CHAPTER **3**

Fabric Manager Server

Fabric Manager Server is a platform for advanced SAN monitoring, troubleshooting, and configuration capabilities. The server capabilities are an integral part of the Cisco Fabric Manager application.

This chapter contains the following sections:

Information About Fabric Manager Server

Install Cisco Fabric Manager Server on a computer that you want to provide centralized management services and performance monitoring. SNMP operations are used to efficiently collect fabric information. The Cisco Fabric Manager software, including the server components, requires about 60 MB of hard disk space on your workstation. Cisco Fabric Manager Server runs on Windows 2000, Windows 2003, Windows XP, Solaris 8.x or later, and Red Hat Linux.

Each computer configured as a Cisco Fabric Manager Server can monitor multiple Fibre Channel SAN fabrics. Up to 16 clients (by default) can connect to a single Cisco Fabric Manager Server concurrently. The Cisco Fabric Manager Clients can also connect directly to a Cisco switch in fabrics that are not monitored by a Cisco Fabric Manager Server, which ensures that you can manage any of your Cisco switch devices from a single console.

Cisco Fabric Manager Server has the following features:

- Multiple fabric management— Fabric Manager Server monitors multiple physical fabrics under the same user interface. This facilitates managing redundant fabrics. A licensed Fabric Manager Server maintains up-to-date discovery information on all configured fabrics so device status and interconnections are immediately available when you open the Fabric Manager Client.

Note The unlicensed Cisco Fabric Manager can only monitor and configure one fabric at a time. You must use the Open menu to switch to a new fabric, which causes the application to stop monitoring the previous one and to rediscover the new fabric.

- Continuous health monitoring—Switch health is monitored continuously, so any events that occurred since the last time you opened the Fabric Manager Client are captured.

- Roaming user profiles—The licensed Fabric Manager Server uses the roaming user profile feature to store your preferences and topology map layouts on the server, so that your user interface will be consistent regardless of what computer you use to manage your storage networks.

> **Note**   You must have the same release of Fabric Manager Client and Fabric Manager Server.

Installing and Configuring Fabric Manager Server

This section covers the installation and configuration of Fabric Manager server, and includes the following topics:

- Installing Fabric Manager Server, page 3-2
- Unlicensed Versus Licensed Fabric Manager Server, page 3-3
- Installing Fabric Manager Web Server, page 3-3
- Verifying Performance Manager Collections, page 3-3

Installing Fabric Manager Server

When you install Fabric Manager, the basic version of the Fabric Manager Server (unlicensed) is installed with it. After you click the Fabric Manager icon, a dialog box opens and you can enter the IP address of a computer running the Fabric Manager Server component. If you do not see the Fabric Manager Server IP address text box, click **Options** to expand the list of configuration options. If the server component is running on your local machine, leave **localhost** in that field. If you try to run Fabric Manager without specifying a valid server, you are prompted to start the Fabric Manager Server locally.

On a Windows PC, install the Fabric Manager Server as a service. This service can then be administered using Services in the Administrative Tools. The default setting for the Fabric Manager Server service is that the server is automatically started when the Windows PC is rebooted. You can change this setting by modifying the properties in Services.

> **Note**   Before running Fabric Manager Server, you should create a special Fabric Manager administrative user on each switch in the fabric or on a remote AAA server. Use this user to discover your fabric topology. See the "Discovering a Fabric" section on page 4-3.

To install Fabric Manager Server and set the initial configuration, perform this task:

Step 1   Install Fabric Manager and Fabric Manager server on your workstation. See the "Installing Fabric Manager Server" section on page 3-2.

Step 2   Log in to Fabric Manager. See the "Launching Fabric Manager Client" section on page 5-2.

Step 3   Optionally, create flows Performance Manager to monitor your fabric. See the "Counting Flow Statistics" section on page 29-4.

Step 4   Set Fabric Manager Server to continuously monitor the fabric. See the "Managing a Fabric Manager Server Fabric" section on page 3-3.

Step 5   Repeat Step 2 through Step 4 for each fabric that you want to manage through Fabric Manager Server.

Step 6   Install Fabric Manager Web Server. See the "Installing Fabric Manager Web Server" section on page 3-3.

Step 7 Verify that Performance Manager is collecting data. See the "Verifying Performance Manager Collections" section on page 3-3.

Unlicensed Versus Licensed Fabric Manager Server

When you install Fabric Manager, the basic unlicensed version of Fabric Manager Server is installed with it. To get the licensed features, such as Performance Manager, remote client support, and continuously monitored fabrics, you need to buy and install the Fabric Manager Server package.

