



CHAPTER 2

Installing the Server

This chapter describes how to install the server, and it includes the following sections:

- [Unpacking and Inspecting the Server, page 2-2](#)
- [Preparing for Server Installation, page 2-3](#)
- [Installing the Server In a Rack, page 2-5](#)
- [Initial Server Setup, page 2-9](#)
- [System BIOS and CIMC Firmware, page 2-13](#)
- [Updating the BIOS and CIMC Firmware, page 2-13](#)
- [Service Headers and Jumpers, page 2-15](#)



Note

Before you install, operate, or service a server, review the [Regulatory Compliance and Safety Information for Cisco UCS C-Series Servers](#) for important safety information.



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.
Statement 1071

SAVE THESE INSTRUCTIONS

Unpacking and Inspecting the Server

Caution When handling internal server components, wear an ESD strap and handle modules by the carrier edges only.

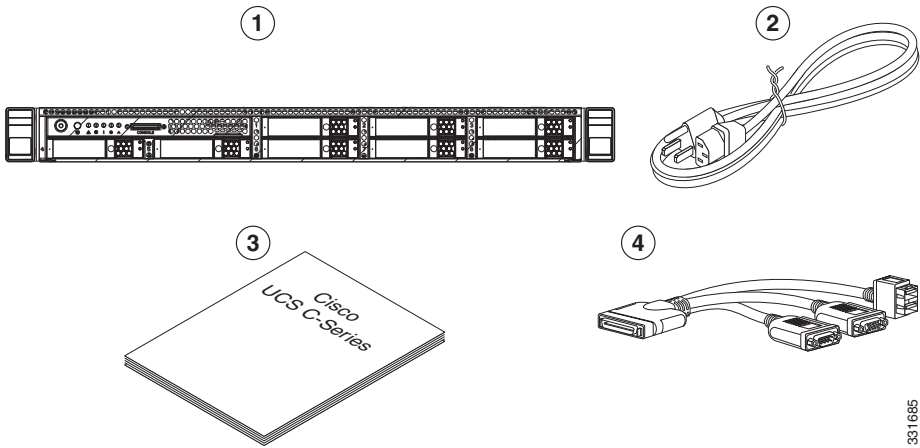
Tip Keep the shipping container in case the server requires shipping in the future.

Note The chassis is thoroughly inspected before shipment. If any damage occurred during transportation or any items are missing, contact your customer service representative immediately.

To inspect the shipment, follow these steps:

- Step 1** Remove the server from its cardboard container and save all packaging material.
- Step 2** Compare the shipment to the equipment list provided by your customer service representative and [Figure 2-1](#). Verify that you have all items.
- Step 3** Check for damage and report any discrepancies or damage to your customer service representative. Have the following information ready:
 - Invoice number of shipper (see the packing slip)
 - Model and serial number of the damaged unit
 - Description of damage
 - Effect of damage on the installation

Figure 2-1 Shipping Box Contents



1	Server	3	Documentation
2	Power cord (optional, up to two)	4	KVM cable

Preparing for Server Installation

This section provides information about preparing for server installation, and it includes the following topics:

- [Installation Guidelines, page 2-3](#)
- [Rack Requirements, page 2-4](#)
- [Equipment Requirements, page 2-4](#)
- [Slide Rail Adjustment Range, page 2-4](#)

Installation Guidelines



Warning

To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of: 40° C (104° F).

Statement 1047



Warning

The plug-socket combination must be accessible at all times, because it serves as the main disconnecting device.

Statement 1019



Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 250 V, 15 A.

Statement 1005



Warning

Installation of the equipment must comply with local and national electrical codes.

Statement 1074



Caution

All Cisco UCS C-Series rack servers are shipped with rail kits and are expected to be rack-mounted. To ensure proper air flow it is necessary to rack the servers using the provided rail kits. Physically placing the units on top of one another or "stacking" without the use of the rail kits blocks the air vents on top of the servers, which could result in overheating, higher fan speeds, and higher power consumption. It is recommended that you mount your servers on the rail kits when installing them into the rack because these rails provide the minimal spacing required between the servers. No additional spacing between the servers is required when you mount the units using the provided rail kits.



Caution

Avoid UPS types that use ferroresonant technology. These UPS types can become unstable with systems such as the Cisco UCS, which can have substantial current draw fluctuations from fluctuating data traffic patterns.

