Using Cisco Fabric Manager and Device Manager

Table 2-1 summarizes the tasks that you can perform using Fabric Manager and Device Manager. In general, you can perform tasks using Fabric Manager for multiple devices. Device Manager is more convenient to use when you are working with a single switch.

Table 2-1   Fabric and Device Management Tasks

Task	Tool	See
Troubleshoot connectivity and switch configuration.	Fabric Manager	"Analyzing Switch Fabric Configuration" section on page 2-11
Troubleshoot switch configuration	Fabric Manager	Issuing the Show Tech Support Command, page 2-13
Perform fabric discovery and view network topology	Fabric Manager	Chapter 1, "Getting Started with Cisco Fabric Manager"
Manage zones and activate zone sets	Fabric Manager	Chapter 3, "Managing Zones and Zone Sets"
Manage VSANs.	Fabric Manager or Device Manager	Chapter 4, "Managing VSANs"
Enable or disable ports.	Device Manager's Device View	"Managing Ports" section on page 2-18
Manage SNMP events and alarms.	Fabric Manager or Device Manager	Chapter 8, "Managing Events and Alarms"
Manage SNMP and CLI Security	Fabric Manager or Device Manager	Chapter 5, "Managing Administrator Access"
Copy and save configuration and image files	Fabric Manager or Device Manager	Chapter 6, "Managing Software and Configuration Files"
View hardware configuration	Fabric Manager or Device Manager	Chapter 9, "Managing the System and Components"
Manage Fibre Channel routing and FSPF.	Fabric Manager or Device Manager	Chapter 10, "Managing Fibre Channel Routing and FSPF"
Managing iSCSI and FCIP features	Fabric Manager or Device Manager	Chapter 11, "Managing IP Storage Services"
Manage advanced features	Fabric Manager or Device Manager	Chapter 14, "Managing Advanced Features"

To learn more about the Fabric Manager and Device Manager user interfaces, refer to these topics:

- Using Fabric Manager, page 2
- Using Device Manager, page 16
- Comparing Device Manager to Fabric Manager, page 17

To learn about the general procedures you can perform with Fabric Manager, refer to these topics:

- Locating Other Switches, page 8
- Managing Discovered Switches, page 9
- Analyzing Switch Device Health, page 10
- Analyzing End-to-End Connectivity, page 10
- Analyzing Switch Fabric Configuration, page 11
- Creating a Policy Profile, page 12
- Analyzing the Results of Merging Zones, page 12
- Using Traceroute and Other Troubleshooting Tools, page 14
- Setting Fabric Manager Preferences, page 14
- Viewing Reports in Fabric Manager, page 14

To learn about the general procedures you can perform with Device Manager, refer to these topics:

