CHAPTER 6

Managing Software and Configuration Files

> **Note** For more information about managing software image and configuration files using the command-line interface (CLI), refer to the *Cisco 9000 Family Configuration Guide* or the *Cisco 9000 Family Command Reference*.

Each switch in the Cisco MDS 9000 Family is shipped with a Cisco Multilayer intelligent SAN operating system called SAN-OS, and two images:

- The kickstart image—Loads the kernel and basic drivers
- The system image—Loads the system image

To upgrade to a different software version, you need to download the new image software to your local switch. To start running the new image files, use the CLI to change the relevant configuration variables to point to the new images and restart the switch.

All Cisco MDS 9000 Family switches contain internal bootflash memory that resides in the supervisor module. Cisco MDS 9500 Series directors contain an additional external CompactFlash called slot0.

Upgrading a software image does not disrupt use of the startup configuration file, which you can still use after the upgrade. When you restart the switch, the startup configuration is converted so that it is usable by the new image.

You can manage software in two ways:

- Using the Software Upgrade Wizard, page 6-2
- Configuring Software Images Using Device Manager, page 6-3

Using the Software Upgrade Wizard

To use the software upgrade wizard, perform the following steps:

Step 1   Open the software upgrade wizard by clicking on its icon in the toolbar.

The Software Upgrade Wizard is displayed.

Step 2   Select the switches from the list shown, for which you want to manage images.

You must select at least one switch in order to proceed. When finished, click Next.

Step 3   For each switch model, specify the new images to use.

Click on the edit (...) button to enter image URIs and other information. You must specify at least one image for each switch in order to proceed. The total space required on the bootflash to copy the image is shown in the Required Flash Space column.

To use images that are already downloaded (the file is already on the bootflash), check the "Skip Image Download" checkbox. When you check this checkbox, you are prompted to choose an image from the bootflash for each switch being upgraded.

Step 4   Check the active (and standby, if applicable) bootflash on each switch to see if there is enough space for the new images.

The table on this screen shows the active (and standby, if applicable) bootflash space on each switch, and shows the status (whether there is enough space for the new images). If any switch has insufficient space, you cannot proceed. Free space by clicking the edit button (...), or deselect the switch by going back to the first screen and unchecking the checkbox.

Step 5   For each switch, click the select (...) button to select images from the bootflash to use for the upgrade.

You must select at least one image for each switch in order to proceed.

Note   There is no limit on the number of switches you can upgrade. However, the upgrade is a serial process; that is, only a single switch is upgraded at a time.

Step 6   Start the upgrade.

Here you can choose to save the Running Configuration to the Startup Configuration on all selected switches, back up the Startup Configuration to a local directory (saved as <SWITCH>_cfg.txt) and upgrade the switch software on all selected switches.

Before the upgrade process is started, a version check is done. This check provides information about the impact of the upgrade for each module on the switch. It also shows any HA-related incompatibilities that might result. A final dialog box is displayed at this stage, prompting you to confirm that this check should be performed.

Note   On hosts where the TFTP server can not be started, a warning is displayed. we show a warning, The TFTP server may not start because an existing TFTP server is running or because access to the TFTP port 69 has been denied for security reasons (the default setting on linux). In these cases, you cannot transfer files from the local host to the switch.

> **Note**   Before exiting the session, be sure the upgrade process is complete. The wizard will display a status as it goes along. Check the lower left-hand corner of the wizard for the status message "Upgrade Finished." First, the wizard displays the message "Success 1.2(2)" followed a few seconds later by "InProgress Polling." Then the wizard displays a second message "Success 1.2(2)" before displaying the final "Upgrade Finished."

Configuring Software Images Using Device Manager

Procedures for managing software configuration files from Device Manager include:

- Downloading Software Images
- Copying Configuration Files
- Saving Configurations

Downloading Software Images

To download software images, perform the following steps.

Step 1   From the Device Manager, choose **Software Image** from the Admin menu.

The Download Software Image dialog box is displayed.

Step 2   Specify the Server Address from which you want to download the file.

Step 3   Specify the Source Name and Destination name for the file.

Step 4   Click Apply to begin downloading the image. Click Cancel to close the Download Software Image dialog without downloading.

> **Note**   You can also use the Fabric Manager's Software Upgrade wizard by selecting Software Upgrade from the Fabric Manager's Edit menu.

> **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.

Copying Configuration Files

To copy configurations, perform the following steps.

Step 1   From the Device Manager, choose **Copy Configuration** from the Admin menu.

The Copy Configuration dialog box is displayed.

Step 2   Specify the Server Address from which you want to copy the file.

Step 3   Specify the File Name of the file you want to copy.

Step 4   Specify the protocol you want to use.

Step 5   If necessary, enter the UserName and Password for the switch from which you want to copy the file.

Step 6   Click Apply to begin copying the image. Click Cancel to close the Copy Configuration dialog without downloading.

> **Note**   You can also use the Fabric Manager's Software Upgrade wizard by selecting Software Upgrade from the Fabric Manager's Edit menu.

> **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.

Saving Configurations

To save configurations from the Device Manager, perform the following steps.

Step 1   Choose **Save Configuration** from the Admin menu.

You are prompted whether you wish to copy the running configuration to the startup configuration.

Step 2   Click **Yes** to save the configuration.

> **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.