

Cisco UCS C220 M6 SFF Rack Server

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<https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/datasheet-listing.html>



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OVERVIEW

The UCS C220 M6 SFF server extends the capabilities of Cisco's Unified Computing System portfolio in a 1U form factor with the addition of the 3rd Gen Intel® Xeon® Scalable Processors (Ice Lake), 16 DIMM slots per CPU for 3200-MHz DDR4 DIMMs with DIMM capacity points up to 128 GB. The maximum memory capacity for 2 CPUs is listed here:

- 4 TB: 32 x 128 GB DDR4 DIMMs, or
- 10 TB: 16 x 128 GB DDR4 DIMMs and 16 x 512 GB Intel® Optane™ Persistent Memory Modules (PMem).

There are several front drive and rear riser configurations:

Front Drives

- Up to 10 SAS/SATA/NVMe drives (up to 4 of the drives can be NVMe), or
- Up to 10 NVME drives (all drives are NVMe)

Rear PCIe Risers

- One to three half-height PCIe risers, or
- One to two full-height PCIe risers

The server provides an internal slot for one of the following:

- SATA Interposer to control SATA drives from the PCH (AHCI), or
- Cisco 12G RAID controller with cache backup to control SAS/SATA drives, or
- Cisco 12G SAS pass-through HBA to control SAS/SATA drives

**NOTE:**

PCIe drives are controlled directly from the CPUs

The UCS C220 M6 server has two LOM ports (10Gbase-T LOM) and a single 1 GbE management port. A modular LAN on motherboard (mLOM) module provides up to two 100 GbE ports. A connector on the front of the chassis provides KVM functionality.

The Cisco UCS C220 M6 server can be used standalone, or as part of the Cisco Unified Computing System, which unifies computing, networking, management, virtualization, and storage access into a single integrated architecture, enabling end-to-end server visibility, management, and control in both bare metal and virtualized environments.

See [Figure 1 on page 5](#) for front and rear views of the UCS C220 M6 server.

Figure 1 Cisco UCS C220 M6 SFF Rack Server

Front View



Rear View (one half-height riser version)



Rear View (three half-height riser version)



Rear View (two full-height riser version)

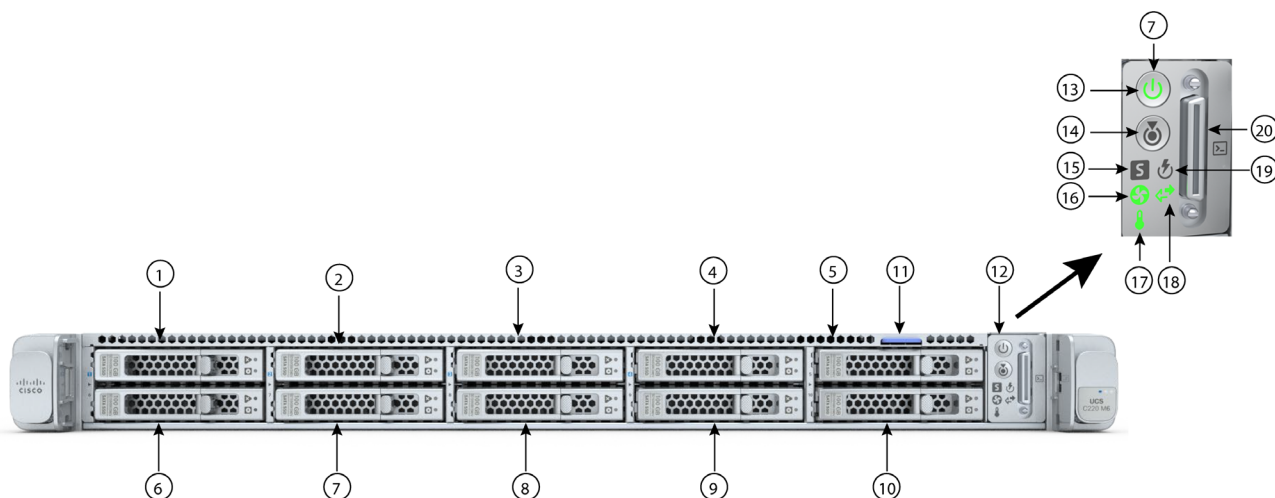


DETAILED VIEWS

Detailed Chassis Front View

Figure 2 shows the detailed front view of the Cisco UCS C220 M6 SFF Rack Server.

