



Cisco UCS C-Series Server Integration with Cisco UCS Manager 1.4 and 2.0(1)

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Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Text Part Number: OL-27659-01

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Preface

This preface includes the following sections:

- [Audience, page v](#)
- [Conventions, page v](#)
- [Related Cisco UCS Documentation, page vii](#)
- [Documentation Feedback, page vii](#)

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> .

Text Type	Indication
CLI commands	CLI command keywords appear in this font . Variables in a CLI command appear in <i>this font</i> .
[]	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.

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to ucs-docfeedback@cisco.com. We appreciate your feedback.



CHAPTER

1

Cisco UCS C-Series Integration with Cisco UCS Manager

This chapter includes the following sections:

- [Overview, page 1](#)
- [Integrating Release 1.2\(2\) Server with Cisco UCS Manager 1.4 or 2.0\(1\), page 2](#)
- [Required Items for Integration with UCS Manager 1.4 or 2.0\(1\), page 2](#)
- [Connecting the Server with Cisco UCS Domain, page 3](#)
- [Physical Connectivity Illustrations, page 4](#)
- [Managing the Rack-Mount Server in Cisco UCS Manager after Integration, page 6](#)
- [Reverting a Server From Cisco UCS Domain Mode to Standalone Mode, page 7](#)

Overview

This guide contains information and procedures for installing Cisco UCS C200, C210 and C250 servers for integration with Cisco UCS Manager release 1.4 or 2.0.1.

Cisco UCS C-Series Rack-Mount Servers are managed by the built-in standalone software, Cisco Integrated Management Controller (CIMC). When a C-Series Rack-Mount Server is integrated with Cisco UCS Manager, the CIMC does not manage the server anymore. Instead it is managed with the Cisco UCS Manager software. You will manage the server using the Cisco UCS Manager GUI or Cisco UCS Manager CLI.



Important

If your server is not factory new, make sure to reset the server to factory default settings before integrating the server with Cisco UCS Manager.

You can integrate Cisco UCS C-Series Rack-Mount Servers with Cisco UCS Manager in either one of the following setup:

- **Cluster setup:** Using two fabric extenders (FEXes) to connect the C-Series Rack-Mount Server with two fabric interconnects.

- **Non-cluster setup:** Connecting the C-Series Rack-Mount Server with one FEX and one FI.

Integrating Release 1.2(2) Server with Cisco UCS Manager 1.4 or 2.0(1)

Release 1.2(2) servers have the firmware and settings prerequisites for Cisco UCS Manager built into them. You can connect them to the Cisco UCS Manager 1.4 or 2.0(1) immediately.



Note

Server release 1.3 does not support integration with Cisco UCS Manager. If you want to manage the server with Cisco UCS Manager, do not upgrade your server to later than 1.2(2) release version.

See the following URLs for additional information about the equipment in this configuration.

For information about the Cisco UCS 6100 Series or 6200 Series fabric interconnects (FIs) in the configuration, see the documentation at the following links:

- [Cisco UCS 6100 Series Fabric Interconnect documentation](#)
- [Cisco UCS 6200 Series Fabric Interconnect documentation](#)

For information about the Cisco Nexus 2248 fabric extenders (FEXes) in the configuration, see the documentation at the following link:

[Cisco Nexus 2000 Series Fabric Extender documentation](#)

Required Items for Integration with UCS Manager 1.4 or 2.0(1)

You must have the following items to integrate a C-Series Rack-Mount Server with Cisco UCS Manager:



Note

The hardware configuration will contain redundant network fabrics and paths for both management traffic and data traffic.

- A Cisco UCS system that is running Cisco UCS Manager release 1.4(1) or 2.0(1).
- A Cisco C-Series Rack-Mount Server C200, C210 or C250 server with a 10-Gb adapter card installed.



Note

If you install Cisco UCS P81E Virtual Interface Card (N2XX-ACPCI01), and want to use this card for UCS integration, the minimum card-firmware level requirement is 1.4(li). See the section on Special Considerations for the Cisco UCS P81E Virtual Interface Card (N2XX-ACPCI01), in [Install and Upgrade Guides](#).

- Two Cisco UCS 6100 Series or 6200 Series FIs. The switch ports where FEXes will be connected must be marked as server ports.
- Two Cisco Nexus 2248 FEXes.

**Note**

You must plug a power cord into each of the two power supplies in the FEX. If the power is connected and there are issues in the hardware, you might see “Major” faults reported during power-on self test (POST). For example, you might see this error: `Power supply 1 in fex 6 power: error`. You can clear these errors by connecting the missing power cord to the FEX power supply.

- Two RJ-45 Ethernet cables.
- Four 10-Gb SFP cables.

Connecting the Server with Cisco UCS Domain

Before connecting the server with the Cisco UCS domain, make sure you have the recommended card-firmware level for the integration. To view illustrations on the connectivity for each C-Series Rack-Mount Server, see [Physical Connectivity Illustrations](#), on page 4.