However, trial versions of these licensed features are available. To enable the trial version of a feature, you run the feature as you would if you had purchased the license. You see a dialog box explaining that this is a demo version of the feature and that it is enabled for a limited time.

If you are evaluating one of these Fabric Manager Server features, use Device Manager to stop the evaluation period for that feature.

Installing Fabric Manager Web Server

You must install Fabric Manager Web Server to view Performance Manager reports through a web browser. To install Fabric Manager Web Server from the CD-ROM, see the *Cisco MDS 9000 Family Fabric Manager Configuration Guide*.

Verifying Performance Manager Collections

After Performance Manager collections have been running for five or more minutes, you can verify that the collections are gathering data by choosing **Performance Manager > Reports** in Fabric Manager. You see the first few data points gathered in the graphs and tables.

Note Viewing reports requires installing Fabric Manager Web Server. See the *Cisco MDS 9000 Family Fabric Manager Configuration Guide*.

Managing a Fabric Manager Server Fabric

You can continuously manage a Fabric Manager Server fabric, whether or not a client has that fabric open. A continuously managed fabric is automatically reloaded and managed by Fabric Manager Server whenever the server starts.

Selecting a Fabric to Manage Continuously

When you quit the Fabric Manager Client, you are prompted as to whether or not you would like to have Fabric Manager Server continuously manage that fabric. Alternatively, you can use Fabric Manager Client to select a fabric to manage.

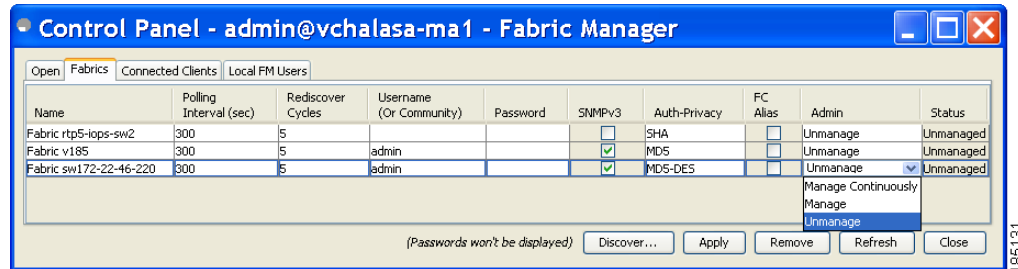To continuously manage a fabric using Fabric Manager, perform this task:

Step 1   Choose **Server > Admin**.

You see the Control Panel dialog box with the Fabrics tab open, as shown in Figure 3-1.

✎
Note   The Fabrics tab is only accessible to network administrators.

Figure 3-1   *Fabrics Tab in Control Panel Dialog Box*

✎
Note   You can preconfigure a user name and password to manage fabrics. In this instance, you should use a local switch account, not a TACACS+ server.

Step 2   Select one of the following Admin options:

- **Manage Continuously**—The fabric is automatically managed when Fabric Manager Server starts and continues to be managed until this option is changed to Unmanage.
- **Manage**—The fabric is managed by Fabric Manager Server until there are no instances of Fabric Manager viewing the fabric.
- **Unmanage**—Fabric Manager Server stops managing this fabric.

Step 3   Click **Apply**.

✎
Note   If you are collecting data on these fabrics using Performance Manager, you should now configure flows and define the data collections. These procedures are described in Chapter 29, "Performance Manager."

Fabric Manager Server Properties File

The Fabric Manager Server properties file (MDS 9000\server.properties) contains a list of properties that determine how the Fabric Manager Server will function. You can edit this file with a text editor, or you can set the properties through the Fabric Manager Web Services GUI, under the Admin tab.

✎
Note   You can optionally encrypt the password in the server.properties and the AAA.properties files.

The server properties file contains these nine general sections:

- GENERAL—Contains the general settings for the server.
- SNMP SPECIFIC—Contains the settings for SNMP requests, responses, and traps.
- SNMP PROXY SERVER SPECIFIC—Contains the settings for SNMP proxy server configuration and TCP port designation.
- GLOBAL FABRIC—Contains the settings for fabrics, such as discovery and loading.
- CLIENT SESSION—Contains the settings for Fabric Manager Clients that can log into the server.
- EVENTS—Contains the settings for syslog messages.
- Performance Chart—Contains the settings for defining the end time to generate a Performance Manager chart.
- EMC CALL HOME—Contains the settings for the forwarding of traps as XML data using e-mail, according to EMC specifications.
- EVENT FORWARD SETUP—Contains the settings for forwarding events logged by Cisco Fabric Manager Server through e-mail.