Figure 2 Detailed Chassis Front View



| | | | |
|--------|---|----|--|
| 1 - 4 | <p>Option 1</p> <ul style="list-style-type: none"> ■ Drive bays 1 - 4 support SAS/SATA hard drives and solid state drives (SSDs) or NVME PCIe drives.^{1, 2, 3} <p>Option 2</p> <ul style="list-style-type: none"> ■ Drive bays 1 - 4 support only NVME PCIe drives | 15 | System status LED |
| 5 - 10 | <p>Option 1</p> <ul style="list-style-type: none"> ■ Drive bays 5 - 10 support SAS/SATA hard drives and solid state drives (SSDs) only <p>Option 2</p> <ul style="list-style-type: none"> ■ Drive bays 5 - 10 support NVME PCIe drives only. | 16 | Fan status LED |
| 11 | Asset tag location | 17 | Temperature status LED |
| 12 | Control panel | 18 | Network link activity LED |
| 13 | Power button/power status LED | 19 | Power supply status LED |
| 14 | Unit Identification button/LED | 20 | KVM connector (used with KVM cable that provides two USB 2.0, one VGA, and one serial connector) |

Notes:

1. You can mix and match in drive bays 1 - 4. For example, slots 1 and 2 can hold NVMe drives and slots 3 and 4 can hold SAS/SATA HDDs or SSDs.
2. If NVMe drives are selected, you must also select 2 CPUs.
3. If using a SATA Interposer board, up to a maximum of 8 SATA-only drives can be configured (slots 1-4 and 6-9 only)

Detailed Chassis Rear Views

Figure 3 shows the details of the rear panel for the UCS C220 M6 with one rear half-height PCIe riser.

Figure 4 shows the details of the rear panel for the UCS C220 M6 with three rear half-height PCIe risers.

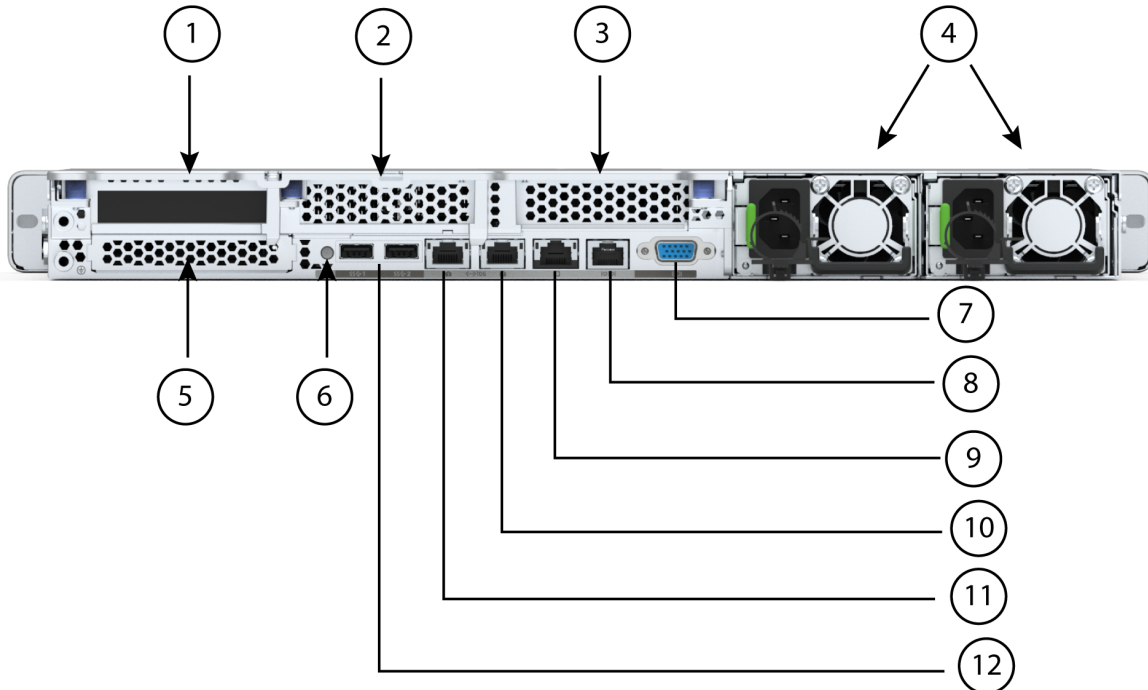
Figure 5 shows the details of the rear panel for the UCS C220 M6 with two rear full-height PCIe risers.

