



CHAPTER 16

Maintaining Software Images

Manually upgrading your devices to the latest software version can be error prone and time consuming. Prime Infrastructure simplifies the version management and routine deployment of software updates to your devices by helping you plan, schedule, download, and monitoring software image updates. You can also view software image details, view recommended software images, and delete software images.

Prime Infrastructure stores all the software images for the devices in your network. The images are stored according to the image type and version.

Before you can upgrade software images, your devices must be configured with SNMP read-write community strings that match the community strings entered when the device was added to Prime Infrastructure.

Related Topics

- [Setting Image Management and Distribution Preferences](#)
- [Managing Software Images](#)
- [Importing Software Images](#)
- [Changing Software Image Requirements](#)
- [Deploying Software Images to Devices](#)
- [Distributing Software Images from Cisco.com](#)
- [Viewing Recommended Software Images](#)
- [Analyzing Software Image Upgrades](#)

Setting Image Management and Distribution Preferences

You can specify image management preferences such as whether to reboot devices after successfully upgrading a software image, and whether images on Cisco.com should be included during image recommendation of the device.

Because collecting software images can slow the data collection process, by default, Prime Infrastructure does not collect and store device software images when it gathers inventory data from devices.

To change the default behavior and to specify additional image management preferences:

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- Step 1** Choose **Administration > System Settings > Image Management**.
- Step 2** Enter your Cisco.com user name and password so you can access software images from the cisco.com web site.

- Step 3** To have Prime Infrastructure automatically retrieve and store device images when it collects device inventory data, check **Collect images along with inventory collection**.
 - Step 4** Select other options as necessary. Rest your cursor on the information icon to view details about the options.
 - Step 5** Click **Save**.
 - Step 6** Choose **Operate > Image Dashboard** to view all the software images retrieved by Prime Infrastructure. The images are organized by image type and stored in the corresponding software image group folder.
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Managing Software Images

The software image dashboard displays the top software images used in your network and allows you to change image requirements, see the devices on which an image is running, and distribute images.

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- Step 1** Choose **Operate > Image Dashboard**.
 - Step 2** Click on a software image name to display details about the image.
 - Step 3** You can perform the following actions:
 - Change image requirements. See [Changing Software Image Requirements](#).
 - View the devices on which the software image is running.
 - Distribute the image. See [Deploying Software Images to Devices](#).
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Importing Software Images

It can be helpful to have a baseline of your network images by importing images from the devices in your network. You can also import software images from Cisco.com and store them in the image repository.

By default, Prime Infrastructure does not automatically retrieve and store device images when it collects device inventory data. (You can change this preference as described in [Setting Image Management and Distribution Preferences](#).)

To import a software image:

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- Step 1** Choose **Operate > Software Image Management**.
 - Step 2** Click **Import**.
 - Step 3** Specify the source from where to import the software image. You can specify any one of the following sources:
 - Device—An existing device.
 - Cisco.com
 - URL —Specify the FTP URL from where the software image can be imported. You can use an HTTP URL where user credentials are not required.
 - File —A local file on the client machine.

**Note**

For wireless LAN controllers, you can import software images from Cisco.com, file, or a URL, but not from a device.

- Step 4** Specify Collection Options and when to import the image file. You can run the job immediately or schedule it to run at a later time.

**Note**

The image import job is non-repetitive.

- Step 5** Click **Submit**.

- Step 6** Choose **Tools > Task Manager > Jobs Dashboard** to view details for the image management job.

Related Topics

- [Deploying Software Images to Devices](#)
- [Distributing Software Images from Cisco.com](#)

Changing Software Image Requirements

To change the RAM, Flash, and boot ROM requirements that a device must meet in order for a software image to be distributed to the device:

- Step 1** Choose **Operate > Software Image Management**.
- Step 2** Navigate to and select the software image for which you want to change requirements, then click **Image Details**.
- Step 3** Modify the necessary fields, then click **Save**. Your changes are saved in the software version in which you made the change.

Deploying Software Images to Devices

You can distribute a software image to a device or set of similar devices in a single deployment. Prime Infrastructure verifies that the device and software image are compatible.