**Important**

Make sure the server CIMC is set to factory default settings to integrate with Cisco UCS Manager.

-
- Step 1** Install the server in the rack. See the *Install and Upgrade Guide* for the server that you are using. The install guides are available at the following url: [Install and Upgrade Guides](#).
- Step 2** To connect the management traffic paths, do the following:
- a) Connect an RJ-45 Ethernet cable between 1-Gb port Eth1 on the rear panel of the server and a port on a FEX that is connected to Fabric A. You can use any port on the FEX.
 - b) Connect an RJ-45 Ethernet cable between 1-Gb port Eth2 on the rear panel of the server and a port on a FEX that is connected to Fabric B. You can use any port on the FEX.
 - c) Connect a 10-Gb SFP cable between FEX A and a port on FI A. You can use any port on FI A, but the port must be enabled for server traffic.
 - d) Connect a 10-Gb SFP cable between FEX B and a port on FI B. You can use any port on FI B, but the port must be enabled for server traffic.
- Step 3** To connect the data traffic paths, do the following:
- a) Connect a 10-Gb SFP cable between the 10-Gb adapter card in the server and a port on FI A. You can use any port on FI A, but the port must be enabled for server traffic.
 - b) Connect a 10-Gb SFP cable between the 10-Gb adapter card in the server and a port on FI B. You can use any port on FI B, but the port must be enabled for server traffic.
- Step 4** Attach a power cord to each power supply in your server, and then attach the power cord to a grounded AC power outlet.
- Note** During bootup, the server beeps once for each USB device that is attached to the server. Even if there are no external USB devices attached, there is a short beep for each virtual USB device such as a virtual floppy drive, CD/DVD drive, keyboard, or mouse. A beep is also emitted if a USB device is hot-plugged or hot-unplugged during BIOS power-on self test (POST), or while you are accessing the BIOS Setup utility or the EFI shell.

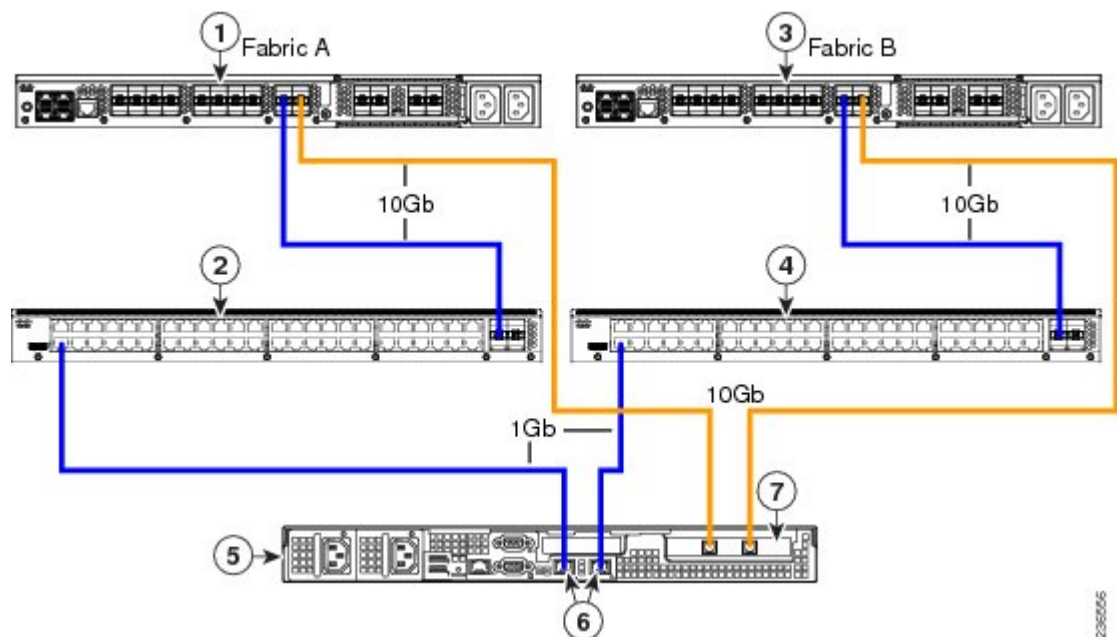
- Step 5** Connect a keyboard and VGA monitor to the server.
- Step 6** Reboot the server.
- Step 7** To view and configure settings for the server from within the Cisco UCS Manager software, see the information instructions in the [Cisco UCS Manager Configuration Guide for Release 1.4\(1\)](#) or the [Cisco UCS Manager Configuration Guide for Release 2.0\(1\)](#)

Physical Connectivity Illustrations

The following images shows the physical connectivity for each C-Series Rack-Mount Server with Cisco UCS Domain, Cisco UCS Manager, release 1.4 or 2.0.1.

The following image show the cabling configuration for Cisco UCS Manager integration with the C200 M2 server. The paths shown in blue carry management traffic. The paths shown in gold carry data traffic.

