

Cisco Nexus Dashboard Hardware Setup Guide for UCS-C220-M5 Servers

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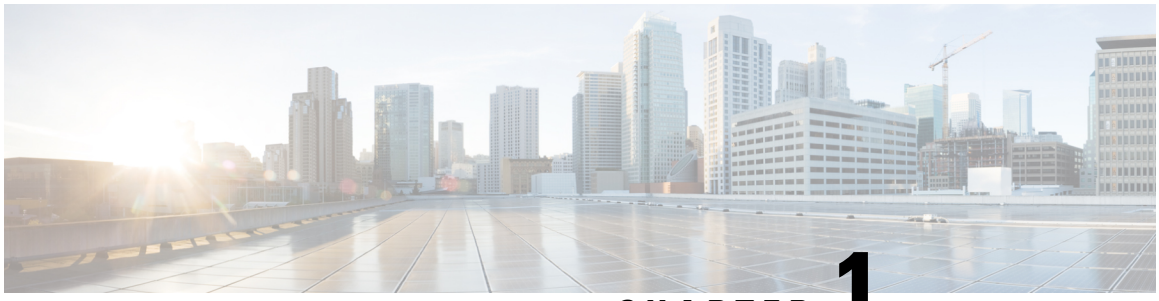
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CHAPTER 1

Overview

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- External Features, on page 1
- Serviceable Component Locations, on page 4
- Summary of Server Features, on page 6

Overview

Cisco Nexus Dashboard provides a common platform for deploying Cisco Data Center applications. These applications provide real time analytics, visibility and assurance for policy and infrastructure.

The Cisco Nexus Dashboard server is required for installing and hosting the Cisco Nexus Dashboard application.

The server is orderable in the following version:

- SE-CL-L3 — Small form-factor (SFF) drives, with 10-drive backplane. Supports up to 10 2.5-inch SAS/SATA drives. Drive bays 1 and 2 support NVMe SSDs.

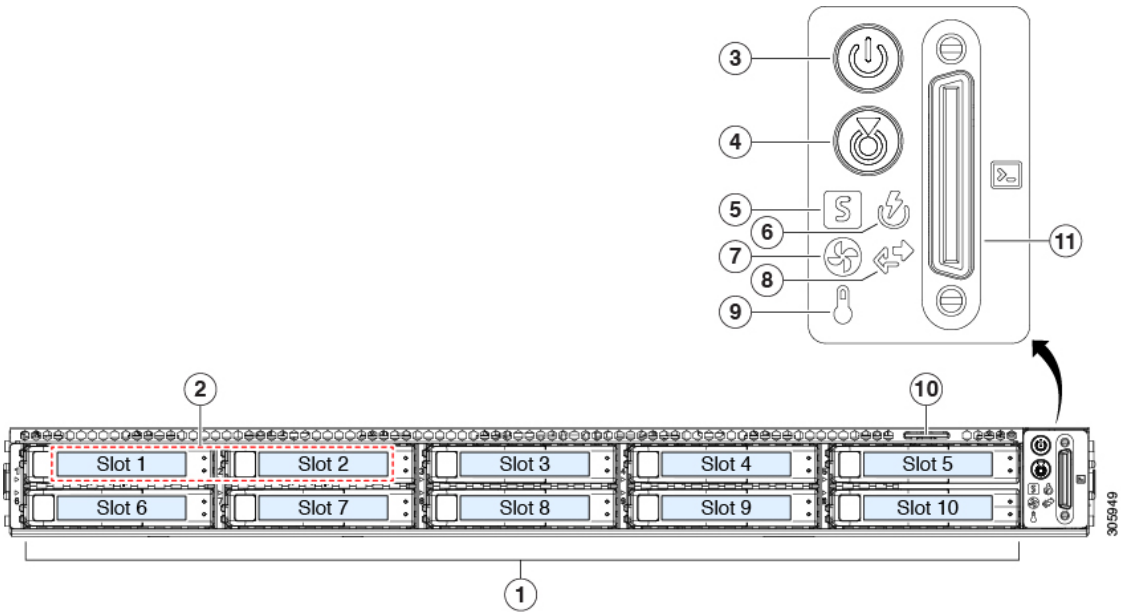
External Features

This topic shows the external features of the server versions.

Cisco SE-CL-L3 (SFF Drives) Front Panel Features

The following figure shows the front panel features of the small form-factor drive versions of the server.

Figure 1: Cisco SE-CL-L3 (SFF Drives) Front Panel

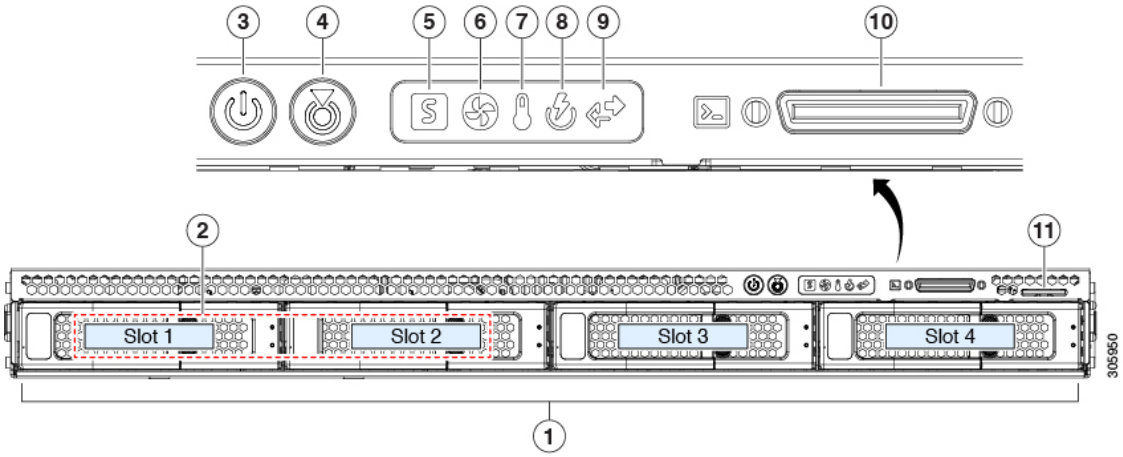


1 Drive bays 1 – 10 support SAS/SATA hard disk drives (HDDs) and solid state drives (SSDs)	7 Fan status LED
2 • SE-CL-L3 : Drive bays 1 and 2 support NVMe PCIe SSDs.	8 Network link activity LED
3 Power button/power status LED	9 Temperature status LED
4 Unit identification button/LED	10 Pull-out asset tag
5 System status LED	11 KVM connector (used with KVM cable that provides one DB-15 VGA, one DB-9 serial, and two USB connectors)
6 Power supply status LED	-

SE-CL-L3 (LFF Drives) Front Panel Features

The following figure shows the front panel features of the large form-factor drive version of the server.

