Firmware Management

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Overview of Firmware

E-Series Servers use Cisco-certified firmware specific to the E-Series Server model that you are using. You can download new releases of the firmware for all supported server models from Cisco.com.

To avoid potential problems, we strongly recommend that you use the Host Upgrade Utility (HUU), which upgrades the CIMC, BIOS, and other firmware components to compatible levels. For detailed information about this utility, see the "Upgrading Firmware" chapter in the *Getting Started Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine*. This chapter also provides information about the compatible HUU, CIMC, and BIOS software releases.

Note The HUU is supported on CIMC, release 2.1.0 and later releases.

If you choose to upgrade the CIMC and BIOS firmware manually—instead of using the HUU—you must update the CIMC firmware first, and then the BIOS firmware. Do not install the new BIOS firmware until after you have activated the compatible CIMC firmware or the server will not boot.

The CIMC firmware update process is divided into the following stages to minimize the amount of time the server will be offline:

- **Installation—**During this stage, CIMC installs the selected CIMC firmware in the non-active, or backup, slot on the server.
- **Activation—**During this stage, CIMC sets the non-active firmware version as active and reboots the server, causing a disruption in service. When the server reboots, the firmware in the new active slot becomes the running version.

After you activate the CIMC firmware, you can update the BIOS firmware. The server must be powered off during the entire BIOS update process. Once the CIMC finishes rebooting, the server can be powered on and returned to service.

Note You can either upgrade an older firmware version to a newer one, or downgrade a newer firmware version to an older one.

Options for Upgrading Firmware

You can use either the Cisco Host Upgrade Utility (HUU) to upgrade the firmware components or you can upgrade the firmware components manually.

- **HUU—**We recommend that you use the HUU ISO file to upgrade all firmware components, which include the CIMC and BIOS firmware.

  For detailed instructions for upgrading the firmware using the HUU, see the "Upgrading Firmware" chapter in the *Getting Started Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine*.

  Note You cannot use the HUU to upgrade the Programmable Logic Devices (PLD) firmware. You must use the Cisco IOS CLI to upgrade the PLD firmware. For details, see the "Upgrading Programmable Logic Devices Firmware on the E-Series EHWIC NCE" section in the *CLI Configuration Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine*.

- **Manual Upgrade—**To manually upgrade the CIMC and BIOS firmware, you must first obtain the firmware from Cisco Systems, and then use the CIMC GUI or the CIMC CLI to upgrade it. After you upgrade the firmware, reboot the system.

Obtaining Software from Cisco Systems

Use this procedure to download drivers, BIOS and CIMC firmware, and the diagnostics image.

Procedure

Step 1 Navigate to http://www.cisco.com/.

Step 2 If you are not already logged in, click **Log In** at the top right-hand edge of the page and log in using your Cisco.com credentials.

Step 3 In the menu bar at the top, click **Support**.
A roll-down menu appears.

Step 4 From the Downloads (center) pane, click **All Downloads** (located at the bottom right corner).
The **Download Software** page appears.

Step 5 From the left pane, click **Products**.

Step 6 From the center pane, click **Unified Computing and Servers**.

Step 7 From the right pane, click **Cisco UCS E-Series Software**.

Step 8 From the right pane, click the name of the server model for which you want to download the software.
The **Download Software** page appears with the following categories.

- **Unified Computing System (UCSE) Server Drivers—**Contains drivers.
- **Unified Computing System (UCSE) Server Firmware—**Contains the Host Upgrade Utility and the BIOS, CIMC, and PLD firmware images.
- **Unified Computing System (UCSE) Utilites—**Contains the diagnostics image.

Step 9 Click the appropriate software category link.

Step 10 Click the **Download** button associated with software image that you want to download.
The **End User License Agreement** dialog box appears.

Step 11 (Optional) To download multiple software images, do the following:

a) Click the **Add to cart** button associated with the software images that you want to download.
b) Click the **Download Cart** button located on the top right .
All the images that you added to the cart display.
c) Click the **Download All** button located at the bottom right corner to download all the images.
The **End User License Agreement** dialog box appears.

