the FCID of the N port.
verbose	Specifies the verbose mode.
vsan *vsan-id*	Specifies the N port VSAN.
interface	Shows TL ports in the selected interface.
all	Shows all proxied & private devices on this TL Port.
private	Shows all private devices on this TL Port.
proxied	Shows all proxied devices on this TL Port.
topology	Shows loop topology for this TL Port.
unsupported	Shows all unsupported devices on this TL Port.
list	Shows TL ports in all VSANs.

Defaults

None.

Command Modes

EXEC mode.

Command History

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

Usage Guidelines

The **show tlport** command displays the TL port interface configurations. This command provides a list of all TL ports configured on a box and shows the associated VSAN, the FC ID for the port (only domain and area are valid), and the current operational state of the TL port (up or initializing).

Examples

The following example displays the TL ports in all VSANs

```
switch# show tlport list
--------------------------------
Interface Vsan FC-ID    State
------------------------ ------
fc1/16    1    0x420000 Init
fc2/26    1    0x150000 Up
```

The following example displays the detailed information for a specific TL port

```
switch# show tlport interface fc1/16 all
fc1/16 is up, vsan 1, FCID 0x420000
```

```
--------------------------------------------------------------------------------
alpa pWWN                    nWWN                    SCSI Type Device  FC-ID
--------------------------------------------------------------------------------
0x01 20:10:00:05:30:00:4a:de 20:00:00:05:30:00:4a:de Initiator Proxied 0xfffc42
0x73 22:00:00:20:37:39:ae:54 20:00:00:20:37:39:ae:54 Target    Private 0x420073
0xef 20:10:00:05:30:00:4a:de 20:00:00:05:30:00:4a:de Initiator Switch  0x0000ef
```

The following example displays TL port information for private devices

```
switch# show tlport int fc1/16 pri
fc1/16 is up, vsan 1, FCID 0x420000
--------------------------------------------------------------------------
alpa pWWN                    nWWN                    SCSI Type FC-ID
--------------------------------------------------------------------------
0x73 22:00:00:20:37:39:ae:54 20:00:00:20:37:39:ae:54 Target    0x420073
0x74 22:00:00:20:37:38:d3:de 20:00:00:20:37:38:d3:de Target    0x420074
```

The following example displays TL port information for proxied devices

```
switch# show tlport int fc1/16 prox
fc1/16 is up, vsan 1, FCID 0x420000
--------------------------------------------------------------------------
alpa pWWN                    nWWN                    SCSI Type FC-ID
--------------------------------------------------------------------------
0x01 20:10:00:05:30:00:4a:de 20:00:00:05:30:00:4a:de Initiator 0xfffc42
0x02 21:00:00:e0:8b:01:95:e7 20:00:00:e0:8b:01:95:e7 Initiator 0x420100
```

show trunk protocol

To show trunk protocol information, 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

```
switch# show trunk protocol
Trunk protocol is enabled
```

show user-account

Use the **show user-account** command to display configured information about user accounts.

show user-account [*user-name*]

SyntaxDescription		
	user-name	Displays the user account infomration for the specified user name.

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 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

The **show users** command displays all users currently accessing the switch.

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
switch# show users
admin    pts/7        Jan 12 20:56 (10.77.202.149)
admin    pts/9        Jan 12 23:29 (modena.cisco.com)
admin    pts/10       Jan 13 03:05 (dhcp-171-71-58-120.cisco.com)
admin    pts/11       Jan 13 01:53 (dhcp-171-71-49-49.cisco.com)
```

show version

To show the version of system software that is currently running on the switch, use the **show version** command.

show version {detail | image [bootflash: | slot0:]*image-filename* **| [module** *module-number***]}**

Syntax Description

detail	Shows the software version.
image	Shows the software version of a given image.
bootflash:	Source location for internal bootflash memory
slot0:	Source location for the CompactFlash memory or PCMCIA card.
image-filename	The name of the system or kickstart image.
module	Shows the software version of a module.
module-number	Slot number in which the required module resides.

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 depict version of the system, kickstart, and failed images.

```
switch(boot)# show version image bootflash:system_image <------------system image
 image name: m9500-sf1ek9-mz.1.0.3.bin
 system:     version 1.0(3)
 compiled:   10/25/2010 12:00:00

switch(boot)# show version image bootflash:kickstart_image <-------------kickstart image
  image name: m9500-sf1ek9-kickstart-mz.1.0.3.upg.bin
  kickstart:  version 1.0(3)
  loader:     version 1.0(3)
  compiled:   10/25/2010 12:00:00

switch# show version image bootflash:bad_image <--------------failure case
Md5 Verification Failed
Image integrity check failed
```

The following examples provide 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.
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(3) <----------new version
.....
```

The following example show the version details for a specified module.

```
switch# show ver mod 4
Mod No   Mod Type       SW Version           SW Interim Version
4        LC             1.0(3)               1.0(3)
```

show version compatibility

To show the software compatibility matrix of a specific image, use the **show version compatibility** command.

show version compatibility [bootflash: | slot0:] *image-filename*

Syntax Description

bootflash:	Source location for internal bootflash memory
slot0:	Source location for the CompactFlash memory or PCMCIA card.
image-filename	The name of the system or kickstart image.