Figure 2: SE-CL-L3 (LFF Drives) Front Panel

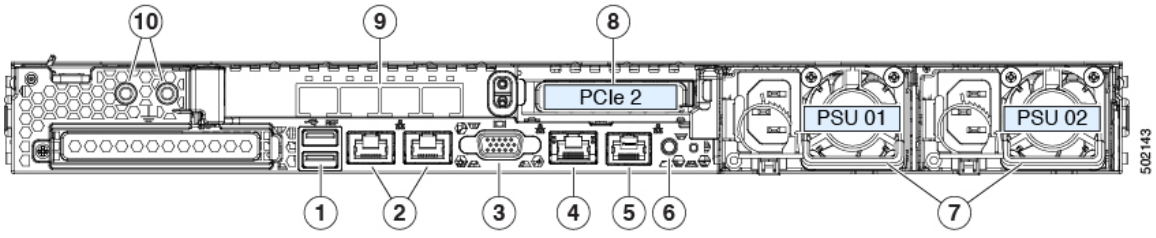


1 Drive bays 1 – 4 support SAS/SATA HDDs and SSDs	7 Temperature status LED
2 Drive bays 1 and 2 support NVMe PCIe SSDs. A size-converter drive sled is required if 2.5-inch SSDs are used.	8 Power supply status LED
3 Power button/power status LED	9 Network link activity LED
4 Unit identification button/LED	10 KVM connector (used with KVM cable that provides one DB-15 VGA, one DB-9 serial, and two USB connectors)
5 System health LED	11 Pull-out asset tag
6 Fan status LED	-

SE-CL-L3 Rear Panel Features

The rear panel features are the same for all versions of the server.

Figure 3: SE-CL-L3 Rear Panel



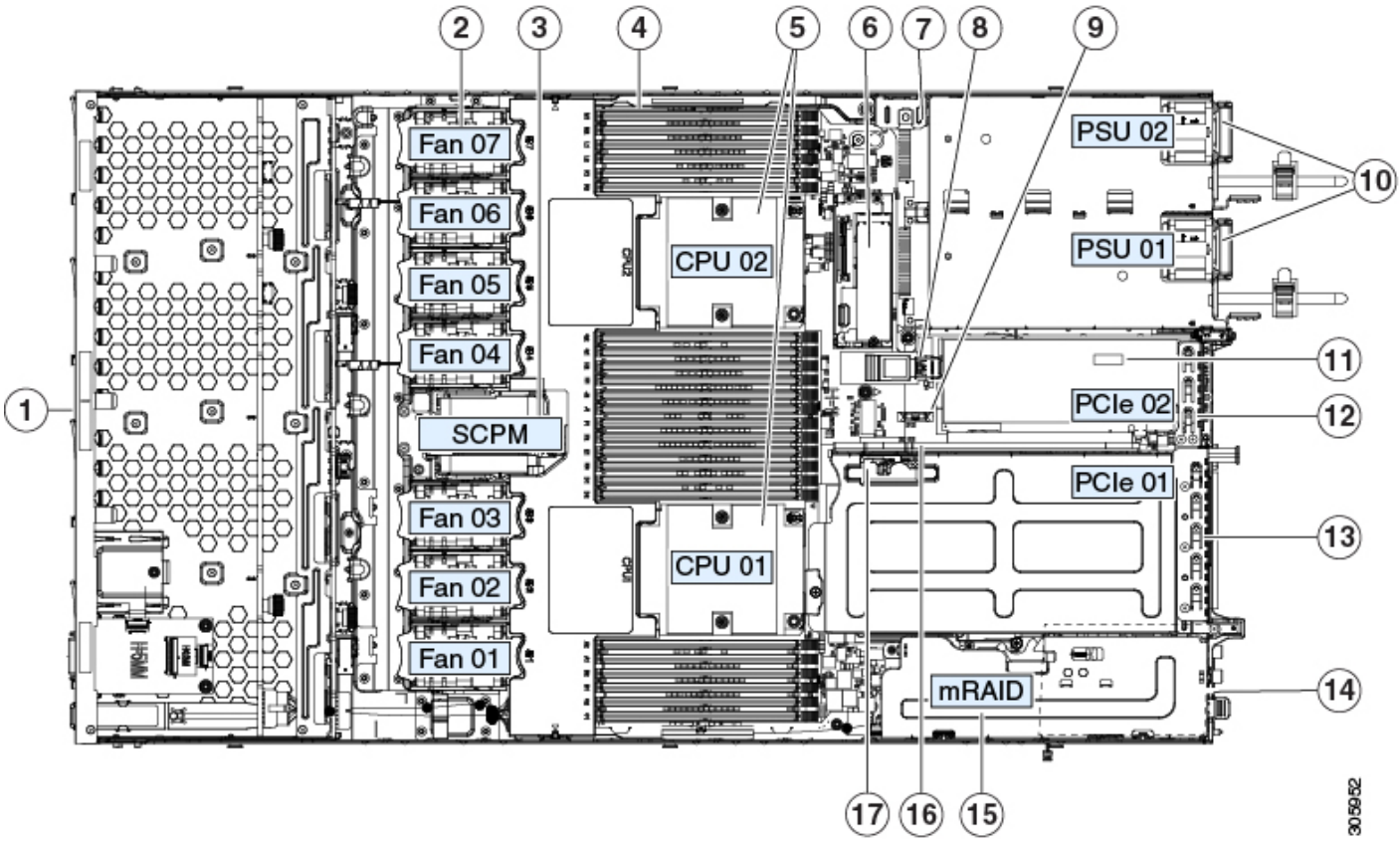
1 USB 3.0 ports (two)	6 Rear unit identification button/LED