- Managing Ports, page 18
- Setting Device Manager Preferences, page 19

Using Fabric Manager

The Fabric Manager displays a view of your network fabric, including Cisco 9000 or third-party switches and end devices. To launch the Fabric Manager from your desktop, double-click the **Fabric Manager** icon and follow the instructions described in the "Launching Views" section on page 1-9. Figure 2-1 shows the Fabric Manager main window.
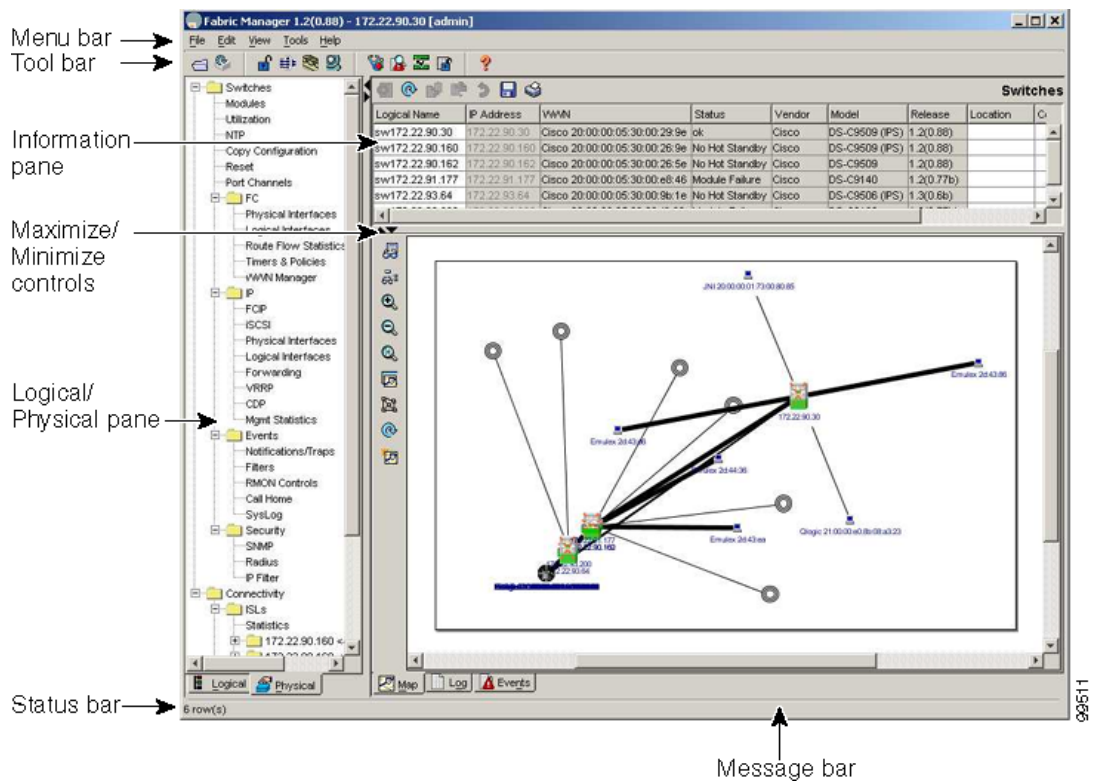
> **Note** Changes made using Fabric Manager are applied to the running configuration of the switches you are managing and the changes may not be saved when the switch restarts. After you make a change to the configuration or perform an operation (such as activating zones), the system prompts you to save your changes before you exit.

Figure 2-1   Fabric Manager Main Window

The menu bar at the top of the Fabric Manager window provides access to options, that are organized by menus. The toolbar provides icons that duplicate the most commonly used options on the File, Tools, and Help menus.

The main window has a menu bar, toolbar, message bar, status bar, and three panes:

- VSAN/Switch pane—Displays a tree of configured VSANs and zones on the VSANs/Zones tab and a menu tree of available configuration tasks on the **Switch** tab.

- Information pane—Displays information about whatever option is selected in the menu tree.

- Map pane—Displays a map of the network fabric, including switches, hosts, and storage. It also provides tabs for displaying log and event data.

You can resize each pane by dragging the boundaries between each region or by clicking the **Minimize** or **Maximize** controls. (See Figure 2-1.)

Menu Bar, Toolbars, and Message Bar

The menu bar at the top of the Fabric Manager window provides options for managing and troubleshooting the current fabric and for controlling the display of information on the Map pane. The menu bar provides the following menus:

- File—Open a new fabric, rediscover the current fabric, locate switches, set preferences, print the map, and clear or export the Map pane log.

- Edit—Manage zones, zonesets, and various elements on the Fabric Manager map.

- View—Change the appearance of the map (these options are duplicated on the Map pane toolbar).
- Reports—Display summary reports, as described in the "Viewing Reports in Fabric Manager" section on page 2-14.
- Troubleshooting—Verify and troubleshoot connectivity and configuration, as described in the "Analyzing Switch Fabric Configuration" section on page 2-11.
- Help—Display on-line help topics for specific dialog boxes in the Information pane.

The Fabric Manager main toolbar provides buttons for accessing the most commonly used menu bar options. The Map pane toolbar provides buttons for managing the appearance of the map. The Information pane toolbar provides buttons for editing and managing the Information pane.

