



Cisco UCS Rack Multi-Server Host Update Utility

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Preface

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Audience

This guide is intended primarily for data center administrators with responsibilities and expertise in one or more of the following:

- Server administration
- Storage administration
- Network administration
- Network security

Conventions

Text Type	Indication
GUI elements	GUI elements such as tab titles, area names, and field labels appear in this font . Main titles such as window, dialog box, and wizard titles appear in this font .
Document titles	Document titles appear in <i>this font</i> .
TUI elements	In a Text-based User Interface, text the system displays appears in <i>this font</i> .
System output	Terminal sessions and information that the system displays appear in <i>this font</i> .
CLI commands	CLI command keywords appear in this font . Variables in a CLI command appear in <i>this font</i> .

Text Type	Indication
[]	Elements in square brackets are optional.
{x y z}	Required alternative keywords are grouped in braces and separated by vertical bars.
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
< >	Nonprinting characters such as passwords are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

**Note**

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.

**Tip**

Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.

**Caution**

Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

**Timesaver**

Means *the described action saves time*. You can save time by performing the action described in the paragraph.

**Warning****IMPORTANT SAFETY INSTRUCTIONS**

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS

Related Cisco UCS Documentation

Documentation Roadmaps

For a complete list of all B-Series documentation, see the *Cisco UCS B-Series Servers Documentation Roadmap* available at the following URL: <http://www.cisco.com/go/unifiedcomputing/b-series-doc>.

For a complete list of all C-Series documentation, see the *Cisco UCS C-Series Servers Documentation Roadmap* available at the following URL: <http://www.cisco.com/go/unifiedcomputing/c-series-doc>.

Other Documentation Resources

An ISO file containing all B and C-Series documents is available at the following URL: <http://www.cisco.com/cisco/software/type.html?mdfid=283853163&flowid=25821>. From this page, click **Unified Computing System (UCS) Documentation Roadmap Bundle**.

The ISO file is updated after every major documentation release.

Follow [Cisco UCS Docs on Twitter](#) to receive document update notifications.



CHAPTER

1

About the Cisco UCS Rack Multi-Server Host Upgrade Utilities

This chapter contains the following topics:

- [About the Cisco UCS Rack Multi-Server Host Upgrade Utilities, page 1](#)
- [Understanding the UCS Rack Server Host Update Utility User Interface, page 3](#)

About the Cisco UCS Rack Multi-Server Host Upgrade Utilities

The Cisco Host Upgrade Utility (hereafter referred to as the "HUU") is a tool that you can use to upgrade the firmware on one or multiple Cisco UCS C-Series servers. The HUU includes an option that enables you to download container for a selected platform on a Windows operating system. You can download the container from the HUU ISO by burning the ISO on a physical media and inserting the physical media will auto-run to launch a Index.html on your browser. The index.html provides access to the location to download the container. You also can download the container from the ISO using the standard ISO extraction utilities.

This release (1.5(x)) onwards, you are provided with options to upgrade firmware on multiple servers. The options are as follows:

- Using the UCS Rack Mount Firmware Upgrade Utility — This software, when installed on your machine, provides a user interface that enables you to choose and initiate the firmware upgrade.
- Using Windows PowerShell — A file containing a set of cmdlets is available. This is a non-interactive method that enables you to choose and initiate the upgrade by running these commands on Windows PowerShell.



Note

The options for a multi-server upgrade provide you with only the means to choose and initiate the upgrade; the actual upgrade is done by the HUU.

You can upgrade the firmware on the following components for various servers:

- Cisco Integrated Management Controller (CIMC)
- System BIOS

- LAN on motherboard (LOM)
- RAID controllers
- Cisco UCS P81E Virtual Interface Card (VIC)
- Cisco UCS VIC 1225
- Cisco UCS VIC 1225-T
- Broadcom PCI adapters:
 - 5709 Dual and Quad port adapters
 - 57712 Dual port adapter
 - 57712 10GBASE-T adapter
 - 57810 Dual Port adapter
- Intel PCI adapters:
 - 82576 quad port adapter
 - i350 Quad port adapter
 - X520 adapter
 - X540 adapter
- QLogic PCI adapters:
 - 2462 dual port adapter
 - 2562 dual port adapter
 - 8152 dual port 10 Gbps adapter
 - 8242 dual port 10 Gbps adapter
- Emulex PCI adapters:
 - LightPulse LPe11002 adapter
 - LightPulse LPe12002 adapter
 - OneConnect® OCe11102 dual-port adapter
 - OneConnect® OCe10102 adapter
- LSI
 - LSI SAS2008
 - LSI MegaRAID SAS 9220-4i
 - LSI MegaRAID SAS 9220-8i
 - LSI MegaRAID SAS 9240-8i
 - LSI MegaRAID SAS 9260-8i
 - LSI MegaRAID SAS 9261-8i

