



## Configuring Fabric Configuration Servers

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This chapter describes the Fabric Configuration Server (FCS) feature provided in the Cisco MDS 9000 Family of directors and switches. It includes the following sections:

- [About FCS, page 55-1](#)
- [Displaying FCS Discovery, page 55-3](#)
- [Displaying FCS Elements, page 55-3](#)
- [Creating an FCS Platform, page 55-4](#)
- [Displaying FCS Fabric Ports, page 55-5](#)
- [Default Settings, page 55-6](#)

### About FCS

The Fabric Configuration Server (FCS) provides discovery of topology attributes and maintains a repository of configuration information of fabric elements. A management application is usually connected to the FCS on the switch through an N port. The FCS views the entire fabric based on the following objects:

- Interconnect element (IE) object—Each switch in the fabric corresponds to an IE object. One or more IE objects form a fabric.
- Port object—Each physical port in an IE corresponds to a port object. This includes the switch ports (xE, Fx, and TL ports) and their attached Nx ports.
- Platform object—A set of nodes may be defined as a platform object to make it a single manageable entity. These nodes are end-devices (host systems, storage subsystems) attached to the fabric. Platform objects reside at the edge switches of the fabric.

Each object has its own set of attributes and values. A null value may also be defined for some attributes.

In the Cisco MDS 9000 Family switch environment, multiple VSANs constitute a fabric, where one instance of the FCS is present per VSAN.

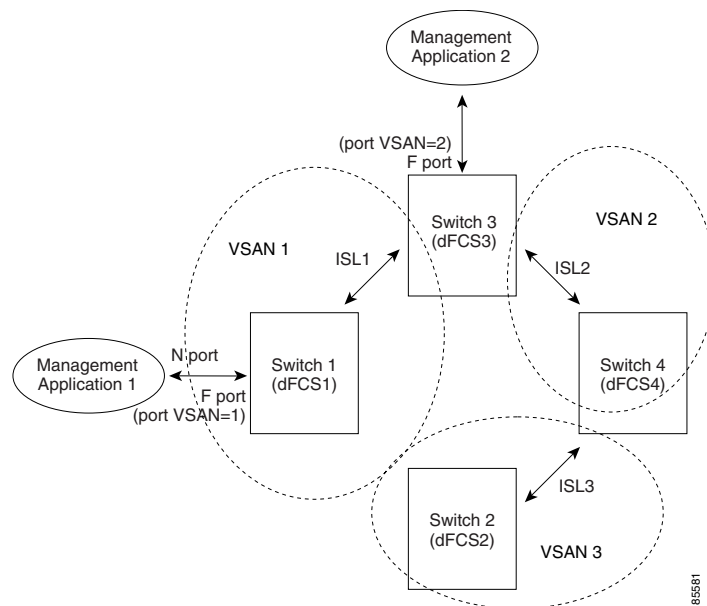
As of Cisco SAN-OS Release 3.1(2), FCS supports the discovery of virtual devices. The **fcs virtual-device-add** command, issued in FCS configuration submode, allows you to discover virtual devices in a particular VSAN or in all VSANs. The devices that are zoned for IVR must be discovered with this command and have request domain\_ID (RDI) enabled, before activating the IVR zone set.

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If you have attached a management application to a switch, all the frames directed towards the FCS in the switch are part of the port VSAN in the switch port (Fx port). Hence your view of the management application is limited only to this VSAN. However, information about other VSANs that this switch is part of can be obtained either through the SNMP or CLI.

In [Figure 55-1](#) Management Application 1 (M1) is connected through an F port with port VSAN ID 1, and Management Application 2 (M2) is connected through an F port with port VSAN ID 2. M1 can query the FCS information of switches S1 and S3, and M2 can query switches S3 and S4. Switch S2 information is not known to both of them. FCS operations can be done only on those switches that are visible in the VSAN. Note that M2 can send FCS requests only for VSAN 2 even though S3 is also a part of VSAN 1.

**Figure 55-1 FCSs in a VSAN Environment**



## Significance of FCS

This section lists the significance of FCSs.

- FCSs support network management including the following:
  - N port management application can query and obtain information about fabric elements.
  - SNMP manager can use the FCS management information base (MIB) to start discovery and obtain information about the fabric topology.
- FCSs support TE and TL ports in addition to the standard F and E ports.
- FCS can maintain a group of modes with a logical name and management address when a platform registers with it. FCSs maintain a backup of all registrations in secondary storage and update it with every change. When a restart or switchover happens, FCSs retrieve the secondary storage information and rebuild its database.
- SNMP manager can query FCSs for all IEs, ports, and platforms in the fabric.