The message bar shows the last entry displayed by the discovery process, and the possible error message. It displays a dialog stating that something has changed in the fabric and a new discovery is needed. The status bar shows both short-term, transient messages (such as the number of rows displayed in the table), and long-term discovery issues.

Logical/Physical Pane

Use the **Logical** tab on the **Logical/Physical** pane to manage VSANs and zones in the currently discovered fabric. For information about managing VSANs see Chapter 4, "Managing VSANs."

To manage zones, right-click one of the folders in the VSAN tree and click **Edit Local Zone Database** from the pop-up menu. You see the **Edit Local Zone Database** dialog box. For information about managing zones and zone sets, see Chapter 3, "Managing Zones and Zone Sets."

Use the **Physical** tab on the **Logical/Physical** pane to display a menu tree of the options available for managing the switches in the currently discovered fabric. You see the menu tree.

To select an option, click a folder to display the options available and then click the option. You see the dialog box for the selected option in the Information pane. The menu tree provides the following main folders:

- Physical—View and configure hardware components.
- Interface—View, monitor, and configure ports and PortChannel interfaces.
- FC—View and configure Fibre Channel network configurations.
- IP—View and configure TCP/IP (management) network configurations.
- Events—View and configure events, alarms, thresholds, notifications, and informs.
- Security—View and configure SNMP and CLI security.
- Admin—Download software images; copy and save configuration files.

Information Pane

The Information pane displays tables or other information associated with the option selected from the menu tree. The Information pane toolbar provides buttons for performing one or more of the following operations:

- Apply Changes—Apply configuration changes.
- Refresh Values—Refresh table values.
- Copy…Ctrl+C — Copy data from one row to another.
- Paste…Ctrl +V—Paste the data from one row to another.
- Undo Changes…Ctrl-Z—Undo the most recent change.

- Export—Export and save information to a tab-delimited file.
- Print Table —Print the contents of the Information pane.

> **Note** After making changes you must save the configuration or the changes will be lost when the device is restarted.

> **Note** The buttons that appear on the toolbar vary according to the option you select. They are activated or deactivated (grayed) according to the field or other object that you select in the Information pane.

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

Map Pane

The Map pane shows the graphical representation of your fabric. Table 2-2 explains the graphics you may see displayed, depending on which devices you have in your fabric.

Table 2-2   Fabric Manager Graphics

Icon or Graphic	Description
	Director Class MDS 9000
	Non-director Class MDS 9000
	Generic FC Switch
	Cisco SN5428
	A line through a device indicates that the device is not manageable
	An "X" through a device or link indicates that the device is down or that the connection is down
	FC HBA (or enclosure)
	FC Target (or enclosure)
	iSCSI Host
	Fibre Channel ISL and Edge
	Fibre Channel Port Channel
	IP ISL and Edge

Icon or Graphic	Description
▪ ▪ ▪ ▪ ▪	IP Port Channel
(FC Loop icon)	FC Loop (Storage)
(IP Cloud icon)	IP Cloud (Hosts)
☐	Any device, cloud, or loop with a box around it means that there are hidden links attached

There are three tabs on the bottom of the Map pane:

- Map—Displays a graphical view of the network fabric with switches, hosts, and storage subsystems.
- Log—Displays messages that describe system operations, such as fabric discovery.
- Events—Displays information about the SNMP traps received by the management station.

When viewing large fabrics in the Map pane, it is helpful to keep the following tips in mind to make the display cleaner.

- Turn off end device labels
- Collapse loops
- Collapse expanded multiple links (collapsed multiple links are shown as very thick single lines)
- Dim or hide portions of your fabric by VSAN

When you right-click an icon, you see a pop-up menu with options that vary depending on the type of icon selected. The various options available for different objects include the following:

- Open an instance of Device Manager for the selected switch.
- Open a CLI session for the selected switch.
- Copy the display name of the selected object.
- Execute a **ping** or **traceroute** command for the device.
- Show or hide end devices.
- Create or delete an enclosure.
- Set the VSAN ID for an edge port (link).
- Set the trunking mode for an ISL.
- Create or add to a PortChannel for selected ISLs.