One Half-Height Riser



NOTE: By default, servers come with only one half-height riser 1 installed. 2-CPU servers support all three half-height risers.

Figure 3 Chassis Rear View (one half-height, 3/4 length PCIe riser)



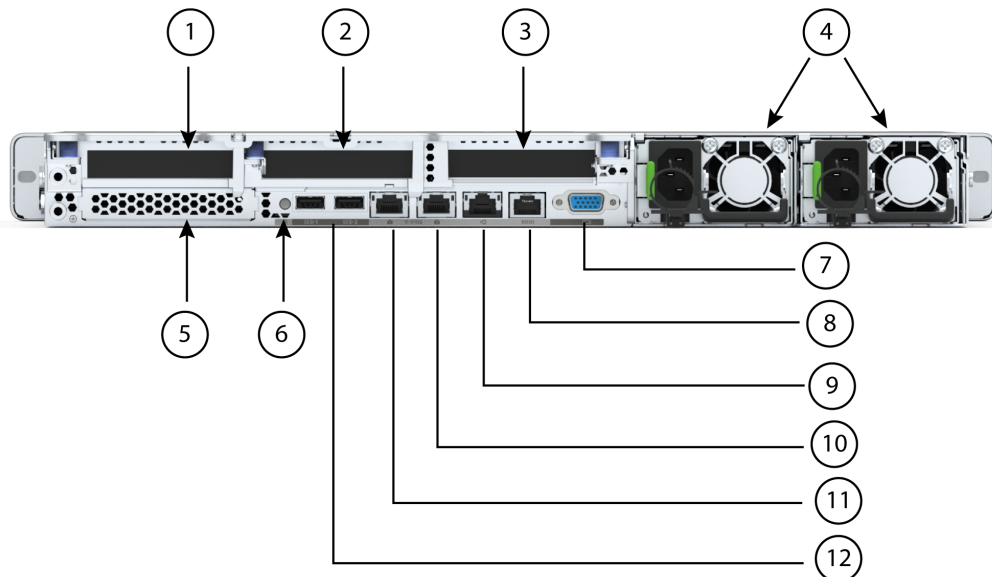
| | | | |
|---|--|---------|---|
| 1 | Riser 1 (CPU1 control) ■ Supports one PCIe slot ■ Slot 1 is half-height, 3/4 length, x16 | 7 | VGA display port (DB15 connector) |
| 2 | Riser 2 blanking panel | 8 | COM port (RJ45 connector) |
| 3 | Riser 3 blanking panel | 9 | 1 GbE dedicated Ethernet management port |
| 4 | Power supplies (two, redundant as 1+1) | 10 - 11 | Dual 1/10 GbE Ethernet ports (LAN1, LAN2) LAN1 is left connector, LAN2 is right connector |
| 5 | Modular LAN on motherboard (mLOM) | 12 | USB 3.0 ports (two) |
| 6 | System ID pushbutton/LED | - | |

Three Half-Height Risers



NOTE: Only 2-CPU servers support all three half-height risers.

Figure 4 Chassis Rear View (three half-height, 3/4 length PCIe risers)