When you are installing a server, use the following guidelines:

- Plan your site configuration and prepare the site before installing the server. See the [Cisco UCS Site Preparation Guide](#) for the recommended site planning tasks.
- Ensure that there is adequate space around the server to allow for servicing the server and for adequate airflow. The airflow in this server is from front to back.
- Ensure that the air-conditioning meets the thermal requirements listed in the [Server Specifications](#).
- Ensure that the cabinet or rack meets the requirements listed in the “[Rack Requirements](#)” section on [page 2-4](#).
- Ensure that the site power meets the power requirements listed in the [Server Specifications](#). If available, you can use an uninterruptible power supply (UPS) to protect against power failures.

Rack Requirements

This section provides the requirements for the standard open racks.

The rack must be of the following type:

- A standard 19-in. (48.3-cm) wide, four-post EIA rack, with mounting posts that conform to English universal hole spacing, per section 1 of ANSI/EIA-310-D-1992.
- The rack post holes can be square 0.38-inch (9.6 mm), round 0.28-inch (7.1 mm), #12-24 UNC, or #10-32 UNC when you use the supplied slide rails.
- The minimum vertical rack space per server must be one RU, equal to 1.75 in. (44.45 mm).

Equipment Requirements

The slide rails supplied by Cisco Systems for this server do not require tools for installation. The inner rails (mounting brackets) are pre-attached to the sides of the server.

Slide Rail Adjustment Range

The slide rails for this server have an adjustment range of 24 to 36 inches (610 to 914 mm).

Installing the Server In a Rack

This section describes how to install the server in a rack.



Warning

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

This unit should be mounted at the bottom of the rack if it is the only unit in the rack.

When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.

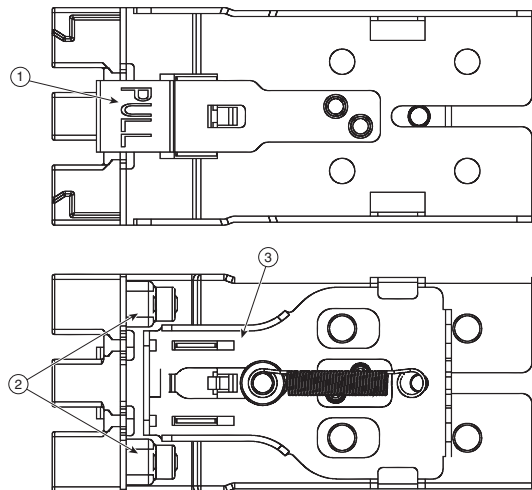
If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

Statement 1006

To install the slide rails and the server into a rack, follow these steps:

- Step 1** Open the front securing latch (see [Figure 2-2](#)). The end of the slide-rail assembly marked “FRONT” has a spring-loaded securing latch that must be open before you can insert the mounting pegs into the rack-post holes.
- On the rear side of the securing-latch assembly, hold open the clip marked “PULL.”
 - Slide the spring-loaded securing latch away from the mounting pegs.
 - Release the clip marked “PULL” to lock the securing latch in the open position.

Figure 2-2 Front Securing Latch



1	Clip marked “PULL” on rear of assembly	3	Spring-loaded securing latch on front of assembly
2	Front mounting pegs		

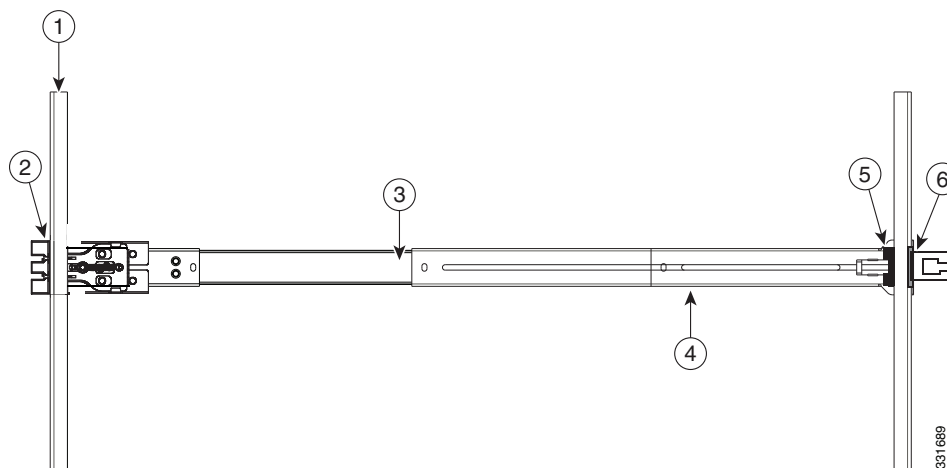
Step 2 Install the slide rails onto the rack:

- a. Position a slide-rail assembly inside the two left-side rack posts (see [Figure 2-3](#)).
Use the “FRONT” and “REAR” markings on the slide-rail assembly to orient the assembly correctly with the front and rear rack posts.
- b. Position the front mounting pegs so that they enter the desired front rack-post holes from the front.