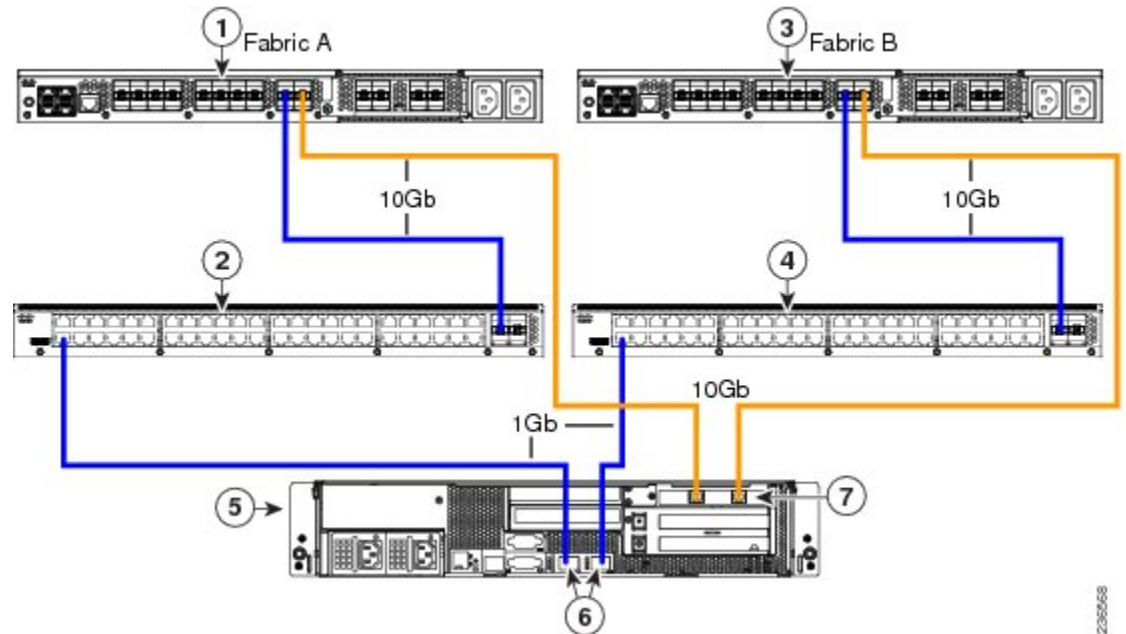
Figure 1: Cisco UCS C200 M2 Server



1	Cisco UCS 6100 Series or 6200 FI (Fabric A)	5	Cisco UCS C200 M2 Server
2	Cisco Nexus 2248 FEX (Fabric A)	6	1-Gb Ethernet LOM ports
3	Cisco UCS 6100 Series or 6200 FI (Fabric B)	7	10-Gb Adapter card in PCIe slot 6
4	Cisco Nexus 2248 FEX (Fabric B)	-	-

The following image show the cabling configuration for Cisco UCS Manager integration with the C210 M2 server. The paths shown in blue carry management traffic. The paths shown in gold carry data traffic.