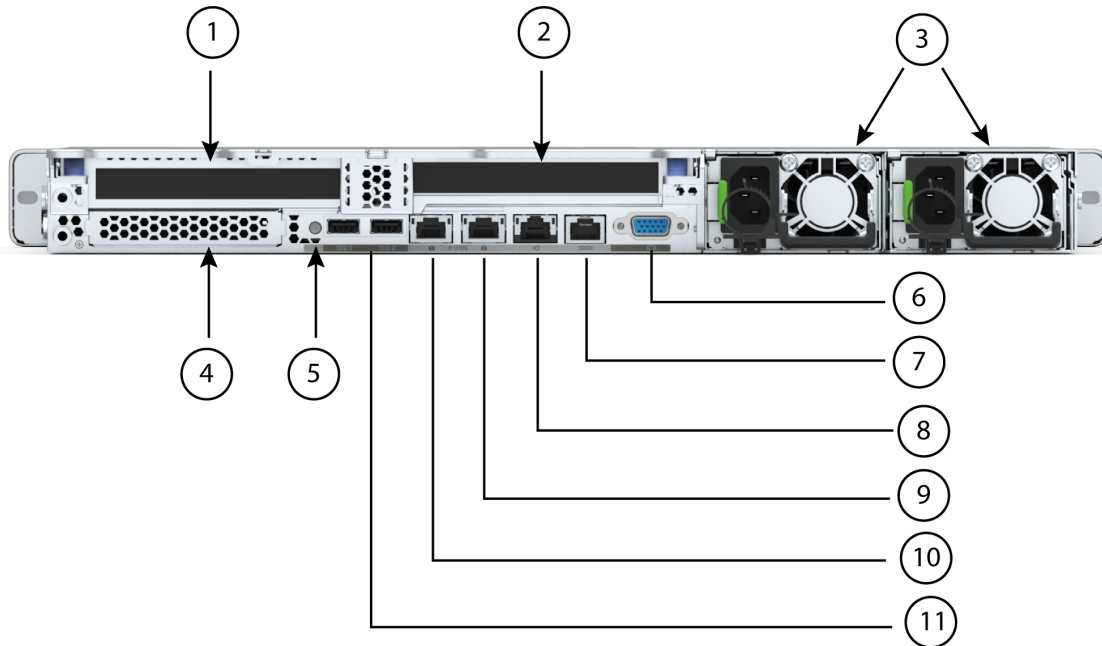
| | | | |
|---|---|---------|---|
| 1 | Riser 1 (CPU1 control) <ul style="list-style-type: none"> ■ Supports one PCIe slot (slot 1) ■ Slot 1 is half-height, 3/4 length, x16 | 7 | VGA display port (DB15 connector) |
| 2 | Riser 2 (CPU1 control) <ul style="list-style-type: none"> ■ Supports one PCIe slot (slot 2) ■ Slot 2 is half-height, 3/4 length, x16 | 8 | COM port (RJ45 connector) |
| 3 | Riser 3 (CPU2 control) <ul style="list-style-type: none"> ■ Supports one PCIe slot (slot 3) ■ Slot 3 is half-height, 3/4 length, x16 | 9 | 1 GbE dedicated Ethernet management port |
| 4 | Power supplies (two, redundant as 1+1) | 10 - 11 | Dual 1/10 GbE Ethernet ports (LAN1, LAN2) LAN1 is left connector, LAN2 is right connector |
| 5 | Modular LAN on motherboard (mLOM) | 12 | USB 3.0 ports (two) |
| 6 | System ID pushbutton/LED | - | |

Two Full-Height Risers



NOTE: 1-CPU servers support only full-height riser 1 while 2-CPU servers support both full-height risers.

Figure 5 Chassis Rear View (two full-height, 3/4-length PCIe risers)



| | | | |
|---|--|-------|---|
| 1 | Riser 1 (CPU1 control) <ul style="list-style-type: none"> ■ Plugs into riser 1 motherboard connector ■ Full-height, 3/4 length, x16 | 6 | VGA display port (DB15 connector) |
| 2 | Riser 2 (CPU2 control) <ul style="list-style-type: none"> ■ Plugs into riser 3 motherboard connector ■ Full-height, 3/4 length, x16 | 7 | COM port (RJ45 connector) |
| 3 | Power supplies (two, redundant as 1+1) | 8 | 1 GbE dedicated Ethernet management port |
| 4 | Modular LAN on motherboard (mLOM) | 9 -10 | Dual 1/10 GbE Ethernet ports (LAN1, LAN2) LAN1 is left connector, LAN2 is right connector |
| 5 | System ID pushbutton/LED | 11 | USB 3.0 ports (two) |

BASE SERVER STANDARD CAPABILITIES and FEATURES

Table 1 lists the capabilities and features of the base server. Details about how to configure the server for a particular feature or capability (for example, number of processors, disk drives, or amount of memory) are provided in *CONFIGURING the SERVER, page 16*.