Step 12 Click **Accept License Agreement**.

Step 13 Do one of the following as appropriate:

- Save the software image file to a local drive.
- If you plan to install the software image from a TFTP server, copy the file to the TFTP server that you want to use.

  The server must have read permission for the destination folder on the TFTP server.

What to Do Next

Install the software image.

Installing CIMC Firmware from a Remote Server

Note To avoid potential problems, we strongly recommend that you use the Host Upgrade Utility (HUU), which upgrades the CIMC, BIOS, and other firmware components to compatible levels. For detailed information about this utility, see the "Upgrading Firmware" chapter in the *Getting Started Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine*. This chapter also provides information about the compatible HUU, CIMC, and BIOS software releases.

If you choose to upgrade the CIMC and BIOS firmware manually—instead of using the HUU—you must update the CIMC firmware first, and then the BIOS firmware. Do not install the new BIOS firmware until after you have activated the compatible CIMC firmware or the server will not boot.

Before You Begin

- You must log in as a user with admin privileges to install CIMC firmware through the browser.
- Obtain the CIMC firmware file from Cisco Systems. See Obtaining Software from Cisco Systems, on page 2.
- Unzip the proper .bin upgrade file on your remote server, such as TFTP, FTP, SFTP, SCP, or HTTP.

Procedure

Step 1 In the **Navigation** pane, click the **Admin** tab.

Step 2 On the **Admin** tab, click **Firmware Management**.

Step 3 In the **Actions** area, click **Install CIMC Firmware from Remote Server**.

Step 4 In the **Install CIMC Firmware** dialog box, complete the following fields:

Name	Description
Install CIMC Firmware from drop-down list	The type of remote server on which the firmware image is located. This can be one of the following: • **TFTP Server** • **FTP Server** • **SFTP Server** • **SCP Server** • **HTTP Server** **Note** Depending on the remote server that you select from the drop-down list, the fields that display change.
TFTP, **FTP**, **SFTP**, **SCP**, or **HTTP Server IP/Hostname** field	The IP address or hostname of the server on which the firmware image resides.

Name	Description
Image Path and Filename field	The path and filename of the firmware image. When you enter the filename, include the relative path for the image file from the top of the server tree to the file location.
Username field	The username the system should use to log in to the remote server. **Note** If the username is not configured, enter **anonymous** for the username and any character(s) for the password. **Note** This field is not displayed if the remote server is TFTP or HTTP.
Password field	The password for the remote server username. **Note** If the username is not configured, enter **anonymous** for the username and any character(s) for the password. **Note** This field is not displayed if the remote server is TFTP or HTTP.

Step 5 Click **Install Firmware**.

What to Do Next

Activate the CIMC firmware.

Installing CIMC Firmware Through the Browser

Note To avoid potential problems, we strongly recommend that you use the Host Upgrade Utility (HUU), which upgrades the CIMC, BIOS, and other firmware components to compatible levels. For detailed information about this utility, see the "Upgrading Firmware" chapter in the *Getting Started Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine*. This chapter also provides information about the compatible HUU, CIMC, and BIOS software releases.

If you choose to upgrade the CIMC and BIOS firmware manually—instead of using the HUU—you must update the CIMC firmware first, and then the BIOS firmware. Do not install the new BIOS firmware until after you have activated the compatible CIMC firmware or the server will not boot.

Before You Begin

- You must log in as a user with admin privileges to install the CIMC firmware through the browser.
- Obtain the CIMC firmware file from Cisco Systems. See Obtaining Software from Cisco Systems, on page 2.
- Unzip the proper .bin upgrade file to your local machine.

Procedure

Step 1 In the **Navigation** pane, click the **Admin** tab.

Step 2 On the **Admin** tab, click **Firmware Management**.

Step 3 In the **Actions** area, click **Install CIMC Firmware through Browser Client**.