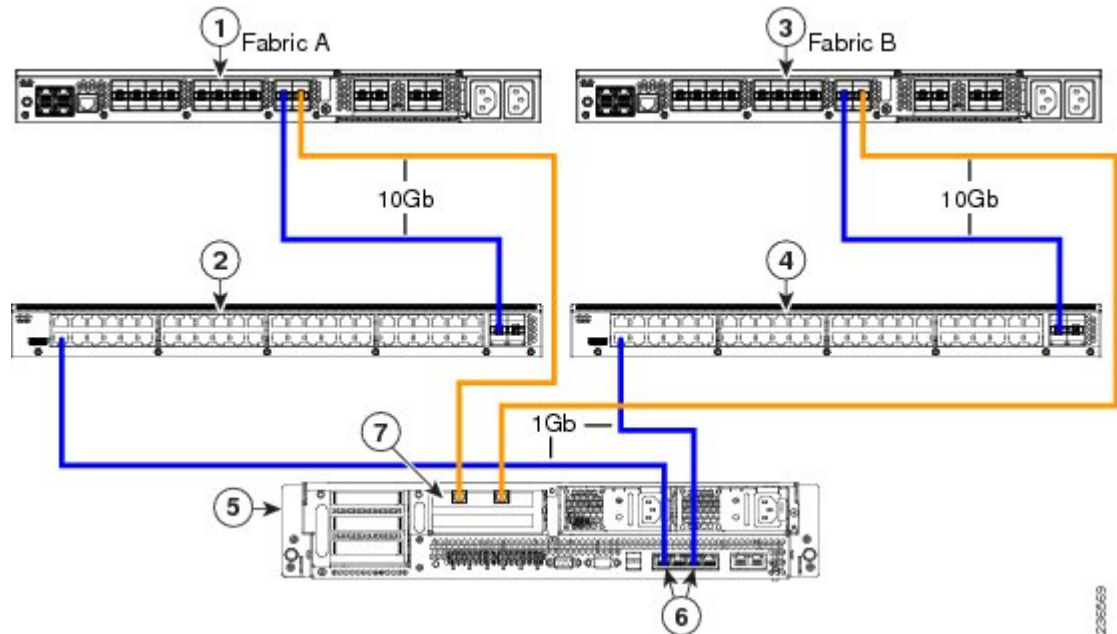
Figure 2: Cisco UCS C210 M2 Server



1	Cisco UCS 6100 Series or 6200 FI (Fabric A)	5	Cisco UCS C210 M2 Server
2	Cisco Nexus 2248 FEX (Fabric A)	6	1-Gb Ethernet LOM ports
3	Cisco UCS 6100 Series or 6200 FI (Fabric B)	7	10-Gb Adapter card in PCIe slot 1
4	Cisco Nexus 2248 FEX (Fabric B)	-	-

The following image show the cabling configuration for Cisco UCS Manager integration with the C250 M2 server. The paths shown in blue carry management traffic. The paths shown in gold carry data traffic.

Figure 3: Cisco UCS C250 M2 Server



1	Cisco UCS 6100 Series or 6200 FI (Fabric A)	5	Cisco UCS C250 M2 Server
2	Cisco Nexus 2248 FEX (Fabric A)	6	1-Gb Ethernet LOM ports Eth1 and Eth 3
3	Cisco UCS 6100 Series or 6200 FI (Fabric B)	7	10-Gb Adapter card in PCIe slot D
4	Cisco Nexus 2248 FEX (Fabric B)	-	-

Managing the Rack-Mount Server in Cisco UCS Manager after Integration

You can manage and monitor all rack-mount servers that have been integrated with a Cisco UCS domain through Cisco UCS Manager. After the integration, you will perform all rack-mount server management tasks only through the service profiles from Cisco UCS Manager GUI or Cisco UCS Manager CLI. The C-Series Rack-Mount Server CIMC is not accessible when you start managing the server with Cisco UCS Manager.

Cisco UCS Manager provides information, errors, and faults for each rack-mount server that it has discovered.

For more information on managing C-Series Rack-Mount Servers from Cisco UCS Manager, see the chapter on Managing Rack-Mount Servers in your release specific [Cisco UCS Manager GUI Configuration Guide](#).

Reverting a Server From Cisco UCS Domain Mode to Standalone Mode

When you manage a Cisco UCS C-Series server with Cisco UCS Manager software, a UCS Manager service profile is associated with the server. If you want to revert a C-Series server to standalone mode (so that it can be managed by CIMC software), you must do the following actions in UCS Manager:

Step 1 Disassociate the UCS Manager service profile from the server.

Step 2 Decommission the server.

Caution If you do not disassociate the service profile from the server, MAC and WWN numbers assigned by UCS Manager might be kept by the server. This can cause numbering duplication and conflicts with other servers that are managed by UCS Manager. Also, if you revert a server to standalone mode without disassociating its service profile, any LSI RAID controller will not show as a bootable device in the standalone server, preventing local booting.



Upgrading Earlier Release Servers for Cisco UCS Manager Integration

This chapter includes the following sections:

- [Overview, page 9](#)
- [Required Items for Upgrade, page 10](#)
- [Upgrading and Connection Procedures, page 10](#)
- [Upgrading the C-Series Server Firmware, page 11](#)
- [Updating Cisco UCS P81E VIC Firmware and uboot Image in Integrated Servers, page 13](#)

Overview

If your server version is earlier than 1.2 (2) release, and you want to integrate that server with Cisco UCS Manager, you have to upgrade the CIMC version to 1.2.



Important

- The server must be a Generation M2 (or later) server.
- Release 1.3(x) does not support UCS integration. Do not upgrade your server later than 1.2(2xx) if you want to use the server in UCSM mode with UCS Manager 1.4 or 2.0(1).

See the following URLs for additional information about the equipment in this configuration.

- For information about the Cisco UCS 6100 Series or 6200 Series fabric interconnects (FIs) in the configuration, see the documentation at the following links:
 - [Cisco UCS 6100 Series Fabric Interconnect documentation](#)
 - [Cisco UCS 6200 Series Fabric Interconnect documentation](#)
- For information about the Cisco Nexus 2248 fabric extenders (FEXes) in the configuration, see the documentation at the following link:
[Cisco Nexus 2000 Series Fabric Extender documentation](#)

Required Items for Upgrade

The hardware configuration described in this procedure provides redundant network fabrics and paths for both management traffic and data traffic. The following items are required to create this configuration.

- A Cisco UCS system running Cisco UCS Manager software release 1.4(1x) or 2.0(1x).
- A Cisco UCS C-Series M2 server with a Cisco 10-Gb adapter card installed.



Note

- The server CIMC and BIOS firmware must be at version 1.2(1a) or later before you can use the Cisco Host Upgrade Utility as described in this procedure.
- If you install a Cisco UCS P81E Virtual Interface Card (N2XX-ACPCI01), see Special Considerations for the Cisco UCS P81E Virtual Interface Card (N2XX-ACPCI01) in [Install and Upgrade Guides](#). To use this card for UCS integration, the minimum card-firmware level is 1.4(1i).