- LSI MegaRAID SAS 9266-8i
- LSI MegaRAID SAS 9266CV-8i
- LSI MegaRAID External SAS 9285-8e
- LSI MegaRAID SAS 9285CV-8e
- LSI MegaRAID SAS 9286CV-8e
- LSI MegaRAID SAS 9271CV-8i



Note

This is a complete list of all the components supported by various servers. While upgrading firmware for a particular server, HUU discovers and displays only the components supported by that server.

For more information on the components supported by various servers, see the *Release Notes for Cisco UCS C-Series Software, Release 1.5(x)* available at the following location:

http://www.cisco.com/en/US/products/ps10739/prod_release_notes_list.html

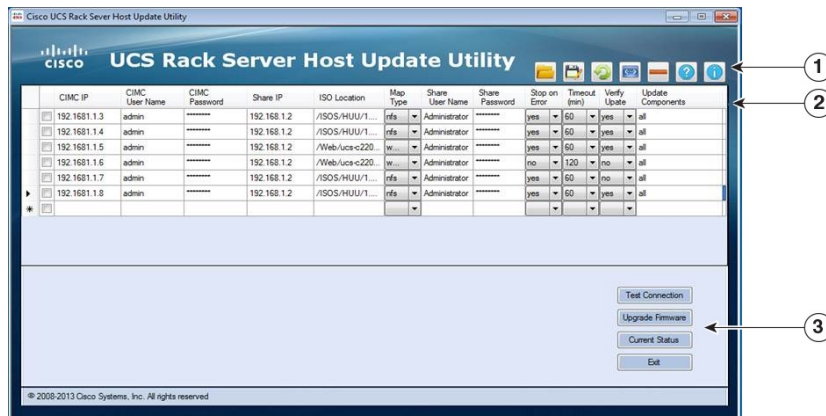
For information about upgrading the firmware on multiple C-Series servers using XML APIs, see the *Cisco UCS Rack-Mount Servers CIMC XML API Programmer's Guide* available at the following location:

http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/api/b_cimc_api_book.html

Understanding the UCS Rack Server Host Update Utility User Interface

This section provides a brief introduction to the UI elements in the various sections of the Cisco UCS Rack Server Host Update Utility user interface.

Figure 1: UCS Rack Server Host Update Utility User Interface



UI elements	Description
1. Fields:	

UI elements	Description
CIMC IP	CIMC IP address of the server for which you want to update the firmware version.
CIMC User Name	CIMC server username.
CIMC Password	CIMC server password.
Share IP	IP address of the remote server where the HUU ISO is located.
ISO Location	Shared path of the HUU ISO.
Map Type	Provides the list of the the remote HUU share map types to choose from.
Share User Name	Remote share username.
Share Password	Remote share password.
Stop on Error	yes and no depending on whether you want to stop the update when an error occurs.
Timeout (min)	Maximum time interval in minutes for communication between the CIMC and the host. If communication does not occur between the CIMC and host within the specified timeout interval, the update aborts. The allowed values are 20, 30, 40, 50 and 60. The recommended value is 60.
Verify Update	Option of yes or no depending on whether you want to verify the update or not.
Update Components	List of components that you can choose for the update.
Status	Status of the update.
2. Toolbar	The toolbar has options to save input details for a server update in the chosen row, reset inputs in a chosen row, reset the column size, view help information and so on.
3. Buttons:	
Upgrade Firmware	Initiates the firmware upgrade.
Test Connection	Checks if the CIMC is reachable.
Current Status	Provides the status of the upgrade.
Exit	Exits and closes the application.



Requirements and Support

This chapter contains the following topics:

- [Requirements, page 5](#)
- [Support, page 6](#)

Requirements



Important

Separate ISO containers are released for each server platform. Be sure to download the correct ISO container for the server.