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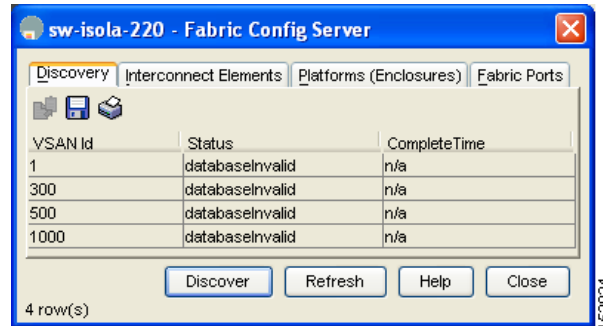
## Displaying FCS Discovery

To display FCS discovery information using Device Manager, follow these steps:

**Step 1** Choose **FC > Advanced > Fabric Config Server**.

You see the Fabric Config Server dialog box shown in [Figure 55-2](#).

**Figure 55-2** Fabric Config Server Dialog Box



**Step 2** Click the **Discovery** tab.

**Step 3** Click **Discover** to rediscover the fabric, or click **Refresh** to update the display.

## Displaying FCS Elements

To display FCS interconnect element information using Device Manager, follow these steps:

**Step 1** Choose **FC > Advanced > Fabric Config Server**.

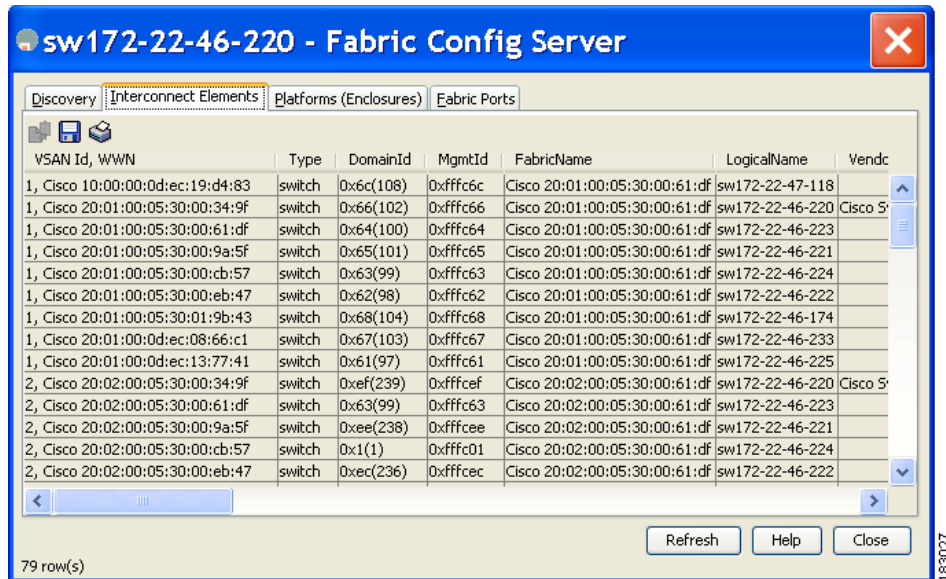
You see the Fabric Config Server dialog box.

**Step 2** Click the **Interconnect Elements** tab.

You see the dialog box shown in [Figure 55-3](#).

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**Figure 55-3 FCS Interconnect Elements Tab**



**Step 3** Click **Close** to close the dialog box.

## Creating an FCS Platform

To create an FCS platform using Device Manager, follow these steps:

**Step 1** Choose **FC > Advanced > Fabric Config Server**.

You see the Fabric Config Server dialog box.

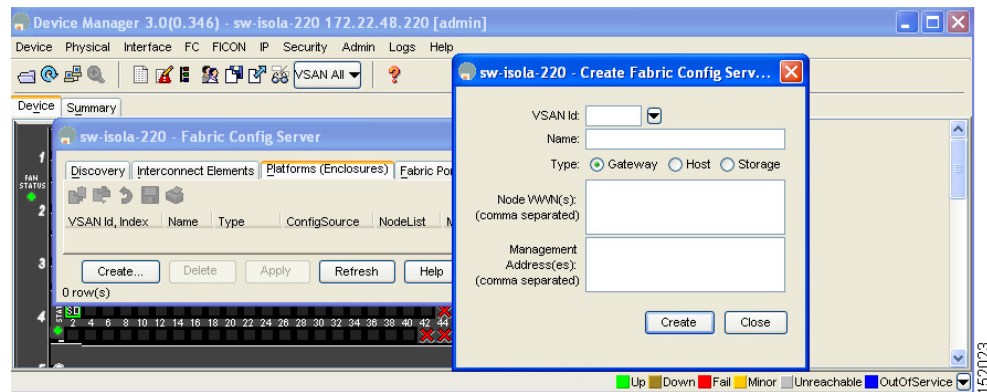
**Step 2** Click the **Platforms (Enclosures)** tab.