2 Dual 1-Gb/10-Gb Ethernet ports (LAN1 and LAN2) The dual LAN ports can support 1 Gbps and 10 Gbps, depending on the link partner capability. These correspond to `eth1-1` (`eth0`) and `eth1-2` (`eth1`) respectively.	7 Power supplies (two, redundant as 1+1)
3 VGA video port (DB-15 connector)	8 PCIe riser 1/slot 1 (x16 lane) Includes PCIe cable connectors for front-loading NVMe SSDs (x8 lane)
4 1-Gb Ethernet dedicated management port	9 Quad 10-Gb/25-Gb ports. These correspond to `eth 2-1` to `eth 2-4`. Only 2 interfaces out of the 4 are active at a time (`eth2-1/2-2` or `eth2-3/2-4`) in active/standby mode.
5 Serial port (RJ-45 connector)	10 Threaded holes for dual-hole grounding lug

Serviceable Component Locations

This topic shows the locations of the field-replaceable components and service-related items. The view in the following figure shows the server with the top cover removed.

Figure 4: SE-CL-L3 , Serviceable Component Locations



1 Front-loading drive bays 1–10 support SAS/SATA drives. • SE-CL-L3 : Drive bays 1 and 2 support NVMe PCIe SSDs.	10 Power supplies (hot-swappable when redundant as 1+1)
2 Cooling fan modules (seven, hot-swappable)	11 Trusted platform module (TPM) socket on motherboard (not visible in this view)
3 Supercap unit mounting bracket (RAID backup)	12 PCIe riser 2/slot 2 (half-height, x16 lane) Includes PCIe cable connectors for front-loading NVMe SSDs (x8 lane)
4 DIMM sockets on motherboard (12 per CPU)	13 PCIe riser 1/slot 1 (full-height, x16 lane) Includes socket for Micro-SD card
5 CPUs and heatsinks (up to two)	14 Modular LOM (mLOM) card bay on chassis floor (x16 PCIe lane), not visible in this view

6 Mini-storage module socket. Options: • SD card module with two SD card slots • M.2 module with slots for either two SATA M.2 drives or two NVMe M.2 drives • Cisco Boot-Optimized M.2 RAID Controller (module with two slots for SATA M.2 drives, plus an integrated SATA RAID controller that can control the two M.2 drives in a RAID 1 array)	5 Modular RAID (mRAID) riser, can optionally be a riser that supports either: • Hardware RAID controller card • Interposer card for embedded SATA RAID
7 Chassis intrusion switch (optional)	6 PCIe cable connectors for front-loading NVMe SSDs on PCIe riser 2
8 Internal USB 3.0 port on motherboard	7 Micro-SD card socket on PCIe riser 1
9 RTC battery, vertical socket	-

Summary of Server Features

The following table lists a summary of server features.

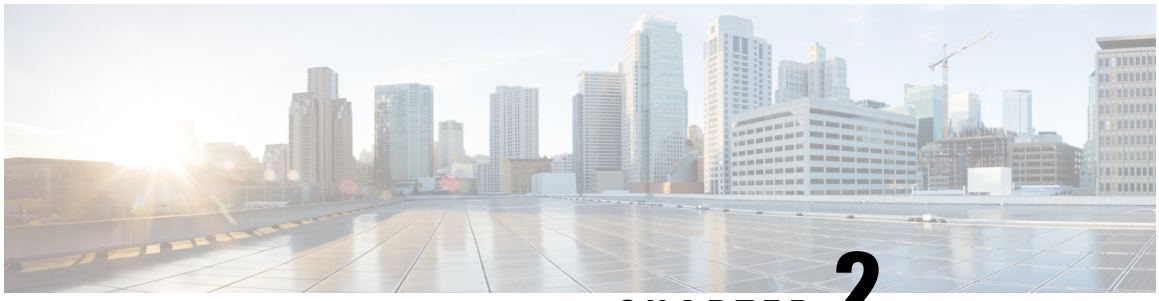
Feature	Description
Chassis	One rack-unit (1RU) chassis
Central Processor	Up to two CPUs from the Intel Xeon Processor Scalable Family. This includes CPUs from the following series: • Intel Xeon Silver 4XXX Processors
Memory	24 DDR4 DIMM sockets on the motherboard (12 each CPU)
Multi-bit error protection	Multi-bit error protection is supported
Baseboard management	BMC, running Cisco Integrated Management Controller (Cisco IMC) firmware. Depending on your Cisco IMC settings, Cisco IMC can be accessed through the 1-Gb dedicated management port, the 1-Gb/10-Gb Ethernet LAN ports, or a Cisco virtual interface card.

Feature	Description
Network and management I/O	Rear panel: • One 1-Gb Ethernet dedicated management port (RJ-45 connector) • Two 1-Gb/10-Gb BASE-T Ethernet LAN ports (RJ-45 connectors) The dual LAN ports can support 1 Gbps and 10 Gbps, depending on the link partner capability. • One RS-232 serial port (RJ-45 connector) • One VGA video connector port (DB-15 connector) • Two USB 3.0 ports Front panel: • One front-panel keyboard/video/mouse (KVM) connector that is used with the KVM cable, which provides two USB 2.0, one VGA, and one DB-9 serial connector.
Modular LOM	One dedicated socket (x16 PCIe lane) that can be used to add an mLOM card for additional rear-panel connectivity.
Power	One power supply: • AC power supplies 1050 W AC each
ACPI	The advanced configuration and power interface (ACPI) 4.0 standard is supported.
Cooling	Seven hot-swappable fan modules for front-to-rear cooling.
PCIe I/O	Two horizontal PCIe expansion slots on a PCIe riser assembly.
InfiniBand	The PCIe bus slots in this server support the InfiniBand architecture.
Storage, front-panel	The server is orderable in three different versions, each with a different front panel/drive-backplane configuration. • SE-CL-L3 , Small form-factor (SFF) drives, with 10-drive backplane. Supports up to 10 2.5-inch SAS/SATA drives. Drive bays 1 and 2 support NVMe SSDs.