Server	Container	Minimum CIMC and BIOS Version Requirements
C22	1.5.1b	CIMC version: 1.5(1b) BIOS version: 1.5.1c.0
C24	1.5.1b	CIMC version: 1.5(1b) BIOS version: 1.5.1c.0
C220	1.5.1b	CIMC version: 1.5(1b) BIOS version: 1.5.1c.0
C240	1.5.1b	CIMC version: 1.5(1b) BIOS version: 1.5.1c.0
C260	1.5.1b	CIMC version: 1.5(1b) BIOS version: 1.5.1.0
C420	1.5.1b	CIMC version: 1.5(1b) BIOS version: 1.5.1b.0

Server	Container	Minimum CIMC and BIOS Version Requirements
C460	1.5.1b	CIMC version: 1.5(1b) BIOS version: 1.5.1.0

Support

The Cisco Host Upgrade Utility checks for and then updates the firmware for LOM and LSI controller devices on Cisco UCS C-series servers. For a complete list of supported LOM and LSI controller devices on the supported servers, see the *Release Notes for Cisco UCS C-Series Software, Release 1.5(x)* available at the following location:

http://www.cisco.com/en/US/products/ps10739/prod_release_notes_list.html



Updating the Firmware on Cisco UCS C-Series Servers

This chapter includes the following topics:

- [Upgrading the Firmware on a Cisco UCS C-Series Server Using the HUU](#), page 7
- [Upgrading the Firmware on Multiple C-Series Servers](#), page 9

Upgrading the Firmware on a Cisco UCS C-Series Server Using the HUU

You can use the HUU ISO to upgrade components of the server from the host locally with a writable disk (DVD or CD), or remotely by mounting the HUU ISO as a virtual device. This following procedure explains how to upgrade the firmware using the HUU:

Step 1

Download the HUU ISO file:

- Navigate to the following URL: <http://www.cisco.com/cisco/software/navigator.html>.
- In the middle column, click **Servers – Unified Computing**.
- In the right-hand column, click **Cisco UCS C-Series Rack-Mount Standalone Server Software**.
- Choose the name of your model of server in the right column.
- Click **Unified Computing System (UCS) Server Firmware**.
- Choose the release number.
- Click **Download Now** to download the `ucs-server_platform-huu-version_number.iso` file.
- Verify the information on the next page, and click **Proceed With Download**.
- Continue through the subsequent screens to accept the license agreement and browse to a location where you want to save the file.

Step 2

If you want to prepare the ISO for a local upgrade, complete this step; Otherwise, go to Step 3.

- Burn the ISO image onto a writable disk (DVD, USB flash drive, or CD).
- Connect a VGA monitor and USB keyboard to the Cisco C-Series server.

- c) Insert the disk into the DVD drive of the Cisco C-Series server.
- d) Go to Step 4.

Step 3 Prepare the ISO for a remote upgrade using the **KVM Console**.

- a) Use a browser to connect to the CIMC GUI software on the server that you are upgrading.
- b) In the address field of the browser, enter the CIMC IP address for that server, and then enter your username and password.
- c) Click **Launch KVM Console** on the toolbar to launch the **KVM Console**.
- d) In the **KVM Console**, click the **Virtual Media**.
- e) Click **Add Image** and click the `ucs-server-name-huu-version_number.iso` file.
- f) In the **Client View** area, in the **Mapped** column, check the check box for the ISO file that you added and then wait for mapping to complete.
- g) After the ISO file appears as a mapped remote device, go to Step 4.

Step 4 Boot the server and press F6 when prompted to open the **Boot Menu** screen.

Step 5 In the **Boot Menu** screen, choose the prepared ISO:

- For a local upgrade, choose the physical CD/DVD device and then press Enter.
- For a remote upgrade, choose **Cisco vKVM-Mapped vDVD1.22**, and press Enter.

The server boots from the selected device.

Step 6 After the HUU boots, Cisco End User License Agreement (EULA) appears, read the EULA and click:

- I Agree to agree with the license agreement and proceed with the update.
- I Disagree to cancel.

After you accept the EULA, when the Cisco Host Upgrade Utility window appears with a list of all the components that are available for update.

Step 7 If you want to update all the listed components, click **Update all**.