The Map pane has its own toolbar with options for saving, printing, and changing the appearance of the map. When you right-click on the map, a pop-up menu appears that provides options (duplicated on the toolbar) for changing the appearance of the map.

> **Note** When a VSAN, zone, or zone member is selected in the VSAN tree, the map highlighting changes to identify the selected objects. To remove this highlighting, click the **Clear Highlight** button on the Map pane toolbar or choose **Clear Highlight** from the pop-up menu.

Locating Other Switches

The Locate Switches option uses SNMPv2 and discovers devices responding to SNMP requests with the read-only community string *public*. To enable your Cisco MDS 9000 Family switches to respond to SNMPv2 requests, see Chapter 5, "Managing Administrator Access."

To locate switches that are not included in the currently discovered fabric, follow these steps:

Step 1 Choose **File > Locate Switches** from the Fabric Manager main window.

You see the Locate Switches dialog box.

Step 2 Enter a range of specific addresses belonging to a specific subnet which limit the research for the switches. To look for a Cisco MDS 9000 switch belonging to subnet 192.168.199.0, use the following string:

192.168.100.[1-254]

Multiple ranges can be specified, separated by commas. For example, to look for all the devices in the two subnets 192.168.199.0 and 192.169.100.0, use the following string:

192.168.100.[1-254], 192.169.100.[1-254]

Step 3 Enter the appropriate read community string in the Read Community field.

The default value for this string is "public."

Step 4 Click **Display Cisco MDS 9000 Only** to display only the Cisco MDS 9000 Family switches in your network fabric.

Step 5 Click **Search** to discover switches and devices in your network fabric. You see the results of the discovery in the Locate Switches window.

> **Note** The number in the lower left corner of the screen increments as the device locator attempts to discover the devices in your network fabric. When the discovery process is complete, the number indicates the number of rows displayed.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Modifying Device Grouping

Because of not all the devices are capable of responding to FC-GS3 requests, different ports of a single server or storage subsystem may be displayed as individual end devices on the Fabric Manager map. To group end devices in a single enclosure in order to have them represented by a single icon on the map, follow these steps:

Step 1   Select **Storage** from the Fabric Manager's menu tree in the Physical tab.

The end devices are displayed in the Information pane.

Step 2   Clink on the **Name** field for one of the devices you want to be in the enclosure.

Step 3   Enter a name to identify the new enclosure's icon on the Fabric Manager Map pane.

Step 4   Enter the IP address of the device in the **IP Address** field (optional).

Step 5   Click once on the **Name** field for that device.

Step 6   Press Ctrl-C to copy that name.

Step 7   Clink on the **Name** field for another of the devices you want to be in the enclosure.

Click twice if there is no name in the Name field; click three times if there is a name already in the Name field.

Step 8   Press Ctrl-V to paste the name into the **Name** field for that device.

Step 9   Repeat steps 7 and 8 for each device you want to add to the enclosure.

Note   To remove devices from an enclosure, click three times on the name of the device and press Delete. To remove an enclosure, repeat this step for each device in the enclosure. To change an existing enclosure, delete the enclosure and create a new one.

Managing Discovered Switches

To manage the discovered switches, follow these steps:

Step 1   Choose **File > Open Switch Fabric** from the Fabric Manager menu bar.

Step 2   Enter the IP address of a switch in the **Device Name** field on the Open dialog box.

Step 3   Enter your user name and password in the **User Name** and **Auth Password** fields.

If the SNMPv3 Privacy feature is implemented, enter the encryption password as well.

Step 4   Check the SNMPv3 check box to select SNMP version 3.

Step 5   Click **Open**.

Note   You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Analyzing Switch Device Health

The Switch Health option lets you determine the status of the components of a specific switch. To use the Switch Health option, follow these steps:

Step 1   Click **Switch Health** from the Fabric Manager Tools menu.

The Switch Health Analysis window is displayed.

Step 2   Click **Start** to identify any problems that may currently be affecting the selected switch.