Feature	Description

Storage, internal	The server has these internal storage options:
	• One USB port on the motherboard.
	• One micro-SD card socket on PCIe riser 1.
	• Mini-storage module socket, optionally with either:
	  • SD card module. Supports up to two SD cards.
	  • M.2 SSD module. Supports either two SATA M.2 SSDs or two NVMe M.2 SSDs.
	  • Cisco Boot-Optimized M.2 RAID Controller (module with two slots for SATA M.2 drives, plus an integrated SATA RAID controller that can control the two SATA M.2 drives in a RAID 1 array)

Storage management	The server has a dedicated internal mRAID riser that supports one of the following storage-controller options: • A PCIe-style Cisco modular RAID controller card (SAS/SATA). • A PCIe-style interposer card for the server's embedded SATA RAID controller.
RAID backup	The server has a mounting bracket near the cooling fans for the supercap unit that is used with the Cisco modular RAID controller card.
Integrated video	Integrated VGA video.



CHAPTER 2

Installing the Server

- Preparing for Installation, on page 9
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Preparing for Installation

This section contains the following topics:

Installation Warnings and Guidelines

Note Before you install, operate, or service a server, review the Regulatory Compliance and Safety Information 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

Warning **To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of: 35° C (95° 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

Warning **This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock, and key, or other means of security.**

Statement 1017

Caution To ensure proper airflow it is necessary to rack the servers using 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. We recommend that you mount your servers on rail kits when you are 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 rail kits.

Caution Avoid uninterruptible power supply (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.

- Ensure that there is adequate space around the server to allow for accessing 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 Environmental Specifications, on page 23.
- Ensure that the cabinet or rack meets the requirements listed in the Rack Requirements, on page 11.
- Ensure that the site power meets the power requirements listed in the Power Specifications, on page 24. If available, you can use an uninterruptible power supply (UPS) to protect against power failures.

Rack Requirements

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 Cisco-supplied slide rails.
- The minimum vertical rack space per server must be one rack unit (RU), equal to 1.75 in. (44.45 mm).

Supported Cisco Slide Rail Kits

The server supports the following rail kit:

- Cisco part UCSC-RAILB-M4= (ball-bearing slide rail kit)

Rack Installation Tools Required

The slide rails sold by Cisco Systems for this server do not require tools for installation.

Slide Rail and Cable Management Arm Dimensions

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

The optional cable management arm (CMA) adds additional length requirements:

- The additional distance from the rear of the server to the rear of the CMA is 5.4 inches (137.4 mm).
- The total length of the server including the CMA is 35.2 inches (894 mm).

Installing 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

Procedure

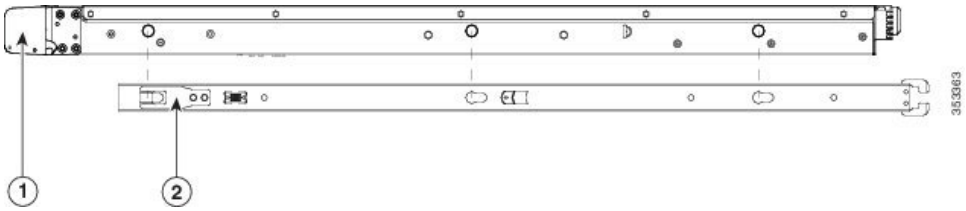
Step 1 Attach the inner rails to the sides of the server:

a) Align an inner rail with one side of the server so that the three keyed slots in the rail align with the three pegs on the side of the server.

b) Set the keyed slots over the pegs, and then slide the rail toward the front to lock it in place on the pegs. The front slot has a metal clip that locks over the front peg.

c) Install the second inner rail to the opposite side of the server.

Figure 5: Attaching the Inner Rail to the Side of the Server

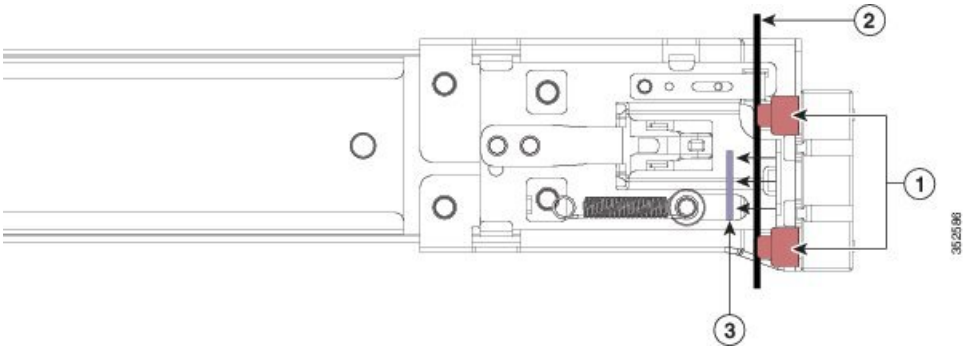


1 Front of server	2 Locking clip on front of inner rail

Step 2 Open the front securing plate on both slide-rail assemblies. The front end of the slide-rail assembly has a spring-loaded securing plate that must be open before you can insert the mounting pegs into the rack-post holes.

On the *outside* of the assembly, push the green-arrow button toward the rear to open the securing plate.

Figure 6: Front Securing Mechanism, Inside of Front End



1 Front mounting pegs	3 Securing plate shown pulled back to the open position
2 Rack post between mounting pegs and opened securing plate	-

Step 3 Install the outer slide rails into the rack:

a) Align one slide-rail assembly front end with the front rack-post holes that you want to use.