Table 1 Capabilities and Features

| Capability/Feature | Description |
|----------------------------|---|
| Chassis | One rack unit (1RU) chassis |
| CPU | One or two 3rd Gen Intel® Xeon® Scalable Processors (Ice Lake) ¹ |
| Chipset | Intel® C621A series chipset |
| Memory | 32 slots for registered DIMMs (RDIMMs) or load-reduced DIMMs (LR DIMMs) and support for Intel® Optane™ Persistent Memory Modules (PMem) |
| Multi-bit Error Protection | This server supports multi-bit error protection. |
| Video | <p>The Cisco Integrated Management Controller (CIMC) provides video using the Matrox G200e video/graphics controller:</p> <ul style="list-style-type: none"> ■ Integrated 2D graphics core with hardware acceleration ■ Embedded DDR memory interface supports up to 512 MB of addressable memory (8 MB is allocated by default to video memory) ■ Supports display resolutions up to 1920 x 1200 16bpp @ 60Hz ■ High-speed integrated 24-bit RAMDAC ■ Single lane PCI-Express host interface running at Gen 1 speed |
| Power subsystem | <p>Up to two of the following hot-swappable power supplies:</p> <ul style="list-style-type: none"> ■ 1050 W (AC) ■ 1050 W (DC) ■ 1600 W (AC) ■ 2300 W (AC) <p>One power supply is mandatory; one more can be added for 1 + 1 redundancy.</p> |
| Front Panel | A front panel controller provides status indications and control buttons |
| ACPI | This server supports the advanced configuration and power interface (ACPI) 6.2 standard. |
| Fans | Eight hot-swappable fans for front-to-rear cooling |
| Infiniband | The InfiniBand architecture is supported by the PCI slots. |

Table 1 Capabilities and Features (continued)

| Capability/Feature | Description |
|--------------------|--|
| Expansion slots | <p>Three half-height riser slots</p> <ul style="list-style-type: none"> ■ Riser 1 (controlled by CPU 1): <ul style="list-style-type: none"> • One x16 PCIe Gen4 Slot, (Cisco VIC), half-height, 3/4 length ■ Riser 2 (controlled by CPU 1): <ul style="list-style-type: none"> • One x16 PCIe Gen4 Slot, half-height, 3/4 length ■ Riser 3 (controlled by CPU 2): <ul style="list-style-type: none"> • One x16 PCIe Gen4 Slot, (Cisco VIC), half-height, 3/4 length <p>Two full-height riser slots</p> <ul style="list-style-type: none"> ■ Riser 1 (controlled by CPU 1): <ul style="list-style-type: none"> • One x16 PCIe Gen4 Slot, (Cisco VIC), full-height, 3/4 length ■ Riser 2² (controlled by CPU 2): <ul style="list-style-type: none"> • One x16 PCIe Gen4 Slot, (Cisco VIC), full-height, 3/4 length |
| Interfaces | <ul style="list-style-type: none"> ■ Rear panel <ul style="list-style-type: none"> • One 1Gbase-T RJ-45 management port • Two 10Gbase-T LOM ports • One RS-232 serial port (RJ45 connector) • One DB15 VGA connector • Two USB 3.0 port connectors • One flexible modular LAN on motherboard (mLOM) slot that can accommodate various interface cards ■ Front panel <ul style="list-style-type: none"> • One KVM console connector (supplies two USB 2.0 connectors, one VGA DB15 video connector, and one serial port (RS232) RJ45 connector) |

Table 1 Capabilities and Features (continued)