Step 8 If you want update specific components from the list, choose the components that you want to update.

Step 9 Click **Update**.

- Note**
- We recommend that you update the BIOS each time that you update the CIMC firmware. We also recommend that you update the CIMC each time that you update the BIOS firmware.
 - If you update the CIMC firmware, after successfully completing the update, reboot the server to activate the new firmware.

This initiates the update and the status of the update is displayed in the **Update Status** column. You can also view a more detailed log of a series of activities and statuses that are involved while updating the firmware in the **Execution Logs** section.

Step 10 Reboot the server.

Step 11 Reboot the server, and click **Verify Last Update** to verify if the update was successfully completed. This action compares the previously updated firmware version for each component that was updated using the HUU with the current version of the firmware on the components and provides the status of the update.

Step 12 If you want to save the log files of the update status for later use, click **Save Logs**. Log files that contain a detailed status of the update are saved to an external USB device that is connected to the server physically or through the KVM vMedia.

Note If an error occurs while updating the firmware, you are prompted to save the error log. Click **Save Logs** to save the log to an externally connected USB. This log can be used for identifying the cause of the error and troubleshooting.

Step 13 Click **Exit** to exit from the HUU.

Note

- If you have updated the CIMC and not the BIOS, when you click Exit, CIMC gets activated and you lose connectivity to the CIMC and KVM.
- If you have selected LOM for update and you are on shared LOM mode, when you click Exit, you lose connectivity to the CIMC and KVM.

Upgrading the Firmware on Multiple C-Series Servers

Installing the UCS Rack Server Host Update Utility

To install the software, perform the following steps:

Step 1 Download the installer:

- Navigate to the following URL: <http://www.cisco.com/cisco/software/navigator.html>.
- In the middle column, click **Servers – Unified Computing**.
- Click **Cisco UCS Rack Server Host Update Utility**.
- Click **Download Now**.
- Verify the information on the next page and click **Proceed With Download**.
- Accept the license agreement and browse to a location where you want to save the installer.
- Click **Save**.

The installer is downloaded and saved at the specified location.

Step 2 Install the software:

- Browse to the location where you have saved the installer.
- Double-click on the **UCSRackMultiServerHUUIInstaller**.
The Security Warning screen appears.
- Click **Run**.
- In the **Setup Wizard**, click **Next**.
- Click **Browse** and select a folder where you want to install the software.
- Click **Next**.
The Confirm Installation window appears.
- Click **Next**.
This action starts the installation and a progress bar indicates the status of the installation. After the installation is complete, the Installation Complete screen appears.
- Click **Close** to complete the installation.

After the installation is complete, the UCS Rack Server Host Update Utility 1.0.(x) folder is created at the location you have chosen to install. This folder contains the UCSRackCmdlets.dll file (this file is used for firmware upgrade using Windows PowerShell), and the release notes with the other .dll files of the software.

Upgrading the Firmware on Multiple Servers Using the Software

To upgrade the firmware on multiple servers using the firmware upgrade software, perform the following steps:

-
- Step 1** Download the HUU ISO file:
- Navigate to the following URL: <http://www.cisco.com/cisco/software/navigator.html>.
 - In the middle column, click **Unified Computing and Servers**.
 - In the right column, click **Cisco UCS C-Series Rack-Mount Standalone Server Software**.
 - Click the name of your model of server in the right column.
 - Click **Unified Computing System (UCS) Server Firmware**.
 - Click the release number.
 - Click **Download Now** to download the `ucs-server_platform-huu-version_number.iso` file.
 - Verify the information on the next page, and then click **Proceed With Download**.
 - Continue through the subsequent screens to accept the license agreement and browse to a location where you want to save the file.
The ISO file is saved at the chosen location.
- Step 2** On the desktop, double-click the **UCS Rack Server Host Update Utility** or for Windows 7, choose **Start > All Programs > Cisco > UCS Rack Server Host Update Utility**.
The Cisco UCS Rack Server Firmware Upgrade screen appears.
- Step 3** Enter the following information:
- CIMC IP** — CIMC IP address of the server for which you want to update the firmware version.
For example: 10.xxx.255.xxx
 - CIMC User Name** — CIMC server username.
For example: username1
 - CIMC Password** — CIMC server password.
For example: 10.xxx.255.xxx
 - Share IP** — IP address of the remote server where the HUU ISO is located.
For example: 10.xxx.255.xxx
 - ISO Location** — The shared path of the HUU ISO.
For example: /<folder name>/ucs-c240-huu-1.x.0.xx.iso.
 - Map Type** — Choose the remote HUU share map type from the drop-down list.
For example: nfs
 - Share User Name** — Remote share user name.