**Step 3** Click **Create**.

You see the Create Fabric Config Server dialog box shown in [Figure 55-4](#).

**Figure 55-4 Create Fabric Config Server Dialog Box**

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- Step 4** Enter the VSAN ID, or select the ID from the drop-down list of available VSAN IDs.
- Step 5** Enter the Fabric Configuration Server name in the Name field.
- Step 6** Choose the type of server (**Gateway, Host, Storage**).
- Step 7** Enter the WWNs for the server.
- Step 8** Enter the management addresses for the server.
- Step 9** Click **Create** to create the server, or click **Close** to discard your changes and return to the Fabric Config Server dialog box.

## Displaying FCS Fabric Ports

To display FCS discovery information using Device Manager, follow these steps:

- Step 1** Choose **FC > Advanced > Fabric Config Server**.  
You see the Fabric Config Server dialog box.
- Step 2** Click the **Fabric Ports** tab.  
You see a list of fabric ports (see [Figure 55-5](#)).

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**Figure 55-5 FCS Fabric Ports**

VSAN Id, WWN	Ty...	TXType	ModuleT...	Interf...	St...	Attached...
300, Cisco 20:e9:00:0...	auto	unknown	unknown	fc4/41	off...	
300, Cisco 20:ea:00:0...	auto	unknown	unknown	fc4/42	off...	
300, Cisco 20:eb:00:0...	auto	unknown	unknown	fc4/43	off...	
300, Cisco 20:ec:00:0...	auto	unknown	unknown	fc4/44	off...	
300, Cisco 20:ed:00:0...	auto	unknown	unknown	fc4/45	off...	
300, Cisco 20:ee:00:0...	auto	unknown	unknown	fc4/46	off...	
300, Cisco 20:ef:00:0...	auto	unknown	unknown	fc4/47	off...	
300, Cisco 20:f0:00:0...	auto	unknown	unknown	fc4/48	off...	
300, Cisco 22:01:00:0...	auto	unknown	unknown	fc9/1	off...	
300, Cisco 22:02:00:0...	auto	unknown	unknown	fc9/2	off...	
300, Cisco 22:03:00:0...	auto	unknown	unknown	fc9/3	off...	
300, Cisco 22:04:00:0...	auto	unknown	unknown	fc9/4	off...	
300, Cisco 22:05:00:0...	auto	unknown	unknown	fc9/5	off...	
300, Cisco 22:06:00:0...	auto	unknown	unknown	fc9/6	off...	
300, Cisco 22:07:00:0...	auto	unknown	unknown	fc9/7	off...	
300, Cisco 22:08:00:0...	auto	unknown	unknown	fc9/8	off...	
300, Cisco 22:09:00:0...	auto	unknown	unknown	fc9/9	off...	
300, Cisco 22:0a:00:0...	auto	unknown	unknown	fc9/10	off...	
300, Cisco 22:0b:00:0...	auto	unknown	unknown	fc9/11	off...	
300, Cisco 22:0c:00:0...	auto	unknown	unknown	fc9/12	off...	
300, Cisco 22:0d:00:0...	auto	unknown	unknown	fc9/13	off...	
300, Cisco 22:0e:00:0...	auto	unknown	unknown	fc9/14	off...	
300, Cisco 22:0f:00:0...	auto	unknown	unknown	fc9/15	off...	
300, Cisco 22:10:00:0...	auto	unknown	unknown	fc9/16	off...	
300, Cisco 22:11:00:0...	auto	unknown	unknown	fc9/17	off...	
300, Cisco 22:12:00:0...	auto	unknown	unknown	fc9/18	off...	
300, Cisco 22:13:00:0...	auto	unknown	unknown	fc9/19	off...	

144 row(s)

**Step 3** Click **Refresh** to update the display.

## Default Settings

Table 55-1 lists the default FCS settings.

**Table 55-1 Default FCS Settings**

Parameters	Default
Global checking of the platform name	Disabled.
Platform node type	Unknown.