



# Downloading and Managing Firmware in Cisco UCS Manager

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## Firmware Image Management

Cisco delivers all firmware updates to Cisco UCS components in bundles of images. Cisco UCS firmware updates are available to be downloaded to fabric interconnects in a Cisco UCS domain in the following bundles:

### **Cisco UCS Infrastructure Software Bundle**

This bundle includes the following firmware images that are required to update the following components:

- Cisco UCS Manager software
- Kernel and system firmware for the fabric interconnects
- I/O module firmware

### Cisco UCS B-Series Blade Server Software Bundle

This bundle includes the following firmware images that are required to update the firmware for the blade servers in a Cisco UCS domain. In addition to the bundles created for a release, these bundles can also be released between infrastructure bundles to enable Cisco UCS Manager to support a blade server that is not included in the most recent infrastructure bundle.

- CIMC firmware
- BIOS firmware
- Adapter firmware
- Board controller firmware
- Third-party firmware images required by the new server

### Cisco UCS C-Series Rack-Mount UCS-Managed Server Software Bundle

This bundle includes the following firmware images that are required to update components on rack-mount servers that have been integrated with and are managed by Cisco UCS Manager:

- CIMC firmware
- BIOS firmware
- Adapter firmware
- Storage controller firmware



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**Note** You cannot use this bundle for standalone C-series servers. The firmware management system in those servers cannot interpret the header required by Cisco UCS Manager. For information on how to upgrade standalone C-series servers, see the C-series configuration guides.

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Cisco also provides release notes, which you can obtain on the same website from which you obtained the bundles.

## Firmware Image Headers

Every firmware image has a header, which includes the following:

- Checksum
- Version information
- Compatibility information that the system can use to verify the compatibility of component images and any dependencies

## Firmware Image Catalog

Cisco UCS Manager provides you with two views of the catalog of firmware images and their contents that have been downloaded to the fabric interconnect:

### Packages

This view provides you with a read-only representation of the firmware bundles that have been downloaded onto the fabric interconnect. This view is sorted by image, not by the contents of the image. For packages, you can use this view to see which component images are in each downloaded firmware bundle.

### Images

The images view lists the component images available on the system. You cannot use this view to see complete firmware bundles or to group the images by bundle. The information available about each component image includes the name of the component, the image size, the image version, and the vendor and model of the component.

You can use this view to identify the firmware updates available for each component. You can also use this view to delete obsolete and unneeded images. Cisco UCS Manager deletes a package after all images in the package have been deleted.

**Tip**

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Cisco UCS Manager stores the images in bootflash on the fabric interconnect. In a cluster system, space usage in bootflash on both fabric interconnects is the same, because all images are synchronized between them. If Cisco UCS Manager reports that the bootflash is out of space, delete obsolete images to free up space.

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## Obtaining Software Bundles from Cisco

### Before You Begin

Determine which of the following software bundles you need to update the Cisco UCS domain:

- Cisco UCS Infrastructure Software Bundle—Required for all Cisco UCS domains.
- Cisco UCS B-Series Blade Server Software Bundle—Required for all Cisco UCS domains that include blade servers.
- Cisco UCS C-Series Rack-Mount UCS-Managed Server Software Bundle—Only required for Cisco UCS domains that include integrated rack-mount servers. This bundle contains firmware to enable Cisco UCS Manager to manage those servers and is not applicable to standalone C-Series rack-mount servers.

**Procedure**

- Step 1** In a web browser, navigate to [Cisco.com](http://Cisco.com).
- Step 2** Under **Support**, click **All Downloads**.
- Step 3** In the center pane, click **Servers - Unified Computing**.
- Step 4** If prompted, enter your Cisco.com username and password to log in.
- Step 5** In the right pane, click the link for the software bundles you require, as follows:

| <b>Bundle</b>  | <b>Navigation Path</b>  |
|--|---|
| Cisco UCS Infrastructure Software Bundle                         | Click <b>Cisco UCS Infrastructure and UCS Manager Software &gt; Unified Computing System (UCS) Infrastructure Software Bundle</b> . |
| Cisco UCS B-Series Blade Server Software Bundle                  | Click <b>Cisco UCS B-Series Blade Server Software &gt; Unified Computing System (UCS) Server Software Bundle</b> .                  |
| Cisco UCS C-Series Rack-Mount UCS-Managed Server Software Bundle | Click <b>Cisco UCS C-Series Rack-Mount UCS-Managed Server Software &gt; Unified Computing System (UCS) Server Software Bundle</b> . |

**Tip** The Unified Computing System (UCS) Documentation Roadmap Bundle, which is accessible through these paths, is a downloadable ISO image of all Cisco UCS documentation.

- Step 6** On the first page from which you download a software bundle, click the **Release Notes** link to download the latest version of the Release Notes.
- Step 7** For each software bundle that you want to download, do the following:
  - a) Click the link for the latest software bundle for the release you want to download. The release number is followed by a number and a letter in parentheses. The number identifies the maintenance release level, and the letter differentiates between patches of that maintenance release. For more information about what is in each maintenance release and patch, see the latest version of the Release Notes.
  - b) Click one of the following buttons and follow the instructions provided:
    - **Download Now**—Allows you to download the software bundle immediately.
    - **Add to Cart**—Adds the software bundle to your cart to be downloaded at a later time.
  - c) Follow the prompts to complete your download of the software bundle(s).
- Step 8** Read the Release Notes before upgrading your Cisco UCS domain.