Step 4 In the **Install CIMC Firmware** dialog box, click **Browse** and use the **Choose File** dialog box to select the .bin file you want to install.

Step 5 Click **Install Firmware**.

What to Do Next

Activate the CIMC firmware.

Activating Installed CIMC Firmware

Before You Begin

Install the CIMC firmware on the server.

Important While the activation is in progress, do not:

- Reset, power off, or shut down the server.
- Reboot or reset CIMC.
- Activate any other firmware.
- Export technical support or configuration data.

Procedure

Step 1 In the **Navigation** pane, click the **Admin** tab.

Step 2 On the **Admin** tab, click **Firmware Management**.

Step 3 In the **Actions** area, click **Activate CIMC Firmware**.
The **Activate Firmware** dialog box appears.

Step 4 In the **Activate Firmware** dialog box, choose the firmware image to activate.

Step 5 Click **Activate Firmware**.

Installing the BIOS Firmware Through the Browser

Note To avoid potential problems, we strongly recommend that you use the Host Upgrade Utility (HUU), which upgrades the CIMC, BIOS, and other firmware components to compatible levels. For detailed information about this utility, see the "Upgrading Firmware" chapter in the *Getting Started Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine*. This chapter also provides information about the compatible HUU, CIMC, and BIOS software releases.

If you choose to upgrade the CIMC and BIOS firmware manually—instead of using the HUU—you must update the CIMC firmware first, and then the BIOS firmware. Do not install the new BIOS firmware until after you have activated the compatible CIMC firmware or the server will not boot.

Before You Begin

- Log in to CIMC as a user with admin privileges.
- Obtain the CIMC firmware file from Cisco Systems. See Obtaining Software from Cisco Systems, on page 2.
- Unzip the proper upgrade file to your local machine.

Procedure

Step 1 In the **Navigation** pane, click the **Server** menu.

Step 2 On the **Server** tab, click **BIOS**.

Step 3 In the **Firmware Actions** area, click **Install BIOS Firmware through Browser Client**.

Step 4 In the **Install BIOS Firmware** dialog box, click **Browse** and use the **Choose File** dialog box to select the file to install.

Step 5 Click **Install Firmware**.
The BIOS is downloaded, the host is powered off, the BIOS is upgraded, and then the host is powered on.

Installing the BIOS Firmware from a TFTP Server

Note To avoid potential problems, we strongly recommend that you use the Host Upgrade Utility (HUU), which upgrades the CIMC, BIOS, and other firmware components to compatible levels. For detailed information about this utility, see the "Upgrading Firmware" chapter in the *Getting Started Guide for Cisco UCS E-Series Servers and the Cisco UCS E-Series Network Compute Engine*. This chapter also provides information about the compatible HUU, CIMC, and BIOS software releases.

If you choose to upgrade the CIMC and BIOS firmware manually—instead of using the HUU—you must update the CIMC firmware first, and then the BIOS firmware. Do not install the new BIOS firmware until after you have activated the compatible CIMC firmware or the server will not boot.

Before You Begin

- Log in to CIMC as a user with admin privileges.
- Obtain the CIMC firmware file from Cisco Systems. See Obtaining Software from Cisco Systems, on page 2.
- Unzip the proper upgrade file on your TFTP server.

Procedure

Step 1 In the **Navigation** pane, click the **Server** menu.

Step 2 On the **Server** tab, click **BIOS**.

Step 3 In the **Firmware Actions** area, click **Install BIOS Firmware from TFTP Server**.

Step 4 In the **Install BIOS Firmware** dialog box, complete the following fields:

Name	Description
TFTP Server IP Address field	The IP address of the TFTP server on which the BIOS firmware image resides.
Image Path and Filename field	The BIOS firmware image filename on the server. When you enter this name, include the relative path for the image file from the top of the TFTP tree to the file location.

Step 5 Click **Install Firmware**.
The BIOS is downloaded, the host is powered off, the BIOS is upgraded, and then the host is powered on.