- Step 1** Choose **Deploy > Software Deployment**.
- Step 2** Select the software image(s) you want to distribute, then click **Distribute**.
By default, the devices for which the selected image is applicable are shown.
- Step 3** Check **Show All Devices** to see all the devices available in Prime Infrastructure, or from the Device Groups list, select the device(s) which are running the image you selected.



Note If you check **Show All Devices**, all devices are displayed even if the software image you selected is not applicable for all the devices.

- Step 4** Click the image name in Distribute Image Name field to change your selection and pick a new image, then click **Save**.
- Step 5** To change the location on the device in which to store the software image, click the value displayed in Distribute Location field, select a new location, then click **Save**.
- The Status and Status Message fields display the validity of the selections you made. For example, if the status is green, there is adequate space available to store the image on the specified location on the device.
- Step 6** Specify Distribution Options. You can change the default options in **Administration > System > Image Management**.
- Step 7** Specify schedule options, then click **Submit**.



Note The distribute image job is non-repetitive.

- Step 8** Choose **Administration > Jobs Dashboard** to view details for the image management job.

Distributing Software Images from Cisco.com

- Step 1** Choose **Operate > Software Image Management**.
- Step 2** Navigate to and select the software image for which you want to change requirements, then click **Image Details**.
- Step 3** Expand Device Details, select a device or devices on which to distribute the image, then click **Distribute**.



Note Only the devices that are running the specific software image you modified are displayed as selection choices.

- Step 4** Choose one of the following image sources:
- **Recommend Image from Cisco.com** to select an image available on Cisco.com. Specify options, then click **Start Recommendation**, then skip to Step 6.



Note For wireless LAN controllers, you cannot recommend software images because the flash requirement is not available. Whereas, you can upgrade/distribute software images.

- **Select Image from Local Repository** to select an image stored locally. Then, under Local Repository:
 - Select **Show All Images** to display all images available in the Prime Infrastructure repository.
 - Uncheck **Show All Images** to display the software images applicable to the selected device.
- Step 5** Select the image to distribute, then click **Apply**.

- Step 6** Click the image name in Distribute Image Name field to change your selection and pick a new image, then click **Save**.
- Step 7** To change the location on the device in which to store the software image, click the value displayed in Distribute Location field, select a new location, then click **Save**.
- The Status and Status Message fields display the validity of the selections you made. For example, if the status is green, there is adequate space available to store the image on the specified location on the device.
- Step 8** Specify Distribution Options. You can change the default options in **Administration > System > Image Management**.
- Step 9** Specify schedule options, then click **Submit**.
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Viewing Recommended Software Images

You can view the recommended software image for a single device, and then import or distribute that image. If you want to distribute a software image to multiple devices, see [Deploying Software Images to Devices](#).

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- Step 1** Choose **Operate > Device Work Center**, then select a device for which you want to view the recommended software image.
- Step 2** Click the **Image** tab.
- Step 3** Scroll down to Recommended Images to view the recommended image for the device you selected. Prime Infrastructure gathers the recommended images from both Cisco.com and from the local repository.
- Step 4** You can import the recommended image (see [Importing Software Images](#)) or distribute (see [Deploying Software Images to Devices](#)) the recommended image.
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Analyzing Software Image Upgrades

Prime Infrastructure can generate an Upgrade Analysis report to help you determine prerequisites for a new software image deployment. These reports analyze the software images to determine the hardware upgrades (boot ROM, Flash memory, RAM, and boot Flash, if applicable) required before you can perform the software upgrade.

The Upgrade Analysis report answers the following questions:

- Does the device have sufficient RAM to hold the new software?
- Is the device's Flash memory large enough to hold the new software?
- Do I need to add Telnet access information for the device?



Note

For wireless LAN controllers, you cannot generate the Upgrade Analysis report because there is no minimum requirement for RAM or ROM. The newly upgraded image replaces the existing image after an upgrade.

To run the Upgrade Analysis report:

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- Step 1** Choose **Operate > Software Image Management**.
 - Step 2** Click **Upgrade Analysis**.
 - Step 3** Choose the source of the software image you want to analyze.
 - Step 4** Select the devices on which to analyze the software image.
 - Step 5** Select the image(s) to analyze for the selected devices.
 - Step 6** Click **Run Report**.
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