| Capability/Feature | Description |
|---------------------------------|---|
| Internal storage devices | <p>Drive storage:</p> <p>Drives are installed into front-panel drive bays, which provide hot-swappable access for SAS/SATA or NVMe drives. The server is orderable in two different versions:</p> <ul style="list-style-type: none"> ■ UCSC-C220-M6S (option 1): <ul style="list-style-type: none"> • Up to 10 SFF SAS/SATA hard drives (HDDs) or SAS/SATA solid state drives (SSDs). • Optionally, up to four SFF NVMe PCIe SSDs. These drives must be placed in front drive bays 1, 2, 3, and 4 only, can be mixed with SAS/SATA drives, and are controlled from CPU 2. The rest of the bays (5 - 10) can be populated with SAS/SATA SSDs or HDDs. Two CPUs are required when choosing NVMe SSDs. • If using a SATA Interposer, up to 8 SATA-only drives can be installed (slots 1-4 and 6-9 only). ■ UCSC-C220-M6N (option 2): <ul style="list-style-type: none"> • Up to 10 SFF NVMe PCIe SSDs only. The drives in slots 1, 2, 3, 4, 6, and 7 are connected to CPU 2 and the drives in slots 5, 8, 9, and 10 are connected to CPU1. One or two CPUs are required when choosing NVMe SSDs. <p>Other storage:</p> <ul style="list-style-type: none"> ■ A mini-storage module connector on the motherboard supports a boot-optimized RAID controller carrier that holds up to two SATA M.2 SSDs. Mixing different capacity SATA M.2 SSDs is not supported. UCS-M2-HWRAID is required when selecting the M.2 SATA drives. ■ 8GB FlexMMC utility storage for staging of firmware and other user data. 8GB FlexMMC storage is built into the motherboard on M6. |
| Integrated management processor | <p>Baseboard Management Controller (BMC) running Cisco Integrated Management Controller (CIMC) firmware.</p> <p>Depending on your CIMC settings, the CIMC can be accessed through the 1GE dedicated management port, the 1GE/10GE OCP/mLOM ports, or a Cisco virtual interface card (VIC).</p> <p>CIMC manages certain components within the server, such as the Cisco 12G SAS HBA.</p> |

Table 1 Capabilities and Features (continued)

| Capability/Feature | Description |
|--|---|
| Storage controllers | <p>The SATA Interposer board, 12G RAID HBA, or 12G SAS HBA. Only one of these at a time can be used.</p> <ul style="list-style-type: none"> ■ SATA Interposer board <ul style="list-style-type: none"> • AHCI support of up to eight SATA-only drives (slots 1-8) ■ Cisco 12G RAID controller <ul style="list-style-type: none"> • RAID support (RAID 0, 1, 5, 6, 10) and RAID0 • Supports up to 10 internal SAS/SATA drives ■ Cisco 12G SAS HBA <ul style="list-style-type: none"> • No RAID support • JBOD/Pass-through Mode support • Supports up to 10 SAS/SATA internal drives |
| Modular LAN on Motherboard (mLOM) slot | <p>The dedicated mLOM slot on the motherboard can flexibly accommodate the following cards:</p> <ul style="list-style-type: none"> ■ Cisco Virtual Interface Cards |
| UCSM | UCS Manager (UCSM) 4.2(1) or later runs in the Fabric Interconnect and automatically discovers and provisions some of the server components. |
| CIMC | Cisco Integrated Management Controller 4.2(1) or later |

Notes:

1. If NVMe drives are selected, you must also select 2 CPUs.
2. There are three PCIe riser connectors on the motherboard: they are labeled Riser 1, Riser 2, and Riser 3. If the server is configured with three half-height risers, Riser 1 plugs into Riser 1 connector, Riser 2 plugs into Riser 2 connector, and Riser 3 plugs into Riser 3 connector. If the server is configured with two full-height connectors, Riser 1 plugs into Riser 1 connector and Riser 2 plugs into Riser 3 connector. See [Risers, page 65](#) for more details.

CONFIGURING the SERVER

Follow these steps to configure the Cisco UCS C220 M6 SFF Rack Server:

- *STEP 1 VERIFY SERVER SKU, page 17*
- *STEP 2 SELECT RISERS, page 18*
- *STEP 3 SELECT CPU(s), page 19*
- *STEP 4 SELECT MEMORY, page 23*
- *STEP 5 SELECT DRIVE CONTROLLERS, page 30*
- *STEP 6 SELECT DRIVES, page 34*
- *STEP 7 SELECT OPTION CARD(s), page 39*
- *ORDER OPTIONAL PCIe OPTION CARD ACCESSORIES, page 42*
- *STEP 8 ORDER GPU CARDS (OPTIONAL), page 43*
- *STEP 9 ORDER POWER SUPPLY, page 44*
- *STEP 10 SELECT INPUT POWER CORD(s), page 45*
- *STEP 11 ORDER TOOL-LESS RAIL KIT AND OPTIONAL REVERSIBLE CABLE MANAGEMENT ARM, page 49*
- *STEP 12 SELECT MANAGEMENT CONFIGURATION (OPTIONAL), page 50*
- *STEP 13 SELECT SERVER BOOT MODE (OPTIONAL), page 51*
- *STEP 14 ORDER SECURITY DEVICES (OPTIONAL), page 52*
- *STEP 15 SELECT LOCKING SECURITY BEZEL (OPTIONAL), page 53*
- *STEP 16 ORDER M.2 SATA SSDs (OPTIONAL), page 54*
- *STEP 17 SELECT OPERATING SYSTEM AND VALUE-ADDED SOFTWARE, page 56*
- *STEP 18 SELECT OPERATING SYSTEM MEDIA KIT, page 61*
- *SUPPLEMENTAL MATERIAL, page 62*