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

Use the **show version compatibility** command to view the effect of updating the system from the running image to another specified image.

```
switch# show version compatibility bootflash:system_image
Version comparison between /bootflash/system_image and running-image:
Mod No   Mod Type      SRG Compare Result
1           LC         Linecard version is compatible
2           LC         Linecard version is compatible
3           LC         Linecard version is compatible
4           LC         Linecard version is compatible
6           SUP        Non-Disruptive upgrade is possible
7           LC         Linecard version is compatible
8           LC         Linecard version is compatible
9           LC         Linecard version is compatible
```

show vrrp

Use the **show vrrp vr** command to display the VRRP configuration information

show vrrp [statistics | vr [*integer* **interface** *group***]**

Syntax Description

statistics	Shows cumulative vrrp statistics for this machine.
vr	Shows virtual router information.
group	The ID of the group (1-255).
interface	Enter **mgmt** 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
```

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
```

show vsan

Use the **show vsan** command to display information about configured VSAN.

show vsan [vsan-range] | [membership interface *vsan-range*] **| usage]]**

Syntax Description

vsan *vsan-range*	The VSAN ID range (from 1 to 4093).
membership	Shows membership information.
usage	Shows VSNA usage in the system.

Defaults

None.

Command Modes

EXEC mode.

Command History

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

Usage Guidelines

For the **show vsan membership interface** command, interface information is not displayed if interfaces are not configured on this VSAN.

Examples

The following examples displays configured VSAN information.

```
switch# show vsan 1
vsan 1 information
         name:VSAN0001  state:active
         interoperability mode:yes ß verify mode
         loadbalancing:src-id/dst-id/oxid
         operational state:up


switch# show vsan usage
4 vsan configured
configured vsans:1-4
vsans available for configuration:5-4093


switch# show vsan
switch# show vsan
vsan 1 information
         name:VSAN0001  state:active
         in-order guarantee:no  interoperability mode:no
         loadbalancing:src-id/dst-id/oxid
vsan 2 information
         name:VSAN0002  state:active
         in-order guarantee:no  interoperability mode:no
         loadbalancing:src-id/dst-id/oxid
vsan 7 information
         name:VSAN0007  state:active
         in-order guarantee:no  interoperability mode:no
```

```
         loadbalancing:src-id/dst-id/oxid
vsan 100 information
         name:VSAN0100  state:active
         in-order guarantee:no  interoperability mode:no
         loadbalancing:src-id/dst-id/oxid
vsan 4094:isolated vsan


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
```

show wwn

Use the **show wwn** commands to display the status of the WWN configuration.

show wwn [status *block-id number* | **switch]**

Syntax Description

status	Shows overall WWN Usage and Alarm Status
switch	Shows 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 VSAN 1.

```
switch# show wwn vsan 1
VSAN WWN of VSAN# 1 is 20:01:ac:16:5e:52:00:01
```

show zone

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

show zone [active]

show zone [change [event-history] [vsan *vsan-range*]

show zone [member [[fcalias *alias-name*] [**active] [vsan** *vsan-range*] **| [fcid** *fcid-id*] [**active] [vsan** *vsan-range*] **| pwwn** *wwn* [**active] [vsan** *vsan-range*]]

show zone [merge] [event-history] [interface *interface* **vsan** *vsan-id*]

show zone [name *string* **active vsan** *vsan-range*]

show zone [statistics vsan *vsan-range*]

show zone [status vsan *vsan-range*]

Syntax Description

active	Shows zones which are part of active zoneset.
change	Shows log transaction changes.
member	Shows all zones in which the given member is part of.
merge	Shows log transaction merges.
name	Shows members of a specified zone.
statistics	Shows zone server statistics.
status	Shows zone server current status.
vsan	Shows zones belonging to the specified VSAN.
vsan-range	Range of the required VSANs (from 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 configured zone information.

```
switch(config)# show zone
zone name Zone3 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:9c:48:e5
```

```
zone name Zone2 vsan 2
  fwwn 20:41:00:05:30:00:2a:1e
  fwwn 20:42:00:05:30:00:2a:1e
  fwwn 20:43:00:05:30:00:2a:1e

zone name Zone1 vsan 1
  pwwn 21:00:00:20:37:6f:db:dd
  pwwn 21:00:00:20:37:a6:be:2f
  pwwn 21:00:00:20:37:9c:48:e5
  fcalias Alias1
```

Use the **show zone vsan** command to display zone information for a specific VSAN.

```
switch(config)# 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
```

Use the **show zone name** command to display 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
```

Use the **show zone member** command to display all zones to which a member belongs using the FC ID.

```
@switch# show zone member pwwn 21:00:00:20:37:9c:48:e5
          VSAN: 1
zone Zone3
zone Zone1
fcalias Alias1
```

Use the **show zone statistics** command to display 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 Merge Requests Recvd: 4
Number of Merge Accepts Sent: 4
Number of Merge Accepts Recvd: 4
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
```

show zoneset

Use the **show zoneset** command to view the configured zone sets.

show zoneset [name | brief | active | vsan *vsan-id*]

Syntax Description

active	Shows only active zonesets.
brief	Shows members in brief mode.
name	Shows members of a specified zoneset.
vsan	Shows zonesets belonging to the specified VSAN.
vsan-id	The ID of the VSAN is from 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 configured zoneset 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
```

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
```