The Switch Health Analysis window displays any problems affecting the selected switches.

Step 3   Fix these problems.

Step 4   Click **Clear** to remove the contents of the Switch Health Analysis window.

Step 5   Click **Close** to close the window.

✎ **Note**   You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Analyzing End-to-End Connectivity

You can use the End to End Connectivity option to determine connectivity and routes among devices with the switch fabric. The connectivity tool checks to see that every pair of end devices can talk to each other, using a Ping test and by determining if they are in the same VSAN or in the same active zone. This option uses versions of the **ping** and **traceroute** commands modified for Fibre Channel networks.

To use this option, follow these steps:

Step 1   Choose **Tools > End to End Connectivity** from the Fabric Manager menu bar.

The End to End Connectivity window is displayed.

Step 2   Select the VSAN in which you want to verify connectivity from the VSAN dropdown list.

Step 3   Identify any latency issues in the network fabric by clicking the option **Report average latencies greater than** and entering the number of microseconds.

Step 4   Click **Ensure that members can communicate** to perform a Fibre Channel ping between the selected end points.

Step 5   Identify the number of packets, the size of each packet, and the timeout in milliseconds.

Step 6   Analyze the redundant paths between endpoints by clicking **Ensure that redundant paths exist between members**.

Step 7   Click **Analyze**.

The End to End Connectivity Analysis window displays the selected end points with the switch to which each is attached, and the source and target ports used to connect it.

The output shows all the requests which have failed. The possible descriptions are:

- Ignoring empty zone—No requests are issued for this zone.

- Ignoring zone with single member—No requests are issued for this zone.
- Source/Target are unknown—No nameserver entries exist for the ports or we have not discovered the port during discovery.
- Both devices are on the same switch.
- No paths exist between the two devices.
- VSAN does not have an active zone set and the default zone is denied.
- Average time ... micro secs—The latency value was more than the threshold supplied.

Step 8   Click **Clear** to remove the contents of the window.

Step 9   Click **Close** to close the window.

> **Note**   You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Analyzing Switch Fabric Configuration

The Fabric Configuration option lets you analyze the configuration of a switch by comparing the current configuration to a specific switch or to a policy file. You can save a switch configuration to a file and then compare all switches against the configuration in the file.

To use the Fabric Configuration option to analyze the configuration of a switch, follow these steps:

Step 1   Click **Fabric Configuration** from the Fabric Manager **Tools** menu.

The Fabric Configuration window is displayed.

Step 2   Choose if you want to compare the selected switch to another switch or to a Policy File.

- If you are making a switch comparison, click **Switch** and then click the drop-down arrow to see a list of switches.
- If you are making a policy comparison, click **Policy File**. Then the button to the right of this option to browse your file system and select a policy file (*.XML).

Step 3   Click **Rules** to set the rules to apply when running the Fabric Configuration Analysis tool.

The Rules window is displayed.

Step 4   Change the default rules as required and click **OK**.

Step 5   Click **Compare**.

The system analyzes the configuration and displays issues that arise as a result of the comparison.

Step 6   Click to place a checkmark in the Resolve column for the issues you want to resolve.

Step 7   Resolve them by selecting the Resolve Issues option.

Step 8   Click **Clear** to remove the contents of the window.

Step 9   Click **Close** to close the window.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Creating a Policy Profile

You use a policy file to define the rules to be applied when running the Fabric Configuration Analysis tool. When you create a policy file, the system saves the rules selected for the selected switch.

To create a policy file, follow these steps:

Step 1 Choose **Tools > Fabric Configuration** from the Fabric Manager menu bar.

Step 2 Click **Policy File** and enter a name for the policy in the field provided.

Step 3 Click **Create Policy** and confirm the operation when prompted.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Analyzing the Results of Merging Zones

You can use the Zone Merge option on the Fabric Manager Tools menu to determine if two connected switches have compatible zone configurations.

To use the Zone Merge option, follow these steps:

Step 1 Choose **Zone Merge** from the Fabric Manager Tools menu.