The slide rail front-end wraps around the outside of the rack post and the mounting pegs enter the rack-post holes from the outside-front.

Note
The rack post must be between the mounting pegs and the *open* securing plate.

b) Push the mounting pegs into the rack-post holes from the outside-front.
c) Press the securing plate release button, marked PUSH. The spring-loaded securing plate closes to lock the pegs in place.
d) Adjust the slide-rail length, and then push the rear mounting pegs into the corresponding rear rack-post holes. The slide rail must be level front-to-rear.

The rear mounting pegs enter the rear rack-post holes from the *inside* of the rack post.

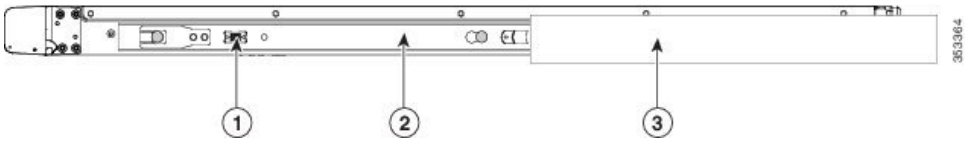
e) Attach the second slide-rail assembly to the opposite side of the rack. Ensure that the two slide-rail assemblies are at the same height and are level front-to-back.
f) Pull the inner slide rails on each assembly out toward the rack front until they hit the internal stops and lock in place.

Step 4 Insert the server into the slide rails:

Caution
This server can weigh up to 60 pounds (27 kilograms) when fully loaded with components. We recommend that you use a minimum of two people or a mechanical lift when lifting the server. Attempting this procedure alone could result in personal injury or equipment damage.

a) Align the rear ends of the inner rails that are attached to the server sides with the front ends of the empty slide rails on the rack.
b) Push the inner rails into the slide rails on the rack until they stop at the internal stops.
c) Slide the inner-rail release clip toward the rear on both inner rails, and then continue pushing the server into the rack until its front slam-latches engage with the rack posts.

Figure 7: Inner-Rail Release Clip



1 Inner-rail release clip	3 Outer slide rail attached to rack post
2 Inner rail attached to server and inserted into outer slide rail	-

Step 5 (Optional) Secure the server in the rack more permanently by using the two screws that are provided with the slide rails. Perform this step 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 a 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.

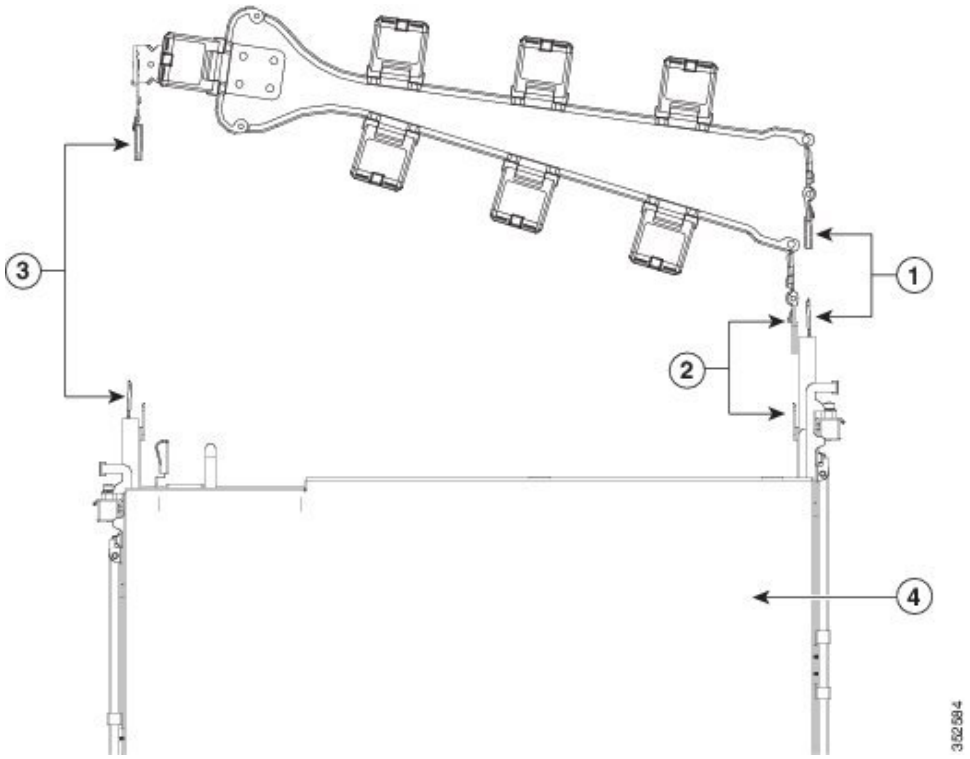
Installing the Cable Management Arm (Optional)

Note The cable management arm (CMA) is reversible left-to-right. To reverse the CMA, see Reversing the Cable Management Arm (Optional), on page 15 before installation.

Procedure

Step 1 With the server pushed fully into the rack, slide the CMA tab of the CMA arm that is farthest from the server onto the end of the stationary slide rail that is attached to the rack post. Slide the tab over the end of the rail until it clicks and locks.

Figure 8: Attaching the CMA to the Rear Ends of the Slide Rails



1 CMA tab on arm farthest from server attaches to end of stationary outer slide rail.	3 CMA tab on width-adjustment slider attaches to end of stationary outer slide rail.
2 CMA tab on arm closest to the server attaches to end of inner slide rail attached to server.	4 Rear of server

Step 2 Slide the CMA tab that is closest to the server over the end of the inner rail that is attached to the server. Slide the tab over the end of the rail until it clicks and locks

Step 3 Pull out the width-adjustment slider that is at the opposite end of the CMA assembly until it matches the width of your rack.

Step 4 Slide the CMA tab that is at the end of the width-adjustment slider onto the end of the stationary slide rail that is attached to the rack post. Slide the tab over the end of the rail until it clicks and locks.