- A physical VGA monitor and a USB keyboard.
- The Cisco UCS C-Series 1.2(2xx) standalone software release container for your server. The software release is distributed on Cisco.com as an ISO file that contains the Host Upgrade Utility and required firmware.
- (Optional for local upgrades) A writable DVD with at least 23 MB of space.
- Two Cisco UCS 6100 Series or 6200 Series FIs.
- Two Cisco Nexus 2248 FEXes.



Note

You must plug a power cord into each of the two power supplies in the FEX. If a power supply is not connected to power, you might see “Major” faults reported during power-on self test (POST). For example, Power supply 1 in fex 6 power: error. You can clear these errors by connecting the missing power cord to the FEX power supply.

- Two RJ-45 Ethernet cables.
- Four 10-Gb SFP cables.

Upgrading and Connection Procedures

If your C-Series Rack-Mount Server card-firmware does not meet the required criteria for integration with Cisco UCS Manager, you must upgrade the server. Before upgrading, the server must be installed in your rack and connected to power. Upgrading an earlier release server to latest release version is a two step procedure:

- 1 [Upgrading the C-Series Server Firmware, on page 11](#)
- 2 [Connecting the C-Series Server with Cisco UCS Domain in Cluster Setup](#)

Upgrading the C-Series Server Firmware

Cisco UCS C-Series server CIMC Release version 1.2(2) is the required level for integration with Cisco UCS Manager 1.4 or 2.0(1). If your server CIMC release version does not meet the requirement for integration with Cisco UCS Manager, make sure to upgrade the server firmware before connecting the server with Cisco UCS domain. For more information on upgrading the C-series server firmware, see the host upgrade utility quick start guide for your release http://www.cisco.com/en/US/products/ps10493/products_user_guide_list.html

Step 1

Find the Host Upgrade Utility ISO file download for your server online and download it to a temporary location on your workstation:

- a) See the following URL: <http://www.cisco.com/cisco/software/navigator.html>
- b) Click **Unified Computing and Servers** in the middle column.
- c) Click **Cisco UCS C-Series Rack-Mount Standalone Server Software** in the right-hand column.
- d) Click your model of server in the right-hand column.
- e) Click **Unified Computing System (UCS) Server Firmware**.
- f) Click the release number that you are downloading.
- g) Click **Download Now** to download the ISO file.
- h) Verify the information on the next page, then click **Proceed With Download**.
- i) Continue through the subsequent screens to accept the license agreement and then browse to a location where you will save the ISO file.

Step 2

Prepare the ISO. For local upgrade, on a local media and for remote upgrade, as a virtual device:

Option	Description
Local upgrade	Perform the steps before going to Step 3: 1 Burn the ISO image onto a writable DVD. 2 Connect a VGA monitor and USB keyboard to the Cisco C-Series server. 3 Insert the DVD into the DVD drive of the Cisco C-Series server or an external DVD drive.

Option	Description
Remote upgrade	Perform the steps before going to Step 3: 1 Use a browser to connect to the CIMC Manager software on the server that you are upgrading. 2 Enter the CIMC IP address for that server in the address field of the browser, then enter your user name and password. 3 Launch a KVM Console window (click the KVM keyboard icon). 4 When the Virtual KVM Console window launches, select Tools > Launch Virtual Media. 5 In the Virtual Media Session window, click Add Image and navigate to the utility ISO file and select it. Navigate to the location where you downloaded the ISO. The ISO image is displayed in the Client View area. 6 In the Virtual Media Session window, select the check box in the Mapped column for the ISO file that you added, and then wait for mapping to complete. Observe the progress in the Details area. Now the ISO image is mapped to the remote device.

Step 3 Boot the server and press F6 when prompted to open the Boot Menu screen.

Step 4 On the Boot Menu screen, select the device where you prepared the ISO in Step 2:

- If you are upgrading locally, select the physical CD/DVD device and then press Enter (for example, SATA5:TSSCorp CDDVDW TS-L633C).
- If you are upgrading remotely, select Cisco Virtual CD/DVD and then press Enter.

The server is rebooted from the device you choose.

Step 5 A screen appears with the server BIOS and CIMC firmware versions. Answer the prompt, Have you read the Cisco EULA (end user license agreement)?

- Press y to accept the EULA and continue the update.
- Press n to read the EULA. The EULA is displayed and you are prompted to press y to continue the update, or n to cancel. If you press n, the server will reboot without updating.
- Press q to exit without updating. This selection reboots the server.

The **Host Upgrade Menu** screen displays.

Step 6 Upgrade all the firmware by entering the number for the **All the above** menu item at the Enter Choice prompt: The utility selects the correct firmware components for your server and then upgrades the firmware. Watch your console screen until you see confirmation that the upgrades were successful, then go to Step 7.