**Note**

The mounting pegs that protrude through the rack-post holes are designed to fit round or square holes, or smaller #10-32 round holes when the mounting peg is compressed. If your rack has #10-32 rack-post holes, align the mounting pegs with the holes and then compress the spring-loaded pegs to expose the #10-32 inner peg.

- c. Expand the length-adjustment bracket until the rear mounting pegs protrude through the desired holes in the rear rack post.
Use your finger to hold the rear securing latch open when you insert the rear mounting pegs to their holes. When you release the latch, it wraps around the rack post and secures the slide-rail assembly.

Figure 2-3 Attaching a Slide-Rail Assembly

1	Front-left rack post	4	Length-adjustment bracket
2	Front mounting pegs	5	Rear mounting pegs
3	Slide-rail assembly	6	Rear securing latch

- d. Attach the second slide-rail assembly to the opposite side of the rack. Ensure that the two slide-rail assemblies are level and at the same height with each other.
- e. Pull the inner slide rails on each assembly out toward the rack front until they hit the internal stops and lock in place.

Step 3 Insert the server into the slide rails:**Note**

The inner rails are pre-attached to the sides of the server at the factory. You can order replacement inner rails if these are damaged or lost (Cisco PID UCSC-RAIL1-I).

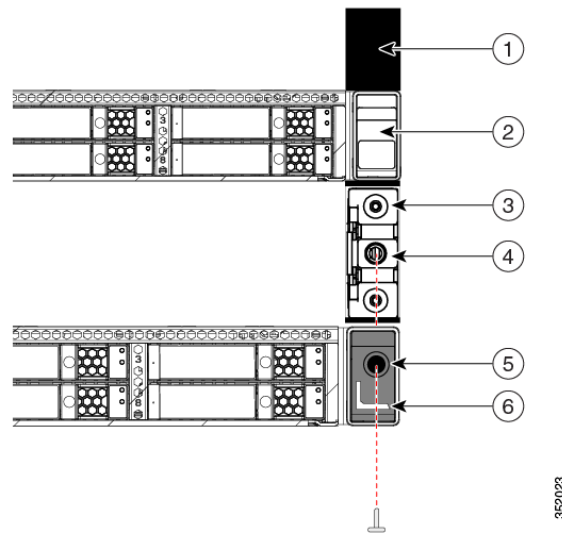
- a. Align the inner rails that are pre-attached to the server sides with the front ends of the empty slide rails.

- b. Push the server into the slide rails until it stops at the internal stops.
- c. Push in the plastic release clip on each inner rail (labelled PUSH), and then continue pushing the server into the rack until its front latches engage the rack posts.

Step 4 Optional: Secure the server in the rack more permanently by using the two screws provided. This might be desirable if you plan to move the rack with servers installed.

With the server fully pushed into the slide rails, open a hinged slam-latch lever on the front of the server and insert the screw through the hole that is under the lever. The screw threads into the static part of the rail on the rack post and prevents the server from being pulled out. Repeat for the opposite slam latch.

Figure 2-4 Optional Securing Screws



1	Rack post	4	Screw-hole on front end of slide rail
2	Slam-latch on server (closed)	5	Screw-hole on slam-latch when open
3	Front end of slide rail on rack-post	6	Slam-latch on server (open)

Step 5 Optional: Attach the cable management arm (CMA) to the rear of the slide rails:



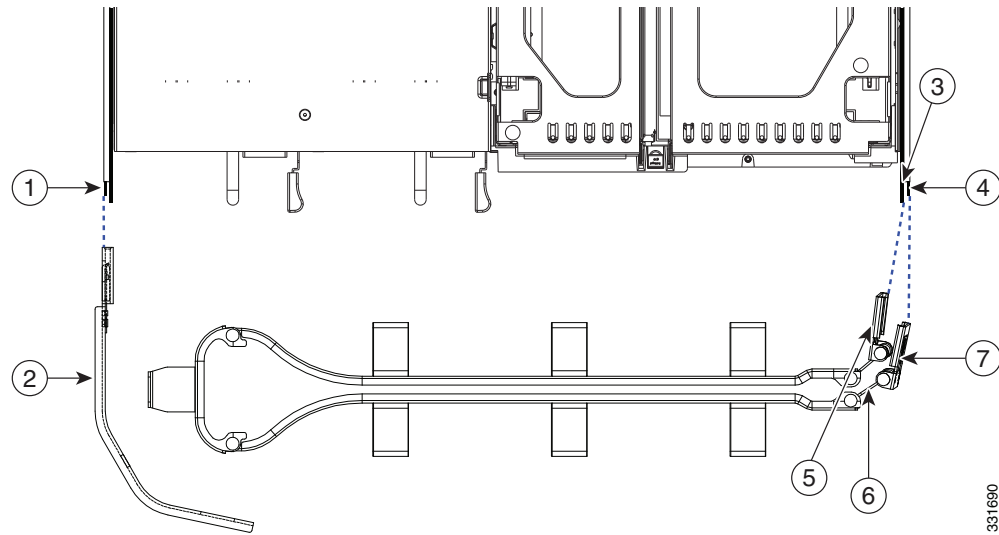
Note The CMA is designed for mounting on either the right or left slide rails. These instructions describe an installation to the rear of the right slide rails, as viewed from the rear of server.

- a. Slide the plastic clip on the inner CMA arm over the flange on the mounting bracket that attached to the side of the server. See [Figure 2-5](#).



Note Whether you are mounting the CMA to the left or right slide rails, be sure to orient the engraved marking, “UP” so that it is always on the upper side of the CMA. See [Figure 2-5](#).

- b. Slide the plastic clip on the outer CMA arm over the flange on the slide rail. See [Figure 2-5](#).
- c. Attach the CMA retaining bracket to the left slide rail. Slide the plastic clip on the bracket over the flange on the end of the left slide rail. See [Figure 2-5](#).

Figure 2-5 Attaching the Cable Management Arm (Rear of Server Shown)

1	Flange on rear of outer left slide rail	5	Inner CMA arm attachment clip
2	CMA retaining bracket	6	“UP” orientation marking
3	Flange on rear of right mounting bracket	7	Outer CMA arm attachment clip
4	Flange on rear of outer right slide rail		

Step 6 Continue with the [“Initial Server Setup”](#) section on page 2-9.

Initial Server Setup

This section includes the following topics:

- [Connecting and Powering On the Server \(Standalone Mode\)](#), page 2-9
- [NIC Modes and NIC Redundancy Settings](#), page 2-12

Connecting and Powering On the Server (Standalone Mode)

**Note**

This section describes how to power on the server, assign an IP address, and connect to server management when using the server *in standalone mode*. To use the server in UCS integration, specific cabling and settings are required. See [Installation for Cisco UCS Integration](#), page D-1.

**Note**

The server is shipped with a default NIC mode called Shared LOM EXT, default NIC redundancy is active-active, and DHCP is enabled. Shared LOM EXT mode enables the 1-Gb Ethernet ports and the ports on any installed Cisco virtual interface card (VIC) to access the Cisco Integrated Management Interface (CIMC). If you want to use the dedicated management ports to access the CIMC, you can connect to the server and change the NIC mode as described in [Step 3](#) of the following procedure. In that step, you can also change the NIC redundancy and set static IP settings.

Use the following procedure to perform initial setup of the server:

Step 1

Attach a supplied power cord to each power supply in your server, and then attach the power cord to a grounded AC power outlet. See the [Power Specifications](#), page A-3 for power specifications.

Wait for approximately two minutes to let the server boot in standby power during the first bootup.

You can verify power status by looking at the Power Status LED (see [Figure 1-1 on page 1-2](#)):

- Off—There is no AC power present in the server.
- Amber—The server is in standby power mode. Power is supplied only to the CIMC and some motherboard functions.
- Green—The server is in main power mode. Power is supplied to all server components.

**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 2

Connect a USB keyboard and VGA monitor by using the supplied KVM cable connected to the KVM connector on the front panel (see [Figure 1-1 on page 1-2](#)).

**Note**

Alternatively, you can use the VGA and USB ports on the rear panel. However, you cannot use the front panel VGA and the rear panel VGA at the same time. If you are connected to one VGA connector and you then connect a video device to the other connector, the first VGA connector is disabled.

- Step 3** Set NIC mode, NIC redundancy, and choose whether to enable DHCP or set static network settings:
- Press the **Power** button to boot the server. Watch for the prompt to press F8.
 - During bootup, press **F8** when prompted to open the BIOS CIMC Configuration Utility.
 - Set the NIC mode to your choice for which ports to use to access the CIMC for server management (see [Figure 1-3 on page 1-3](#) for identification of the ports):

- Shared LOM EXT (default)—This is shared LOM extended mode. This is the factory-default setting, along with Active-active NIC redundancy and DHCP-enabled. With this mode, the shared LOM and Cisco Card interfaces are both enabled.