Step 5 Open the hinged flap at the top of each plastic cable guide and route your cables through the cable guides as desired.

Reversing the Cable Management Arm (Optional)

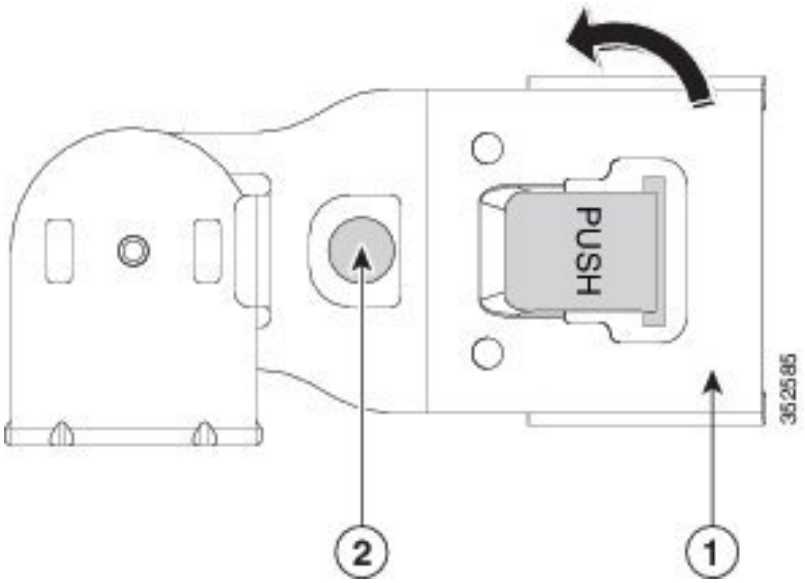
Procedure

Step 1 Rotate the entire CMA assembly 180 degrees, left-to-right. The plastic cable guides must remain pointing upward.

Step 2 Flip the tabs at the ends of the CMA arms so that they point toward the rear of the server.

Step 3 Pivot the tab that is at the end of the width-adjustment slider. Depress and hold the metal button on the outside of the tab and pivot the tab 180 degrees so that it points toward the rear of the server.

Figure 9: Reversing the CMA



1 CMA tab on end of width-adjustment slider	2 Metal button on outside of tab

Initial Server Setup

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.

Server Default Settings

The server is shipped with these default settings:

- The NIC mode is *Shared LOM EXT*.

  Shared LOM EXT mode enables the 1-Gb/10-Gb Ethernet ports *and* the ports on any installed Cisco virtual interface card (VIC) to access the Cisco Integrated Management Interface (Cisco IMC).

- The NIC redundancy is *Active-Active*. All Ethernet ports are utilized simultaneously.
- DHCP is enabled.
- IPv4 is enabled.

Connection Methods

There are two methods for connecting to the system for initial setup:

- Local setup—Use this procedure if you want to connect a keyboard and monitor directly to the system for setup. This procedure can use a KVM cable (Cisco PID N20-BKVM) or the ports on the rear of the server.
- Remote setup—Use this procedure if you want to perform setup through your dedicated management LAN.

Note To configure the system remotely, you must have a DHCP server on the same network as the system. Your DHCP server must be preconfigured with the range of MAC addresses for this server node. The MAC address is printed on a label that is on the pull-out asset tag on the front panel. This server node has a range of six MAC addresses assigned to the Cisco IMC. The MAC address printed on the label is the beginning of the range of six contiguous MAC addresses.

This section contains the following topics:

Connecting to the Server Locally For Setup

This procedure requires the following equipment:

- VGA monitor
- USB keyboard
- Either the supported Cisco KVM cable (Cisco PID N20-BKVM); or a USB cable and VGA DB-15 cable

Procedure

Step 1 Attach a power cord to each power supply in your server, and then attach each power cord to a grounded power outlet.

Wait for approximately two minutes to let the server boot to standby power during the first bootup. You can verify system power status by looking at the system Power Status LED on the front panel. The system is in standby power mode when the LED is amber.

Step 2 Connect a USB keyboard and VGA monitor to the server using one of the following methods:

- Connect an optional KVM cable (Cisco PID N20-BKVM) to the KVM connector on the front panel. Connect your USB keyboard and VGA monitor to the KVM cable.
- Connect a USB keyboard and VGA monitor to the corresponding connectors on the rear panel.

Step 3 Open the Cisco IMC Configuration Utility:

a) Press and hold the front panel power button for four seconds to boot the server.
b) During bootup, press **F8** when prompted to open the Cisco IMC Configuration Utility.

Note
The first time that you enter the Cisco IMC Configuration Utility, you are prompted to change the default password. The default password is *password*. The Strong Password feature is enabled.

The following are the requirements for Strong Password:

- The password can have minimum 8 characters; maximum 14 characters.
- The password must not contain the user's name.
- The password must contain characters from three of the following four categories:
  - English uppercase letters (A through Z)
  - English lowercase letters (a through z)
  - Base 10 digits (0 through 9)
  - Non-alphabetic characters !, @, #, $, %, ^, &, *, -, _, =, ‘‘

Connecting to the Server Remotely For Setup

This procedure requires the following equipment:

- One RJ-45 Ethernet cable that is connected to your management LAN.

Before you begin



Note To configure the system remotely, you must have a DHCP server on the same network as the system. Your DHCP server must be preconfigured with the range of MAC addresses for this server node. The MAC address is printed on a label that is on the pull-out asset tag on the front panel. This server node has a range of six MAC addresses assigned to the Cisco IMC. The MAC address printed on the label is the beginning of the range of six contiguous MAC addresses.

Procedure

Step 1 Attach a power cord to each power supply in your server, and then attach each power cord to a grounded power outlet.

Wait for approximately two minutes to let the server boot to standby power during the first bootup. You can verify system power status by looking at the system Power Status LED on the front panel. The system is in standby power mode when the LED is amber.

Step 2 Plug your management Ethernet cable into the dedicated management port on the rear panel.

Step 3 Allow your preconfigured DHCP server to assign an IP address to the server node.