Step 7 In **Host Upgrade Menu**, at the Enter Choice prompt, enter the number for the **Reboot (Configures CIMC to UCSM mode—default factory settings)** menu item to reboot the server with UCSM mode settings. The utility reboots the server with UCSM mode settings. This mode allows integration with the Cisco UCS environment.

- Note**
- The new CIMC firmware is activated automatically during this reboot.
 - These UCSM mode settings enable DHCP, Active-Active NIC redundancy, and Shared LOM NIC mode, which enables CIMC control through the 1-Gb LOM ports, rather than the management port. Any static IP addresses and the management port are disabled, so you lose connection with the CIMC.

What to Do Next

After upgrading the server to the compatible server release version, you must establish the physical connection for the server to make it a part of Cisco UCS domain. To connect the server to your Cisco UCS FEXes and FIs, see [Connecting the Server with Cisco UCS Domain](#), on page 3.

Updating Cisco UCS P81E VIC Firmware and uboot Image in Integrated Servers

If your Cisco UCS P81E VIC firmware and uboot version is earlier than 2.0(2g), when you integrate the server with any Cisco UCS Manager version, the UCS Manager software will return discovery and associate/disassociate failures. To avoid such failures you can do the following:

- Before you integrate the server with UCS System, upgrade your P81E VIC firmware and uboot image to the required minimum 2.0(2g) level in standalone mode.
- If your server is already integrated, you cannot upgrade the P81E VIC uboot image in the UCS Manager software. You have to remove the server from the integration and then use Cisco Host Upgrade Utility to upgrade the card and server firmware.

The following procedure provides the process to upgrade when your server is integrated with Cisco UCS Manager.

-
- Step 1** Decommission the server from UCS Manager.
- Step 2** Disconnect the cables from the 1-Gb LOM ports on the server.
- Step 3** Connect an Ethernet line from your LAN to one of the 1-Gb LOM ports (not to the dedicated management port, which is disabled in UCSM mode).
- Step 4** Find the Host Upgrade Utility ISO file download for your server online and download it to a temporary location on your workstation:
- a) See the following URL: <http://www.cisco.com/cisco/software/navigator.html>
 - b) Click **Unified Computing and Servers** in the middle column.
 - c) Click **Cisco UCS C-Series Rack-Mount Standalone Server Software** in the right-hand column.
 - d) Click your model of server in the right-hand column.
 - e) Click **Unified Computing System (UCS) Server Firmware**.
 - f) Click the release number that you are downloading.
 - g) Click **Download Now** to download the ISO file.
 - h) Verify the information on the next page, then click **Proceed With Download**.

- i) Continue through the subsequent screens to accept the license agreement and then browse to a location where you will save the ISO file.

Step 5

Prepare the ISO. For local upgrade, on a local media and for remote upgrade, as a virtual device:

Option	Description
Local upgrade	Perform the steps before going to Step 3: 1 Burn the ISO image onto a writable DVD. 2 Connect a VGA monitor and USB keyboard to the Cisco C-Series server. 3 Insert the DVD into the DVD drive of the Cisco C-Series server or an external DVD drive.
Remote upgrade	Perform the steps before going to Step 3: 1 Use a browser to connect to the CIMC Manager software on the server that you are upgrading. 2 Enter the CIMC IP address for that server in the address field of the browser, then enter your user name and password. 3 Launch a KVM Console window (click the KVM keyboard icon). 4 When the Virtual KVM Console window launches, select Tools > Launch Virtual Media. 5 In the Virtual Media Session window, click Add Image and navigate to the utility ISO file and select it. Navigate to the location where you downloaded the ISO. The ISO image is displayed in the Client View area. 6 In the Virtual Media Session window, select the check box in the Mapped column for the ISO file that you added, and then wait for mapping to complete. Observe the progress in the Details area. Now the ISO image is mapped to the remote device.

Step 6

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

Step 7

On the Boot Menu screen, select the device where you prepared the ISO in Step 2:

- If you are upgrading locally, select the physical CD/DVD device and then press Enter (for example, SATA5:TSSSTcorp CDDVDW TS-L633C).
- If you are upgrading remotely, select **Cisco Virtual CD/DVD** and then press Enter.

The server is rebooted from the device you choose.

Step 8

A screen appears with the server BIOS and CIMC firmware versions. Answer the prompt, Have you read the Cisco EULA (end user license agreement)?

- Press y to accept the EULA and continue the update.
- Press n to read the EULA. The EULA is displayed and you are prompted to press y to continue the update, or n to cancel. If you press n, the server will reboot without updating.
- Press q to exit without updating. This selection reboots the server.

The **Host Upgrade Menu** screen displays.