The Zone Merge Analysis window is displayed.

Step 2 Select a switch from each pull-down list.

Step 3 Identify the VSAN for which you want to perform the zone merge analysis.

Step 4 Click **Analyze**.

The Zone Merge Analysis window displays any inconsistencies between the zone configuration of the two selected switches.

Step 5 Click **Clear** to remove the contents of the window.

Step 6 Click **Close** to close the window.

> **Note** You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Issuing the Show Tech Support Command

You can issue a **show tech support** command from Fabric Manager for one or more switches in a fabric. The results of each command are written to a text file, one file per switch, in a directory you specify. You can then view these files using Fabric Manager.

You can also save the Fabric Manager map as a JPG file. The file is saved with the name of the seed switch (for example, 172.22.94.250.jpg).

You can zip up all the files (the **show tech support** output and the map file image) and send the resulting zipped file to technical support.

To use the Fabric Manager **show tech support** command, perform the following steps.

Step 1   Select **Show Tech Support** from the Tools menu.

The Show Tech Support dialog box is displayed.

Step 2   Select the switches for which you want to view Show Tech Support information, by checking the checkboxes next to their IP addresses.

Step 3   Select the directory where you want the text files (containing the Show Tech Support information) to be written.

Step 4   Enter your username and password in the appropriate fields.

Note that in order for Fabric Manager to successfully issue the show tech support command on a switch, that switch must have this username and password. Fabric Manager will be unable to log into a switch that does not have this username and password, and an error will be returned for that switch.

Step 5   Set the timeout value.

The default is 30 seconds.

Step 6   Check the SSH checkbox if you want to use SSH to connect to the switch.

If you do not check the SSH checkbox, Telnet is used. Note that SSH is slower than Telnet, so if you are using SSH you may want to increase the timeout value described in Step5.

Step 7   Click the **OK** button to start issuing the **show tech support** command to the switches you specified, or click the **Close** button to close the Show Tech Support dialog box without issuing the **show tech support** command.

In the Status column next to each switch, a highlighted status is displayed. A yellow highlight indicates that the Show Tech Support command is currently running on that switch. A red highlight indicates an error. A green highlight indicates that the Show Tech Support command has completed successfully. On successful completion, a button becomes available in the View column for each switch.

Step 8   To view the Show Tech Support output, click the button next to the name of the switch. The Show Tech Support information is displayed in your default text editor.

Note   If you would like to view the Show Tech Support files without using Fabric Manager, you can open them with any text editor. Each file is named with the switch's IP address and has a .TXT extension (for example, 111.22.33.444.txt).

Using Traceroute and Other Troubleshooting Tools

You can use the following options on the Tools menu to verify connectivity to a selected object or to open other management tools:

- Traceroute—Verify connectivity between two end devices that are currently selected on the Map pane.
- Device Manager— Launch the Device Manager for the switch selected on the Map pane.
- Command Line Interface—Open a Telnet or SSH session for the switch selected on the Map pane.

To use the Traceroute option to verify connectivity, follow these steps:

Step 1 Select two or more endpoints on the Fabric Manager map.

Step 2 Click **Traceroute** from the Tools menu, or right-click one of the endpoints and click **Trace Route** from the pop-up menu.

The Traceroute window is displayed.

Step 3 Change the timeout value if the default (10 seconds) is too short or too long.

Step 4 Click **Start**.

The results of the Traceroute operation appear in the Results box.

Note You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Fabric Manager or Device Manager help systems.

Setting Fabric Manager Preferences

To set your preferences for the behavior of the Fabric Manager, choose **File > Preferences** from the Fabric Manager menu bar. The Preferences dialog box is displayed.

This dialog box has the following four tabs, which let you set your preferences for different components of the application:

- General
- SNMP
- Discovery
- Map

Viewing Reports in Fabric Manager

The Fabric Manager provides a series of reports, showing various information in tabular form. When you select one of these options, you see the available information in tabular form in the Information pane of the Fabric Manager main window. Table 2-3 describes the reports provided by each option.