Example: username2

- h) **Share Password** — Remote share password.
For example: password2
- i) **Stop on Error** — **Yes** if you want to stop the update when an error is detected or **No** to ignore errors and continue with the update.
- j) **Timeout (min)** — Valid timeout value. Valid values are as follows: 20, 30, 40, 50, and 60. The recommended value is 60.
- k) **Verify Update** — Yes if you want to verify the status of the update or **No** if you do not want to verify the updates.
- l) **Update Components** — When you click this field, a **Component List** pop-up window appears. choose all to choose all the components for the update or choose specific components that are available for the particular server that you want to update and click **OK**.
The list displays all components that are generally supported by a CIMC; you have to choose only the components that are available for a particular server.

- Step 4** If you want to update the firmware of more than one servers, choose the subsequent rows and enter the details for the servers.
 - Step 5** If you want to check if the CIMC is reachable, choose the row that has the server information and click **Test Connection**.
 - Step 6** Click **Upgrade Firmware**.
This action initiates the firmware update of the chosen servers and their components. The status of the update is indicated in the Status column. A log file with details of the status of the firmware update is saved in a folder called `FirmwareUpdateLog` in the default drive on your machine. The file is saved at a location as shown in the following example: `C:\FirmwareUpdateLog\Firmupdate10.xxx.xxx.240.txt`
 - Step 7** Click **Current Status** to view the status of the upgrade.
 - Step 8** If you want to save the inputs provided for the update for later use, choose the row that has the server details and click **Save Input**.
This action saves the details provided for a server in the chosen row. By default, the file with the details is saved as a .txt file in the following path: `c:(default drive on the machine which has the OS installed)\FirmwareUpdateLog\HUUInputs.txt`. The file format is as follows: CIMC_IP, CIMC_UserName, CIMC_Password, Share_IP, Share_Location, Map_Type, Share_UserName, Share_Password, Stop_On_Error, Time_Out, Verify_Update, Update_Components
 - Step 9** If you want to update the firmware for a server for which the upgrade inputs have been saved, click **Load Input** and browse to the folder where the file is located. Choose the file to load the inputs and run the update.
-



CHAPTER 4

Troubleshooting

This chapter contains the following topics:

- [Troubleshooting, page 13](#)
- [Error Messages, page 13](#)

Troubleshooting

The following table describes troubleshooting suggestions for issues that you might encounter.

Issue	Suggested Solution
Connection to CIMC is lost after an update and reboot and the KVM session ends.	This is expected behavior after a firmware update. Log back in to the CIMC and reestablish your KVM session.
The following error message is observed: <code>PID, Board Part Number, Product Part Number <PID, Board Part Number, Product Part Number> is not supported by this HUU image. HUU will not boot on this machine. Press any key to reboot the server.</code>	This error message is displayed when the HUU ISO is not supported by the server. Use the HUU ISO that is supported by the server.

Error Messages

The following table describes the error messages that you might encounter, and suggestions to resolve the issues .

Error Messages	Suggested Solution
Mounted media read/write error.	Check if the share is up.
The update timed out.	Restart the firmware update.

Error Messages	Suggested Solution
Firmware update not running.	Restart the firmware update.
Failed to initiate verify update.	Try again.
Unable to determine PlatformID. Only CIMC and BIOS component updates are supported.	Reboot the CIMC.
XXXX is an not a supported component.	Choose the components that are supported by the server.
Failed to save iso mapping information in BMC.	Restart the firmware update.
Failed to prepare HUU in BMC.	Restart the firmware update.
Failed to Map HUU ISO.	Check if the share is up and the user credentials.
Failed to set CDROM as first boot device.	Add the device to the boot order list.
Failed to prepare persistent area for HUU update.	Restart the firmware update.
Failed to get current boot order.	Configure the boot order.
Error initiating HUU Update.	Restart the firmware update.
Error starting HUU monitor thread.	Retry or restart the CIMC.