Step 4 Use the assigned IP address to access and log in to the Cisco IMC for the server node. Consult with your DHCP server administrator to determine the IP address.

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

Step 5 From the Cisco IMC Server Summary page, click **Launch KVM Console**. A separate KVM console window opens.

Step 6 From the Cisco IMC Summary page, click **Power Cycle Server**. The system reboots.

Step 7 Select the KVM console window.

Note
The KVM console window must be the active window for the following keyboard actions to work.

Step 8 When prompted, press **F8** to enter the Cisco IMC Configuration Utility. This utility opens in the KVM console window.

Note
The first time that you enter the Cisco IMC Configuration Utility, you are prompted to change the default password. The default password is *password*. The Strong Password feature is enabled.

The following are the requirements for Strong Password:

- The password can have minimum 8 characters; maximum 14 characters.
- The password must not contain the user's name.
- The password must contain characters from three of the following four categories:
  - English uppercase letters (A through Z)
  - English lowercase letters (a through z)
  - Base 10 digits (0 through 9)
  - Non-alphabetic characters !, @, #, $, %, ^, &, *, -, _, =, ‘

Updating the BIOS and Cisco IMC Firmware



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

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

Accessing the System BIOS

Procedure

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**.

Smart Access Serial

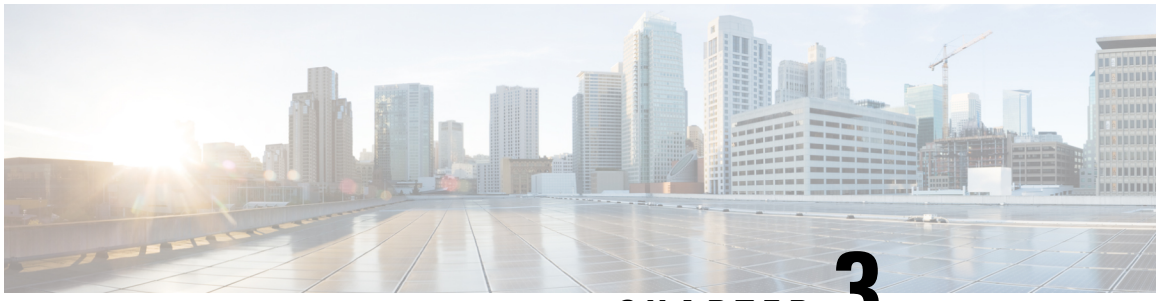
This server supports the Smart Access Serial feature. This feature allows you to switch between host serial and Cisco IMC CLI.

- This feature has the following requirements:
  - A serial cable connection, which can use either the RJ-45 serial connector on the server rear panel, or a DB-9 connection when using the KVM cable (Cisco PID N20-BKVM) on the front-panel KVM console connector.
  - Console redirection must be enabled in the server BIOS.
  - Terminal type must be set to VT100+ or VTUFT8.
  - Serial-over-LAN (SOL) must be disabled (SOL is disabled by default).
- To switch from host serial to Cisco IMC CLI, press **Esc+9**.

  You must enter your Cisco IMC credentials to authenticate the connection.
- To switch from Cisco IMC CLI to host serial, press **Esc+8**.

Note You cannot switch to Cisco IMC CLI if the serial-over-LAN (SOL) feature is enabled.

- After a session is created, it is shown in the CLI or web GUI by the name `serial`.



CHAPTER 3

Maintaining the Server

- Replacing Power Supplies, on page 21

Replacing Power Supplies

The server has one power supply.

- See also Power Specifications, on page 24 for more information about the power supplies.

This section includes procedures for replacing AC power supply units.

Replacing AC Power Supplies

Note If you have ordered a server with power supply redundancy (two power supplies), you do not have to power off the server to replace a power supply because they are redundant as 1+1.

Note Do not mix power supply types or wattages in the server. Both power supplies must be identical.

Procedure

Step 1 Remove the power supply that you are replacing or a blank panel from an empty bay:

a) Perform one of the following actions:

- If your server has only one power supply, shut down and remove power from the server.
- If your server has two power supplies, you do not have to shut down the server.

b) Remove the power cord from the power supply that you are replacing.

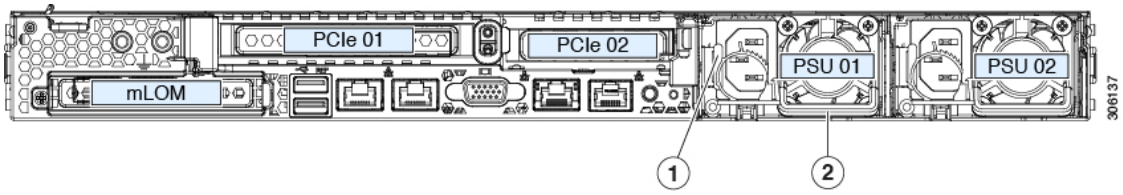
c) Grasp the power supply handle while pinching the release lever toward the handle.

d) Pull the power supply out of the bay.

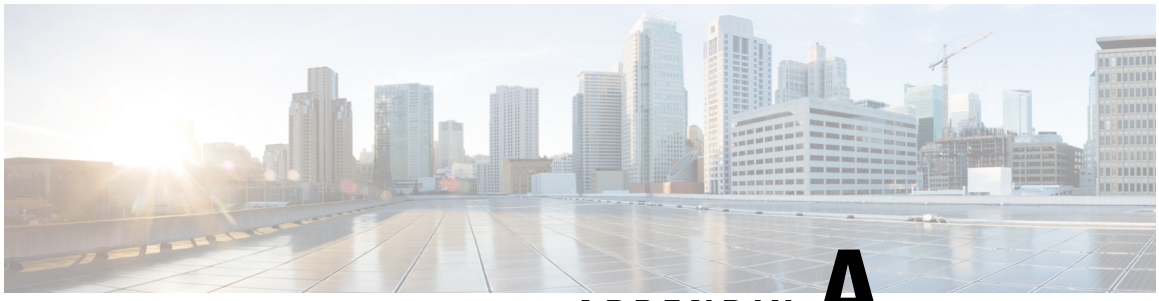
Step 2 Install a new power supply:

a) Grasp the power supply handle and insert the new power supply into the empty bay.
b) Push the power supply into the bay until the release lever locks.
c) Connect the power cord to the new power supply.
d) Only if you shut down the server, press the Power button to boot the server to main power mode.