- Step 9** Select the option to **Update UCS P81E VIC**. This will update the card firmware and uboot image to the required level.
- Step 10** Select the option to **Update CIMC Firmware**. This will update the CIMC firmware.
- Step 11** Verify the firmware levels on the next screen.
- Step 12** Select the option to **Reboot the machine**.
- Step 13** When you see the F8 prompt during rebooting, press F8 to open the CIMC Configuration Utility.
- Step 14** In the CIMC Configuration Utility, select the option **CIMC Factory Default**, then press F10 to save your changes.
- Step 15** Return the cables from the FEXes to the 1-Gb LOM ports on the server.
- Step 16** Recommission the server in UCS Manager.
-



Supported Network Adapter Cards for UCSM Mode

This chapter includes the following sections:

- [Overview, page 17](#)
- [Supported Adapter Cards, page 17](#)
- [Supported Card Combinations, page 18](#)

Overview

The following Network Adapter cards support Cisco UCS Manager integration :

- Cisco Virtual Interface Cards (VICs)
- Converged Network Adapters (CNAs)
- Ethernet adapters

Supported Adapter Cards

The following table shows the officially supported adapter cards for C-Series Rack-Mount Servers integration with Cisco UCS Manager.

Adapter/Server Model	C200 M2	C210 M2	C250 M2
Cisco UCS P81E VIC (N2XX-ACPCI01)	Y	Y	Y
Emulex OCe10102-F CNA (N2XX-AEPCI01)	Y	Y	Y

Adapter/Server Model	C200 M2	C210 M2	C250 M2
QLogic QLE8152 CNA (N2XX-AQPCI01)	Y	Y	Y
Broadcom BCM57711 10Gb (N2XX-ABPCI02)	Y	Y	Y
Intel X520 10Gb (N2XX-AIPCI01)	Y	Y	Y

Supported Card Combinations

The following are the only supported card combinations for the servers to be used in UCSM mode.

- Only Cisco Virtual Interface Cards (VICs) installed in the server. Do not mix with CNAs or Ethernet cards.
- Only one type of CNA (Q or E) installed in the server. Do not mix with VICs or Ethernet adapters.
- Only one type of Ethernet adapter (B or I) installed in the server. Do not mix with VICs or CNAs.



Special Considerations for Integrated Servers

This chapter includes the following sections:

- [Overview, page 19](#)
- [Supported FEX-to-FI Uplink Cable SFP Types, page 19](#)
- [Upgrading the C-Series Server Firmware, page 20](#)
- [Integrated Server Power States vs Service Profile Power States, page 22](#)
- [Cautions and Limitations for Adapter Cards, page 22](#)
- [FEX Considerations, page 23](#)

Overview

When you connect the C-Series servers in Cisco UCS system, make sure to review the following information:

- [Updating Cisco UCS P81E VIC Firmware and uboot Image in Integrated Servers, on page 13](#)
- [Integrated Server Power States vs Service Profile Power States, on page 22](#)
- [Cautions and Limitations for Adapter Cards, on page 22](#)
- [FEX Considerations, on page 23](#)

Supported FEX-to-FI Uplink Cable SFP Types

The C-Series UCSM integration requires six 10-Gb SFP cables for the following purposes:

- Linking the data traffic paths between server and 2248 FEX - 2 cables
- Uplinks from the 2248 FEXes to the FIs - 4 cables

Each of the four uplinks from the FEXes to the FIs can use either a Cisco 10-Gb twinax cable, or one of the following SFP types:

- SFP-10GE-SR

◦ FET-10GE

**Caution**

Do not mix SFP types on an uplink. If you mix SFP types on an uplink, you will get **Discovery failed** errors.

Upgrading the C-Series Server Firmware

Cisco UCS C-Series server CIMC Release version 1.2(2) is the required level for integration with Cisco UCS Manager 1.4 or 2.0(1). If your server CIMC release version does not meet the requirement for integration with Cisco UCS Manager, make sure to upgrade the server firmware before connecting the server with Cisco UCS domain. For more information on upgrading the C-series server firmware, see the host upgrade utility quick start guide for your release http://www.cisco.com/en/US/products/ps10493/products_user_guide_list.html

Step 1

Find the Host Upgrade Utility ISO file download for your server online and download it to a temporary location on your workstation:

- a) See the following URL: **<http://www.cisco.com/cisco/software/navigator.html>**
- b) Click **Unified Computing and Servers** in the middle column.
- c) Click **Cisco UCS C-Series Rack-Mount Standalone Server Software** in the right-hand column.
- d) Click your model of server in the right-hand column.
- e) Click **Unified Computing System (UCS) Server Firmware**.
- f) Click the release number that you are downloading.
- g) Click **Download Now** to download the ISO file.
- h) Verify the information on the next page, then click **Proceed With Download**.
- i) Continue through the subsequent screens to accept the license agreement and then browse to a location where you will save the ISO file.

Step 2

Prepare the ISO. For local upgrade, on a local media and for remote upgrade, as a virtual device:

Option	Description
Local upgrade	Perform the steps before going to Step 3: 1 Burn the ISO image onto a writable DVD. 2 Connect a VGA monitor and USB keyboard to the Cisco C-Series server. 3 Insert the DVD into the DVD drive of the Cisco C-Series server or an external DVD drive.

