Discovering SCSI Targets

This chapter describes the SCSI LUN discovery feature provided in switches in the Cisco MDS 9000 Family. It includes the following sections:

About SCSI LUN Discovery

Small Computer System Interface (SCSI) targets include disks, tapes, and other storage devices. These targets do not register logical unit numbers (LUNs) with the name server.

The name server requires LUN information for the following reasons:

- To display LUN storage device information so an NMS can access this information.
- To report device capacity, serial number, and device ID information.
- To register the initiator and target features with the name server.

The SCSI LUN discovery feature uses the local domain controller Fibre Channel address. It uses the local domain controller as the source FC ID, and performs SCSI INQUIRY, REPORT LUNS, and READ CAPACITY commands on SCSI devices.

The SCSI LUN discovery feature is initiated on demand, through CLI or SNMP. This information is also synchronized with neighboring switches, if those switches belong to the Cisco MDS 9000 Family.

This section includes the following topics:

About Starting SCSI LUN Discovery

SCSI LUN discovery is done on demand.

Only Nx ports that are present in the name server database and that are registered as FC4 Type = SCSI_FCP are discovered.

Starting SCSI LUN Discovery

To start SCSI LUN discovery, follow one of these steps:

	Command	Purpose
Step 1	`switch# discover scsi-target local os all` `discovery started`	Discovers local SCSI targets for all operating systems (OS). The operating system options are **aix**, **all**, **hpux**, **linux**, **solaris**, or **windows**
	`switch# discover scsi-target remote os aix` `discovery started`	Discovers remote SCSI targets assigned to the AIX OS.

	`switch# discover scsi-target vsan 1 fcid 0x9c03d6`
	`discover scsi-target vsan 1 fcid 0x9c03d6`
	`VSAN: 1 FCID: 0x9c03d6 PWWN:`
	`00:00:00:00:00:00:00:00`
	`PRLI RSP: 0x01 SPARM: 0x0012`
	`SCSI TYPE: 0 NLUNS: 1`
	`Vendor: Company 4 Model: ST318203FC Rev: 0004`
	`Other: 00:00:02:32:8b:00:50:0a`
		Discovers SCSI targets for the specified VSAN (1) and FC ID (0x9c03d6).

	`switch# discover scsi-target custom-list os linux` `discovery started`	Discovers SCSI targets from the customized list assigned to the Linux OS.

About Initiating Customized Discovery

Customized discovery consists of a list of VSAN and domain pairs that are selectively configured to initiate a discovery. The domain ID is a number from 0 to 255 in decimal or a number from 0x0 to 0xFF in hex.

Use the **custom-list** option to initiate this discovery.

Initiating Customized Discovery

To initiate a customized discovery, follow one of these steps:

	Command	Purpose
Step 1	`switch# discover custom-list add vsan 1 domain 0X123456`	Adds the specified entry to the custom list.
	`switch# discover custom-list delete vsan 1 domain 0X123456`	Deletes the specified domain ID from the custom list.

Displaying SCSI LUN Information

Use the **show scsi-target** and **show fcns database** commands to display the results of the discovery. See Examples 9-1 to 9-8.

Example 9-1 Displays the Discovered Targets

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

Note This command takes several minutes to complete, especially if the fabric is large or if several devices are slow to respond.

Example 9-2 Displays the FCNS Database

```
switch# show fcns database

VSAN 1:
------------------------------------------------------------------------
FCID        TYPE  PWWN                    (VENDOR)        FC4-TYPE:FEATURE
------------------------------------------------------------------------
0xeb0000    N     21:01:00:e0:8b:2a:f6:54 (Qlogic)        scsi-fcp:init
0xeb0201    NL    10:00:00:00:c9:32:8d:76 (Emulex)        scsi-fcp:init

Total number of entries = 2

VSAN 7:
------------------------------------------------------------------------
FCID        TYPE  PWWN                    (VENDOR)        FC4-TYPE:FEATURE
------------------------------------------------------------------------
0xed0001    NL    21:00:00:04:cf:fb:42:f8 (Seagate)       scsi-fcp:target

Total number of entries = 1

VSAN 2002:
------------------------------------------------------------------------
FCID        TYPE  PWWN                    (VENDOR)        FC4-TYPE:FEATURE
------------------------------------------------------------------------
0xcafe00    N     20:03:00:05:30:00:2a:20 (Cisco)         FICON:CUP

Total number of entries = 1
```

Example 9-3 Displays the Discovered Target Disks

```
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
```

Example 9-4 Displays the Discovered LUNs for All Operating Systems

```
switch# show scsi-target lun os all
ST336607FC from SEAGATE (Rev 0006)
FCID is 0xed0001 in VSAN 7, PWWN is 21:00:00:04:cf:fb:42:f8
-------------------------------------------------------------------------------
OS  LUN    Capacity Status  Serial Number    Device-Id
           (MB)
```

```
--------------------------------------------------------------------------------
WIN 0x0    36704    Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
AIX 0x0    36704    Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
SOL 0x0    36704    Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
LIN 0x0    36704    Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
HP  0x0    36704    Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
```

Example 9-5 Displays the Discovered LUNs for the Solaris OS

```
switch# show scsi-target lun os solaris
ST336607FC from SEAGATE (Rev 0006)
FCID is 0xed0001 in VSAN 7, PWWN is 21:00:00:04:cf:fb:42:f8
--------------------------------------------------------------------------------
OS  LUN    Capacity Status  Serial Number    Device-Id
           (MB)
--------------------------------------------------------------------------------
SOL 0x0    36704    Online  3JA1B9QA00007338 C:1 A:0 T:3 20:00:00:04:cf:fb:42:f8
```

The following command displays the port WWN that is assigned to each OS (Windows, AIX, Solaris, Linux, or HPUX)

Example 9-6 Displays the pWWNs for each OS

```
switch# show scsi-target pwwn
------------------------------
OS     PWWN
------------------------------
WIN    24:91:00:05:30:00:2a:1e
AIX    24:92:00:05:30:00:2a:1e
SOL    24:93:00:05:30:00:2a:1e
LIN    24:94:00:05:30:00:2a:1e
HP     24:95:00:05:30:00:2a:1e
```

Example 9-7 Displays Customized Discovered Targets

```
switch# show scsi-target custom-list
---------------
VSAN    DOMAIN
---------------
1       56
```

Use the **show scsi-target auto-poll** command to verify automatic discovery of SCSI targets that come online. The internal uuid number indicates that a CSM or an IPS module is in the chassis.

Example 9-8 Displays Automatically Discovered Targets

```
switch(config)# show scsi-target auto-poll
name server polling is enabled
auto-polling is disabled, poll_start:0 poll_count:0 poll_type:0
USERS OF AUTO POLLING
--------------------
```