The following are new or changed server properties for Fabric Manager Release 3.4:

- Display FCoE—Allows the user to display tree nodes, menu items, toolbar buttons, and topology nodes/links related to Fibre Channel over Ethernet (FCoE). If the fabric contains Cisco Nexus 5000 Series switches, set the **displayFCoE** property to true.

Note After you set the Display FCoE property, a Fabric Server restart is required.

Modifying Fabric Manager Server

Fabric Manager allows you to modify certain Fabric Manager Server settings without stopping and starting the server. These settings include:

- Adding or Removing Fabric Manager Server Users, page 3-5
- Changing the Fabric Manager Server User Name and Password, page 3-6
- Changing the Polling Period and Fabric Rediscovery Time, page 3-6

Adding or Removing Fabric Manager Server Users

To add a Fabric Manager Server user or to change the password for an existing user using Fabric Manager, perform this task:

Step 1 Click the **Local FM Users** tab in the Control Panel dialog box, as shown in Figure 3-1. You see a list of Fabric Manager users.

Note Only network administrators can manage users.

Step 2 Click **New** to add a user or click the user name and click **Edit** to change the password for an existing user.

You see the FM User dialog box as shown in Figure 3-2.

Figure 3-2   FM User Dialog Box

Step 3   Set the user name and password for the new user, and then click **Apply**.

To remove a Fabric Manager Server user using Fabric Manager, perform this task:

Step 1   Click the **Local FM Users** tab in the Control Panel dialog box (see Figure 3-1).

You see a list of Fabric Manager users.

Step 2   Click the user name you want to delete.

Step 3   Click **Remove** to delete the user.

Step 4   Click **Yes** to confirm the deletion or **No** to cancel it.

Changing the Fabric Manager Server User Name and Password

You can modify the user name or password used to access a fabric from Fabric Manager Client without restarting Fabric Manager Server.

To change the user name or password used by Fabric Manager Server, perform this task:

Step 1   Choose **Server > Admin**.

You see the Control Panel dialog box with the Fabrics tab open, as shown in Figure 3-1.

Step 2   Set the Name or Password for each fabric that you are monitoring with Fabric Manager Server.

Step 3   Click **Apply** to save these changes.

Changing the Polling Period and Fabric Rediscovery Time

Fabric Manager Server periodically polls the monitored fabrics and periodically rediscovers the full fabric at a default interval of five cycles.You can modify these settings from Fabric Manager Client without restarting Fabric Manager Server.

To change the polling period or full fabric rediscovery setting used by Fabric Manager Server using Fabric Manager, perform this task:

Step 1   Choose **Server > Admin**.

You see the Control Panel dialog box with the Fabrics tab open, as shown in Figure 3-1.

Step 2   For each fabric that you are monitoring with Fabric Manager Server, set the Polling Interval to determine how frequently Fabric Manager Server polls the fabric elements for status and statistics.

Step 3   For each fabric that you are monitoring with Fabric Manager Server, set the Rediscover Cycles to determine how often Fabric Manager Server rediscovers the full fabric.

Step 4   Click **Apply** to save these changes.

Using Device Aliases or FC Aliases

You can change whether Fabric Manager uses FC aliases or global device aliases from Fabric Manager Client without restarting Fabric Manager Server.

To change whether Fabric Manager uses FC aliases or global device aliases using Fabric Manager, perform this task:

Step 1   Choose **Server > Admin**.

You see the Control Panel dialog box with the Fabrics tab open, as shown in Figure 3-1.

Step 2   For each fabric that you are monitoring with Fabric Manager Server, check the **Device Alias** check box to use global device aliases, or uncheck to use FC aliases.

Step 3   Click **Apply** to save these changes.

Saving Device Aliases to the Switch

If you choose to use global device aliases on Fabric Manager Server, these changes are not reflected on the local switch. The switch continues to use FC aliases until you save the device aliases to the switch.

To save global device aliases on a switch using Fabric Manager, perform this task:

Step 1   In the Physical Attributes pane, expand **Switches**, > **End Devices** and then choose **Hosts** or **Storage**.

You see the end devices in the Information pane.

Step 2   For each device alias that you want the switch to recognize, highlight it, right-click the **Device Alias** icon for that device, and choose **Save Selected Device Aliases**.