Option	Description
Remote upgrade	Perform the steps before going to Step 3: 1 Use a browser to connect to the CIMC Manager software on the server that you are upgrading. 2 Enter the CIMC IP address for that server in the address field of the browser, then enter your user name and password. 3 Launch a KVM Console window (click the KVM keyboard icon). 4 When the Virtual KVM Console window launches, select Tools > Launch Virtual Media. 5 In the Virtual Media Session window, click Add Image and navigate to the utility ISO file and select it. Navigate to the location where you downloaded the ISO. The ISO image is displayed in the Client View area. 6 In the Virtual Media Session window, select the check box in the Mapped column for the ISO file that you added, and then wait for mapping to complete. Observe the progress in the Details area. Now the ISO image is mapped to the remote device.

Step 3 Boot the server and press F6 when prompted to open the Boot Menu screen.

Step 4 On the Boot Menu screen, select the device where you prepared the ISO in Step 2:

- If you are upgrading locally, select the physical CD/DVD device and then press Enter (for example, SATA5:TSSTcorp CDDVDW TS-L633C).
- If you are upgrading remotely, select Cisco Virtual CD/DVD and then press Enter.

The server is rebooted from the device you choose.

Step 5 A screen appears with the server BIOS and CIMC firmware versions. Answer the prompt, Have you read the Cisco EULA (end user license agreement)?

- Press y to accept the EULA and continue the update.
- Press n to read the EULA. The EULA is displayed and you are prompted to press y to continue the update, or n to cancel. If you press n, the server will reboot without updating.
- Press q to exit without updating. This selection reboots the server.

The **Host Upgrade Menu** screen displays.

Step 6 Upgrade all the firmware by entering the number for the **All the above** menu item at the Enter Choice prompt. The utility selects the correct firmware components for your server and then upgrades the firmware. Watch your console screen until you see confirmation that the upgrades were successful, then go to Step 7.

Step 7 In **Host Upgrade Menu**, at the Enter Choice prompt, enter the number for the **Reboot (Configures CIMC to UCSM mode—default factory settings)** menu item to reboot the server with UCSM mode settings. The utility reboots the server with UCSM mode settings. This mode allows integration with the Cisco UCS environment.

- Note**
- The new CIMC firmware is activated automatically during this reboot.
 - These UCSM mode settings enable DHCP, Active-Active NIC redundancy, and Shared LOM NIC mode, which enables CIMC control through the 1-Gb LOM ports, rather than the management port. Any static IP addresses and the management port are disabled, so you lose connection with the CIMC.

What to Do Next

After upgrading the server to the compatible server release version, you must establish the physical connection for the server to make it a part of Cisco UCS domain. To connect the server to your Cisco UCS FEXes and FIs, see [Connecting the Server with Cisco UCS Domain, on page 3](#).

Integrated Server Power States vs Service Profile Power States

Using the power button or Cisco UCS Manager, if you set the desired power status to Down for an integrated C-Series server's associated service profile, when you try to rest the server to the desired power state, the server becomes out of sync with the actual power state. This may cause the server to shut down unexpectedly at a later time.

Use the Boot Server action in Cisco UCS Manager to safely reboot a server from a power-down state.

The following table shows how the physical server power states can differ from the Cisco UCS Manager service profile power states when the power button on the server is used.

Table 1: Difference in Server Power State and Service Profile Power State

Initial Service Profile Power State	Server Initial Power State	Action From Physical Power Button	Actual Server Power State After the Action	Power State Under UCSM Equipment Tab	Desired Power State Under Service Profile
Down	Off	Push button to turn on	On	On	Down
Up	On	Push button to turn off	Off	Off	Up

Cautions and Limitations for Adapter Cards

Make sure to consider the following when using the adapter cards in Cisco UCS C-Series server integration with Cisco UCS Manager:

- Cisco UCS Manager supports only four UCS managed adapter cards in the integrated Cisco UCS C-series servers, even if the server has more than four PCI slots. If you have more than four adapter cards in the server, after integration, the rack server discovery fails in Cisco UCS Manager.
- When you add, remove, or replace an adapter card in a UCS-managed server, you must first decommission the server in Cisco UCS Manager. After the operation, you must then recommission the server.

- If an integrated server contains two Cisco UCS P81E Virtual Interface Cards, the vNICs/vHBAs on Adapter 1 might have a higher PCI order in Cisco UCS Manager than the vNICs/vHBAs on Adapter 2.
- In C200 or C210 servers, BIOS version 1.4(3c) and later, you have an option to enable or disable SR-IOV/ARI (single-root I/O virtualization/alternative routing-ID interpretation) bus reservation. Whenever you change the SR-IOV/ARI bus reservation settings on a UCS-managed server, you must re-acknowledge the server.

FEX Considerations

Re-acknowledge Attached Servers After a 2248 FEX Is Decommissioned/Recommissioned

Whenever you decommission or recommission a Cisco UCS 2248 FEX, all the servers that are connected to that FEX must be re-acknowledged in UCS Manager.