Table 2-3   Fabric Manager Reports

Report	Description
ISL Statistics	Click on **Connectivity > ISLs > Statistics** in the Physical tab of the Fabric Manager Logical/Physical pane to display information about the Inter-Switch Links in the currently discovered fabric. You can use the controls at the top of the table to change the Poll Interval and Scale parameters:
ISLs	Choose **Connectivity > ISLs** in the Physical tab of the Fabric Manager Logical/Physical pane to display information about the Inter-Switch links in the currently discovered fabric.
Switches	Choose **Switches** in the Physical tab of the Fabric Manager Logical/Physical pane to display information about the switches in the currently discovered fabric.
Hosts	Choose **Connectivity > Hosts** in the Physical tab of the Fabric Manager Logical/Physical pane to display information about the hosts in the currently discovered fabric.
Storage	Choose **Connectivity > Storage** in the Physical tab of the Fabric Manager Logical/Physical pane to display information about the links to hosts and storage in the currently discovered fabric.
LUNs	Choose **Connectivity > Storage > LUNs** in the Physical tab of the Fabric Manager Logical/Physical pane to display information about the LUNs in the currently discovered fabric.

Using Device Manager

Device Manager provides a physical representation of your switch chassis, with the modules, ports, power supplies, and fan assemblies (Figure 2-2). The menu bar at the top of the Device Manager window provides access to options, organized into menus that correspond to the menu tree in Fabric Manager.

The legend at the bottom right of the Device Manager indicates port status, as follows:

- Green—The port is up.
- Brown—The port is administratively down.
- Red—The port is down or has failed.
- Gray—The port is unreachable.

Launching Device Manager from Fabric Manager

Device Manager gives a graphic representation of a Cisco MDS 9000 Family switch, including the installed switching modules, the supervisor modules, the power supplies, and the status of each port within each module.

To launch the Device Manager from your desktop, double-click the Device Manager icon and follow the instructions described in the "Launching Views" section on page 1-9.
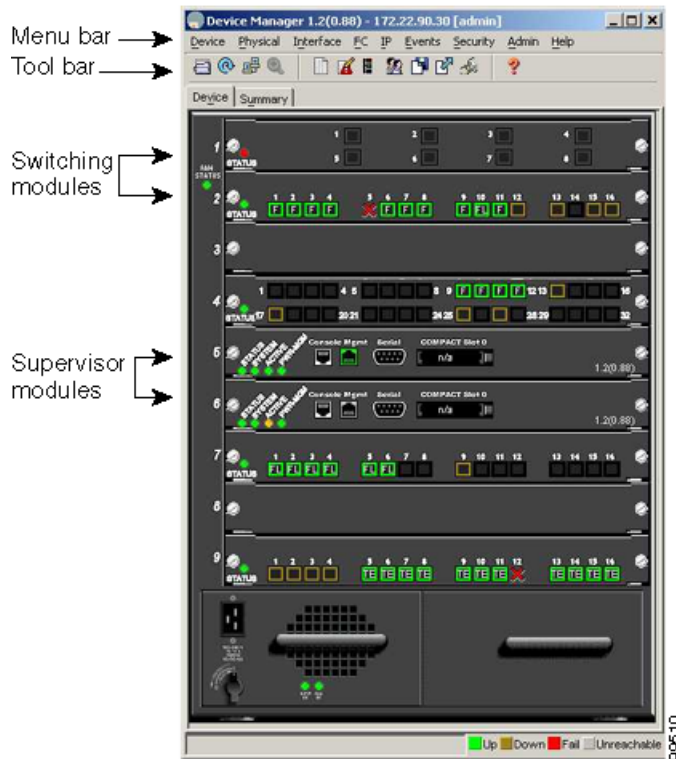
To launch Device Manager from Fabric Manager, right-click the switch you want to manage on the Fabric Manager map and click **Device Manager** from the pop-up menu that appears. The Device Manager main window is shown in Figure 2-2.

Device Manager can also be started by double-clicking on a switch in the Fabric Manager topology view.