In this mode, DHCP replies are returned to both the shared LOM ports and the Cisco card ports. If the system determines that the Cisco card connection is not getting its IP address from a Cisco UCS Manager system because the server is in standalone mode, further DHCP requests from the Cisco card are disabled. Use the Cisco Card NIC mode if you want to connect to the CIMC through a Cisco card in standalone mode.

- Dedicated—The dedicated management port is used to access the CIMC. You must select a NIC redundancy and IP setting.
- Shared LOM—The 1-Gb Ethernet ports are used to access the CIMC. You must select a NIC redundancy and IP setting.
- Cisco Card—The ports on an installed Cisco UCS virtual interface card (VIC) are used to access the CIMC. You must select a NIC redundancy and IP setting.



Note The Cisco Card NIC mode is currently supported only with a Cisco UCS VIC that is installed in PCIe slot 1. See also [Special Considerations for Cisco UCS Virtual Interface Cards, page 3-37](#).

- Use this utility to change the NIC redundancy to your preference. This server has three possible NIC redundancy settings:
 - None—The Ethernet ports operate independently and do not fail over if there is a problem.
 - Active-standby—If an active Ethernet port fails, traffic fails over to a standby port.
 - Active-active—All Ethernet ports are utilized simultaneously. See [NIC Modes and NIC Redundancy Settings, page 2-12](#) for more information.
- Choose whether to enable DHCP for dynamic network settings, or to enter static network settings.



Note Before you enable DHCP, your DHCP server must be preconfigured with the range of MAC addresses for this server. The MAC address is printed on a label on the rear of the server. This server has a range of six MAC addresses assigned to the CIMC. The MAC address printed on the label is the beginning of the range of six contiguous MAC addresses.

- Optional: Use this utility to make VLAN settings, and to set a default CIMC user password.



Note Changes to the settings take effect after approximately 45 seconds. Refresh with **F5** and wait until the new settings appear before you reboot the server in the next step.

- Press **F10** to save your settings and reboot the server.



Note If you chose to enable DHCP, the dynamically assigned IP and MAC addresses are displayed on the console screen during bootup.

Step 4 Connect to the CIMC for server management. Connect Ethernet cables from your LAN to the server, using the ports that you selected by your NIC Mode setting in [Step 3](#). The Active-active and Active-passive NIC redundancy settings require you to connect to two ports.

Step 5 Use a browser and the IP address of the CIMC to connect to the CIMC Setup Utility. The IP address is based upon the settings that you made in [Step 3](#) (either a static address or the address assigned by your DHCP server).



Note The default user name for the server is *admin*. The default password is *password*.

To manage the server, see the *Cisco UCS C-Series Rack-Mount Server Configuration Guide* or the *Cisco UCS C-Series Rack-Mount Server CLI Configuration Guide* for instructions on using those interfaces. The links to these documents are in the C-Series documentation roadmap:

<http://www.cisco.com/go/unifiedcomputing/c-series-doc>

NIC Modes and NIC Redundancy Settings

This server has the following NIC mode settings that you can choose from:

- Shared LOM EXT (default)—This is shared LOM extended mode. This is the factory-default setting, along with Active-active NIC redundancy and DHCP-enabled. With this mode, the shared LOM and Cisco Card interfaces are both enabled.

In this mode, DHCP replies are returned to both the shared LOM ports and the Cisco card ports. If the system determines that the Cisco card connection is not getting its IP address from a Cisco UCS Manager system because the server is in standalone mode, further DHCP requests from the Cisco card are disabled. If the system determines that the Cisco card connection is getting its IP address from a Cisco UCS Manager system, the reply has parameters that automatically move the server to UCSM mode.

- Dedicated—The dedicated management port is used to access the CIMC. You must select a NIC redundancy and IP setting.
- Shared LOM—The 1-Gb Ethernet ports are used to access the CIMC. You must select a NIC redundancy and IP setting.
- Cisco Card—The ports on an installed Cisco UCS virtual interface card (VIC) are used to access the CIMC. You must select a NIC redundancy and IP setting.



Note The Cisco Card NIC mode is currently supported only with a Cisco UCS VIC that is installed in PCIe slot 1. See also [Special Considerations for Cisco UCS Virtual Interface Cards, page 3-37](#).