Figure 10: Replacing AC Power Supplies



1 Power supply release lever	2 Power supply handle



APPENDIX A

Server Specifications

• Server Specifications, on page 23

Server Specifications

This appendix lists the physical, environmental, and power specifications for the server.

Physical Specifications

The following table lists the physical specifications for the server versions.

Table 1: Physical Specifications

Description	Specification
Height	1.7 in. (43.2 mm)
Width	16.9 in. (429.0 mm)
Depth (length)	Server only: 29.5 in. (740.3 mm) Server with slide rail: 31.0 in (787.4 mm)
Weight	Maximum: 37.5 lb. (17.0 Kg) Minimum: 29.0 lb. (13.2 Kg)

Environmental Specifications

The following table lists the environmental requirements and specifications for the server.

Table 2: Environmental Specifications

Description	Specification

Temperature, Operating	50 to 95°F (10 to 35°C) Extended environment 41 to 104°F (5 to 40°C) Derate the maximum temperature by 1°C per every 305 meters of altitude above sea level. **Note** Although the ASHRAE guidelines define multiple classes with different operating ranges, the *recommended* temperature and humidity operating range is the same for each class. The *recommended* temperature and humidity ranges are: • Operating Temperature: 64.4°F to 80.6°F (18°C to 27°C)
Temperature, non-operating (when the server is stored or transported)	–40 to 149°F (–40 to 65°C)
Humidity (RH), operating	8 to 90%
Humidity (RH), non-operating (when the server is stored or transported)	5 to 93%
Altitude, operating	0 to 10,000 feet
Altitude, non-operating (when the server is stored or transported)	0 to 40,000 feet
Sound power level Measure A-weighted per ISO7779 LwAd (Bels) Operation at 73°F (23°C)	5.5
Sound pressure level Measure A-weighted per ISO7779 LpAm (dBA) Operation at 73°F (23°C)	40

Power Specifications

The power specifications for the supported power supply options are listed in the following section.

1050 W AC Power Supply

This section lists the specifications for each 1050 W AC power supply (Cisco part number UCSC-PSU1-1050W).

Table 3: 1050 W AC Specifications

Description	Specification

AC Input Voltage	Nominal range: 100–120 VAC, 200–240 VAC (Range: 90–132 VAC, 180–264 VAC)
AC Input Frequency	Nominal range: 50 to 60Hz (Range: 47–63 Hz)
Maximum AC Input current	12.5 A at 100 VAC 6.0 A at 208 VAC
Maximum input volt-amperes	1250 VA at 100 VAC
Maximum inrush current	15 A (sub-cycle duration)
Maximum hold-up time	12 ms at 1050 W
Maximum output power per PSU	800 W at 100–120 VAC 1050 W at 200–240 VAC
Power supply output voltage	12 VDC
Power supply standby voltage	12 VDC
Efficiency rating	Climate Savers Platinum Efficiency (80Plus Platinum certified)
Form factor	RSP2
Input connector	IEC320 C14

Power Cord Specifications

Each power supply in the server has a power cord. Standard power cords or jumper power cords are available for connection to the server. The shorter jumper power cords, for use in racks, are available as an optional alternative to the standard power cords.



Note Only the approved power cords or jumper power cords listed below are supported.

Table 4: Supported Power Cords

Description	Length (Feet)	Length (Meters)
CAB-48DC-40A-8AWG DC power cord, -48 VDC, 40 A, 8 AWG Three-socket Mini-Fit connector to three-wire	11.7	3.5
CAB-C13-C14-AC AC power cord, 10 A; C13 to C14, recessed receptacle	9.8	3.0

CAB-250V-10A-AR AC power cord, 250 V, 10 A Argentina	8.2	2.5
CAB-C13-C14-2M-JP AC Power Cord, C13 to C14 Japan PSE Mark	6.6	2.0
CAB-9K10A-EU AC Power Cord, 250 V, 10 A; CEE 7/7 Plug Europe	8.2	2.5
CAB-250V-10A-IS AC Power Cord, 250 V, 10 A Israel	8.2	2.5
CAB-250V-10A-CN AC power cord, 250 V, 10 A PR China	8.2	2.5
CAB-ACTW AC power cord, 250 V, 10 A Taiwan	7.5	2.3
CAB-C13-CBN AC cabinet jumper power cord, 250, 10 A, C13 to C14	2.2	0.68
CAB-C13-C14-2M AC cabinet jumper power cord, 250 V, 10 A, C13 to C14	6.6	2.0
CAB-9K10A-AU AC power cord, 250 V, 10 A, 3112 plug, Australia	8.2	2.5
CAB-N5K6A-NA AC power cord, 200/240 V, 6 A, North America	8.2	2.5

CAB-250V-10A-ID AC power Cord, 250 V, 10 A, India	8.2	2.5
CAB-9K10A-SW AC power cord, 250 V, 10 A, MP232 plug Switzerland	8.2	2.5
CAB-250V-10A-BR AC power Cord, 250 V, 10 A Brazil	8.2	2.5
CAB-9K10A-UK AC power cord, 250 V, 10 A (13 A fuse), BS1363 plug United Kingdom	8.2	2.5
CAB-9K12A-NA AC power cord, 125 V, 13 A, NEMA 5-15 plug North America	8.2	2.5
CAB-AC-L620-C13 AC power cord, NEMA L6-20 to C13 connectors	6.6	2.0
CAB-9K10A-IT AC power cord, 250 V, 10 A, CEI 23-16/VII plug Italy	8.2	2.5
R2XX-DMYMPWRCORD No power cord; PID option for ordering server with no power cord	NA	NA

Server Specifications