**What to Do Next**

Download the software bundles to the fabric interconnect.

# Downloading Firmware Images to the Fabric Interconnect from a Remote Location



**Note** In a cluster setup, the image file for the firmware bundle is downloaded to both fabric interconnects, regardless of which fabric interconnect is used to initiate the download. Cisco UCS Manager maintains all firmware packages and images in both fabric interconnects in sync. If one fabric interconnect is down, the download finishes successfully. The images are synced to the other fabric interconnect when it comes back online.

## Before You Begin

Obtain the required firmware bundles from Cisco.

## Procedure

- Step 1** In the **Navigation** pane, click **Equipment**.
- Step 2** Click the **Equipment** node.
- Step 3** In the **Work** pane, click the **Firmware Management** tab.
- Step 4** Click the **Installed Firmware** tab.
- Step 5** Click **Download Firmware**.
- Step 6** In the **Download Firmware** dialog box, click the **Remote File System** radio button in the **Location of the Image File** field and fill in the required fields.
- Step 7** Click **OK**.  
Cisco UCS Manager GUI begins downloading the firmware bundle to the fabric interconnect.
- Step 8** (Optional) Monitor the status of the download on the **Download Tasks** tab.  
**Note** If Cisco UCS Manager reports that the bootflash is out of space, delete obsolete bundles on the **Packages** tab to free up space. To view the available space in bootflash, navigate to the fabric interconnect, click **Equipment**, and expand the **Local Storage Information** area on the **General** tab.
- Step 9** Repeat this task until all the required firmware bundles have been downloaded to the fabric interconnect.

## What to Do Next

After the image file for the firmware bundles download completes, update the firmware on the endpoints.

# Downloading Firmware Images to the Fabric Interconnect from the Local File System



**Note** In a cluster setup, the image file for the firmware bundle is downloaded to both fabric interconnects, regardless of which fabric interconnect is used to initiate the download. Cisco UCS Manager maintains all firmware packages and images in both fabric interconnects in sync. If one fabric interconnect is down, the download finishes successfully. The images are synced to the other fabric interconnect when it comes back online.

## Before You Begin

Obtain the required firmware bundles from Cisco.

## Procedure

- Step 1** In the **Navigation** pane, click **Equipment**.
- Step 2** Click the **Equipment** node.
- Step 3** In the **Work** pane, click the **Firmware Management** tab.
- Step 4** Click the **Installed Firmware** tab.
- Step 5** Click **Download Firmware**.
- Step 6** In the **Download Firmware** dialog box, click the **Local File System** radio button in the **Location of the Image File** field.
- Step 7** In the **Filename** field, type the full path and name of the image file.  
If you do not know the exact path to the folder where the firmware image file is located, click **Browse** and navigate to the file.
- Step 8** Click **OK**.  
Cisco UCS Manager GUI begins downloading the firmware bundle to the fabric interconnect.
- Step 9** (Optional) Monitor the status of the firmware bundle download on the **Download Tasks** tab.  
**Note** If Cisco UCS Manager reports that the bootflash is out of space, delete obsolete bundles on the **Packages** tab to free up space. To view the available space in bootflash, navigate to the fabric interconnect on the **Equipment** tab and expand the **Local Storage Information** area on the **General** tab.
- Step 10** Repeat this task until all the required firmware bundles have been downloaded to the fabric interconnect.

## What to Do Next

After the image file for the firmware bundles download completes, update the firmware on the endpoints.

## Canceling an Image Download

You can cancel the download task for an image only while it is in progress. After the image has downloaded, deleting the download task does not delete the image that was downloaded. You cannot cancel the FSM related to the image download task.

### Procedure

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- Step 1** In the **Navigation** pane, click **Equipment**.
  - Step 2** Expand the **Equipment** node.
  - Step 3** In the **Work** pane, click the **Firmware Management** tab.
  - Step 4** On the **Download Tasks** tab, right-click the task you want to cancel and select **Delete**.
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## Determining the Contents of a Firmware Package

### Procedure

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- Step 1** In the **Navigation** pane, click **Equipment**.
  - Step 2** Click the **Equipment** node.
  - Step 3** In the **Work** pane, click the **Firmware Management** tab.
  - Step 4** On the **Packages** subtab, click the + icon next to a package to view its contents.
  - Step 5** To take a snapshot of the package contents, do the following:
    - a) Highlight the rows that include the image name and its contents.
    - b) Right-click and choose **Copy**.
    - c) Paste the contents of your clipboard into a text file or other document.
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## Checking the Available Space on a Fabric Interconnect

If an image download fails, check whether the bootflash on the fabric interconnect or fabric interconnects in the Cisco UCS has sufficient available space.

## Procedure

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- Step 1** In the **Navigation** pane, click **Equipment**.
- Step 2** Expand **Equipment > Fabric Interconnects**.
- Step 3** Click the fabric interconnect on which you want to check the available space.
- Step 4** In the **Work** pane, click the **General** tab.
- Step 5** Expand the **Local Storage Information** area.  
When you download a firmware image bundle, a fabric interconnect needs at least twice as much available space as the size of the firmware image bundle. If the bootflash does not have sufficient space, delete the obsolete firmware, core files, and other unneeded objects from the fabric interconnect.
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