This server has the following NIC redundancy settings that you can choose from:

- None—The Ethernet ports operate independently and do not fail over if there is a problem.
- Active-standby—If an active Ethernet port fails, traffic fails over to a standby port.
- Active-active—All Ethernet ports are utilized simultaneously.

The active/active setting uses Mode 5 or Balance-TLB (adaptive transmit load balancing). This is channel bonding that does not require any special switch support. The outgoing traffic is distributed according to the current load (computed relative to the speed) on each slave. Incoming traffic is received by the current slave. If the receiving slave fails, another slave takes over the MAC address of the failed receiving slave.

System BIOS and CIMC Firmware

This section includes information about the system BIOS and it includes the following sections:

- [Updating the BIOS and CIMC Firmware, page 2-13](#)
- [Accessing the System BIOS, page 2-14](#)

Updating the BIOS and CIMC Firmware



Caution

When you upgrade the BIOS firmware, you must also upgrade the CIMC firmware to the same version or the server will not boot. Do not power off the server until the BIOS and CIMC firmware are matching or the server will not boot.

Cisco provides the Cisco Host Upgrade Utility to assist with simultaneously upgrading the BIOS, CIMC, and other firmware to compatible levels.

The server uses firmware obtained from and certified by Cisco. Cisco provides release notes with each firmware image. There are several methods for updating the firmware:

- **Recommended method for systems running firmware level 1.2 or later:** Use the Cisco Host Upgrade Utility to simultaneously upgrade the CIMC, BIOS, LOM, LSI storage controller, and Cisco UCS P81E VIC firmware to compatible levels.

See the *Cisco Host Upgrade Utility Quick Reference Guide* for your firmware level at the documentation roadmap link below.



Note

Your system firmware must be at minimum level 1.2 to use the Cisco Host Upgrade Utility. If your firmware is prior to level 1.2, you must use the methods below to update the BIOS and CIMC firmware individually.

- You can upgrade the BIOS using the EFI interface, or upgrade from a Windows or Linux platform. See the *Cisco UCS C-Series Rack-Mount Server BIOS Upgrade Guide*.
- You can upgrade the CIMC and BIOS firmware by using the CIMC GUI interface. See the *Cisco UCS C-Series Rack-Mount Server Configuration Guide*.
- You can upgrade the CIMC and BIOS firmware by using the CIMC CLI interface. See the *Cisco UCS C-Series Rack-Mount Server CLI Configuration Guide*.

For links to the documents listed above, see the documentation roadmap at the following URL:

<http://www.cisco.com/go/unifiedcomputing/c-series-doc>

Accessing the System BIOS

To change the BIOS settings for your server, follow these steps. Detailed instructions are also printed on the BIOS screens.

-
- Step 1** Enter the BIOS setup utility by pressing the **F2** key when prompted during bootup.



Note The version and build of the current BIOS are displayed on the Main page of the utility.

- Step 2** Use the arrow keys to select the BIOS menu page.
- Step 3** Highlight the field to be modified by using the arrow keys.
- Step 4** Press **Enter** to select the field that you want to change, and then modify the value in the field.
- Step 5** Press the right arrow key until the Exit menu screen is displayed.
- Step 6** Follow the instructions on the Exit menu screen to save your changes and exit the setup utility (or Press **F10**). You can exit without saving changes by pressing **Esc**.
-