Figure 2-2   Device Manager, Device Tab

Using Summary View

Click the **Summary** tab on the Device Manager main window to see a summary of xEPorts, FxPorts, and NxPorts on a single switch, as well as FC and IP neighbor devices. All logical interfaces are shown in a dropdown list at the top of the Summary view.

The Summary View displays attributes for a single switch, such as port speed, link utilization, and other traffic statistics. It has the same menu bar and toolbar buttons as the Device View.

To monitor traffic for selected objects, click the **Monitor** icon. To display detailed statistics for selected objects, click the **Detailed Statistics** icon.

The Summary View provides the same menus and options that are available from the Device View.

Note   You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Device Manager help system.

Comparing Device Manager to Fabric Manager

The menu bar at the top of the Device Manager contains the same menus as the Fabric Manager menu tree.

For information about the options provided by these menus, see the "Logical/Physical Pane" section on page 2-4. The Device menu, which is unique to the Device View and Summary View, provides the following options:

- Open—Open the Device Manager for a different switch.
- Open Last—Open the Device Manager for the most recently managed switch.
- Preferences—Set management preferences for controlling the behavior and appearance of the Device Manager.
- Refresh—Update the current display.
- Message Log—Display messages regarding the current operation of the Device Manager application.
- Command Line Interface—Open a Telnet/SSH session with the current switch.
- Exit—Close the Device Manager application.

The tables in the Fabric Manager correspond to the dialog boxes that appear in Device Manager. However, the Fabric Manager tables show values for multiple switches and so the first column identifies the specific switch. The Device Manager dialog box shows values for a single switch, while the Fabric Manager shows the same values for one or more switches.

The toolbar on the Device Manager dialog box provides the same options as the toolbar on the Information pane in Fabric Manager, as summarized here:

- Create—Insert a new row into a table (if applicable).
- Delete Row—Delete the selected row from a table (if applicable).
- Copy…Ctrl+C — Copy data from one row to another.
- Paste…Ctrl +V—Paste the data from one row to another.
- Apply Changes—Apply configuration changes. (Note: After making changes you must save the configuration. Otherwise, the changes will be lost when the device is restarted.)
- Refresh Values—Refresh table values.
- Reset Changes…Ctrl-Z—Undo the most recent change.
- Print table…— Print the contents of the Information pane.

Tip   You can copy values from one cell in a table to the rest of the column. Copy the value to the clipboard, hold down the shift key while pressing the down arrow key (or click on the bottom cell in the column). Then paste the value to all the selected cells and click **Apply**.

When you click the **Create** button, you see a dialog box that lets you enter the values required for the specific table. As you can see the fields and options are the same from both views, but the appearance of the window may vary slightly. For instance, the dialog box from Fabric Manager may have an option for selecting a specific switch, while the dialog box from Device Manager may have additional port-level detail.

Managing Ports

Tip   You can select multiple ports in Device Manager and apply options to all the selected ports at one time. Either select the ports by clicking the mouse and dragging it around them, or hold down the Control key and click on each port.

To enable or disable a port, right-click the port and click **Enable** or **Disable** from the pop-up menu. To enable or disable multiple ports, drag the mouse to select the ports and then right-click the selected ports. Then click **Enable** or **Disable** from the pop-up menu.

To manage trunking on one or more ports, right-click the ports and click **Configure**. On the dialog box that appears, in the Trunk column, right-click the current value and click **nonTrunk**, **trunk**, or **auto** from the pull-down list.

To create PortChannels using Device Manager, click **PortChannels** from the Interface menu. For detailed instructions, see the "Managing PortChannel Interfaces" section on page 7-4. You can also use Fabric Manager to conveniently create a PortChannel.

Note To create a PortChannel, all the ports on both ends of the link must have the same port speed, trunking type, and administrative state.

Setting Device Manager Preferences

To set your preferences for the behavior of the Device Manager application, choose **Preferences** from the Device menu.

Note You can access the field descriptions for the windows or dialog boxes in this procedure in the Reference section of the Device Manager help system.

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