Service Headers and Jumpers

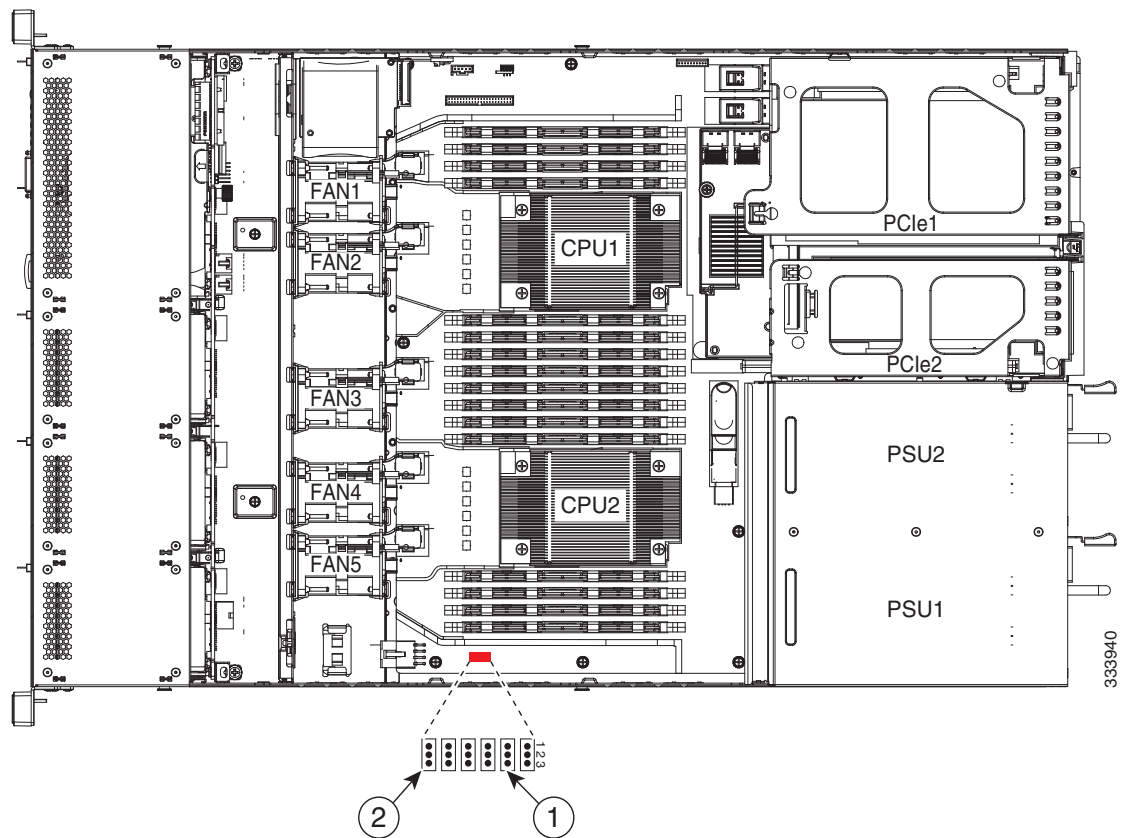
This section includes the following topics:

- [Header Locations on the Motherboard, page 2-15](#)
- [Using the BIOS Recovery Header J41, page 2-16](#)
- [Using the Clear CMOS Header J37, page 2-19](#)

Header Locations on the Motherboard

See [Figure 2-6](#). The block of headers is shown in red. The individual headers are shown in the magnified view. The pin numbering is the same for all headers in the block.

Figure 2-6 Service Header Locations



1	J41 BIOS RCVR BOOT	2	J37 Clear CMOS
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Using the BIOS Recovery Header J41

Depending on which stage the BIOS becomes corrupted, you might see different behavior.

- If the BIOS BootBlock is corrupted, you might see the system get stuck on the following message:

```
Initializing and configuring memory/hardware
```

- If it is a non-BootBlock corruption, the following message is displayed:

```
****BIOS FLASH IMAGE CORRUPTED****
Flash a valid BIOS capsule file using CIMC WebGUI or CLI interface.
IF CIMC INTERFACE IS NOT AVAILABLE, FOLLOW THE STEPS MENTIONED BELOW.
1. Connect the USB stick with recovery.cap file in root folder.
2. Reset the host.
IF THESE STEPS DO NOT RECOVER THE BIOS
1. Power off the system.
2. Mount recovery jumper.
3. Connect the USB stick with recovery.cap file in root folder.
4. Power on the system.
Wait for a few seconds if already plugged in the USB stick.
REFER TO SYSTEM MANUAL FOR ANY ISSUES.
```



Note

As indicated by the message shown above, there are two procedures for recovering the BIOS. Try procedure 1 first, then if that does not recover the BIOS, use procedure 2.



Note

The server must have CIMC version 1.4(6) or later to use these procedures.

Procedure 1: Reboot With recovery.cap File

- Step 1** Download the BIOS update package and extract it to a temporary location.
- Step 2** Copy the contents of the extracted recovery folder to the root directory of a USB thumb drive. The recovery folder contains the recovery.cap file that is required in this procedure.



Note

The recovery.cap file must be in the root directory of the USB thumb drive. Do not rename this file. The USB thumb drive must be formatted with either FAT16 or FAT32 file systems.

- Step 3** Insert the USB thumb drive into a USB port on the server.
- Step 4** Reboot the server.
- Step 5** Return the server to main power mode by pressing the **Power** button on the front panel.

The server boots with the updated BIOS boot block. When the BIOS detects a valid recovery.cap file on the USB thumb drive, it displays this message:

```
Found a valid recovery file...Transferring to CIMC
System would flash the BIOS image now...
System would restart with recovered image after a few seconds...
```

- Step 6** Wait for server to complete the BIOS update, then remove the USB thumb drive from the server.

**Note**

During the BIOS update, the CIMC will shut down the server and the screen will be blank for about 10 minutes. Do not unplug the power cords during this update. The CIMC will power on the server after the update is complete.

Procedure 2: Use Recovery Jumper and recovery.cap File

See [Figure 2-6](#) for the location of the J41 header.

- Step 1** Download the BIOS update package and extract it to a temporary location.
- Step 2** Copy the contents of the extracted recovery folder to the root directory of a USB thumb drive. The recovery folder contains the recovery.cap file that is required in this procedure.



Note The recovery.cap file must be in the root directory of the USB thumb drive. Do not rename this file. The USB thumb drive must be formatted with either FAT16 or FAT32 file systems.

- Step 3** Power off the server as described in [Shutting Down and Powering Off the Server, page 3-7](#).
- Step 4** Disconnect all power cords from the power supplies.
- Step 5** Slide the server out the front of the rack far enough so that you can remove the top cover. You might have to detach cables from the rear panel to provide clearance.



Caution If you cannot safely view and access the component, remove the server from the rack.

- Step 6** Remove the top cover as described in [Removing and Replacing the Server Top Cover, page 3-8](#).
- Step 7** Move the shorting jumper to pins 2 and 3 of the J41 header (see [Figure 2-6](#)).
- Step 8** Reconnect AC power cords to the server. The server powers up to standby power mode.
- Step 9** Insert the USB thumb drive that you prepared in [Step 2](#) into a USB port on the server.
- Step 10** Return the server to main power mode by pressing the **Power** button on the front panel.
- The server boots with the updated BIOS boot block. When the BIOS detects a valid recovery.cap file on the USB thumb drive, it displays this message:

```
Found a valid recovery file...Transferring to CIMC
System would flash the BIOS image now...
System would restart with recovered image after a few seconds...
```

- Step 11** Wait for server to complete the BIOS update, then remove the USB thumb drive from the server.



Note During the BIOS update, the CIMC will shut down the server and the screen will be blank for about 10 minutes. Do not unplug the power cords during this update. The CIMC will power on the server after the update is complete.

- Step 12** After the server has fully booted, power off the server again and disconnect all power cords.
- Step 13** Move the jumper back to the default pins 1 and 2 of the J41 header.



Note If you do not move the jumper, after recovery completion you see the prompt, Please remove the recovery jumper.

- Step 14** Replace the top cover, replace the server in the rack, replace power cords and any other cables, then power on the server by pressing the **Power** button.

Using the Clear CMOS Header J37

See [Figure 2-6](#) for the location of this header. You can jumper this header to clear the server's CMOS settings in the case of a system hang. For example, if the server hangs because of incorrect settings and does not boot, use this jumper to invalidate the settings and reboot with defaults.

**Caution**

Clearing the CMOS removes any customized settings and might result in data loss. Make a note of any necessary customized settings in the BIOS before you use this clear CMOS procedure.

- Step 1** Power off the server as described in [Shutting Down and Powering Off the Server, page 3-7](#).
- Step 2** Disconnect all power cords from the power supplies.
- Step 3** Slide the server out the front of the rack far enough so that you can remove the top cover. You might have to detach cables from the rear panel to provide clearance.

**Caution**

If you cannot safely view and access the component, remove the server from the rack.

- Step 4** Remove the top cover as described in [Removing and Replacing the Server Top Cover, page 3-8](#).
- Step 5** Move the shorting jumper to pins 2 and 3 of the J37 header (see [Figure 2-6](#)).
- Step 6** Reinstall the top cover and reconnect AC power cords to the server. The server powers up to standby power mode, indicated when the Power LED on the front panel is amber.
- Step 7** Return the server to main power mode by pressing the **Power** button on the front panel. The server is in main power mode when the Power LED is green.

**Note**

You must allow the entire server, not just the service processor, to reboot to main power mode to complete the reset. This is because the state of the jumper cannot be determined without the host CPU running.

- Step 8** Press the **Power** button to shut down the server to standby power mode, and then remove AC power cords from the server to remove all power.
- Step 9** Remove the top cover from the server.
- Step 10** Move the shorting jumper from header pins 2 and 3, back to its default position on pins 1 and 2.

**Note**

If you do not move the jumper, the CMOS settings are reset to the default every time that you power-cycle the server.

- Step 11** Replace the top cover, replace the server in the rack, replace power cords and any other cables, then power on the server by pressing the **Power** button.