STEP 1 VERIFY SERVER SKU

Verify the product ID (PID) of the server as shown in [Table 2](#).

Table 2 PID of the C220 M6 SFF Rack Base Server

| Product ID (PID) | Description |
|----------------------------|---|
| UCS-M6-MLB | UCS M6 Rack, Blade, Chassis MLB This major line bundle (MLB) consists of the Server Node (UCSC-C245-M6SX6) with software PIDs. Use this PID to begin a new configuration. |
| UCSC-C220-M6S ¹ | Up to 10 SFF front drives with no CPU, memory, HDD, PCIe cards, or power supply. All drives can be SAS/SATA HDDS or SSDs or optionally any of bays 1, 2, 3 and 4 can be NVMe PCIe SSDs and the rest can be SAS/SATA HDDs or SSDs. |
| UCSC-C220-M6N ¹ | Up to 10 SFF front drives (NVMe PCIe SSDs only) with no CPU, memory, HDD, PCIe cards, or power supply |

Notes:

1. This product may not be purchased outside of the approved bundles (must be ordered under the MLB)

The Cisco UCS C220 M6 SFF servers do not include power supplies, CPUs, DIMM memory, Intel® Optane™ Persistent Memory (PMem), hard disk drives (HDDs), solid-state drives (SSDs), NVMe drives, riser 1, riser 2, riser 3, tool-less rail kit, or option cards.



NOTE: Use the steps on the following pages to configure the server with the components that you want to include.

STEP 2 SELECT RISERS

The riser PIDs are listed in [Table 3](#). Full-height risers cannot be mixed with half-height risers.

Table 3 PIDs of the Risers and Riser Blanks

| Product ID (PID) | Description |
|--------------------------------|---|
| Included by default (no PID) | Half-height riser 1 (controlled by CPU 1) <ul style="list-style-type: none"> One x16 PCIe Gen4 riser, standard PCIe, supports Cisco VIC, half-height, 3/4 length |
| UCSC-RIS2H-220M6 | Half-height riser 2 (controlled by CPU 1) <ul style="list-style-type: none"> One x16 PCIe Gen4 riser, standard PCIe, half-height, 3/4 length |
| UCSC-RIS3H-220M6 | Half-height riser 3 (controlled by CPU 2) <ul style="list-style-type: none"> One x16 PCIe Gen4 riser, standard PCIe, supports Cisco VIC, half-height, 3/4 length |
| UCSC-GPURKIT-C220 ¹ | Kit containing a GPU mounting bracket and the following risers (risers 1 and 2): <ul style="list-style-type: none"> Riser 1: One x16 PCIe Gen4 riser, supports Cisco VIC, full-height, 3/4 length Riser 2: One x16 PCIe Gen4 riser, supports Cisco VIC, full-height, 3/4 length |
| UCSC-FBRS-C220M6 | Riser 3 blank panel |

Notes:

- Can be selected with quantity 1 or 2 CPUs. It is recommended that the user purchase 2 QTY of Processor to support Riser2 FH x16 Slot. Full-height Riser 1 is controlled from CPU1 and Riser 2 is controlled from CPU2.

- The System defaults to automatically include the one half-height riser shown in the [Table 3](#). (factory installed)
- If you select 1 CPU configuration, the system includes two half-height risers (riser 1 and riser 2) and a blank panel for the riser 3
- If you select 2 CPU configuration, the system includes all the three half-height risers (riser 1 and riser 2, 3).
- If you order PID UCSC-GPURKIT-C220, the system includes two full-height risers (riser 1 and riser 2)

Approved Configurations

- Half-height riser 1 only (controlled from CPU1). This is the default and is automatically included.
- Half-height risers 1 and 2 only. Risers 1 and 2 are controlled from CPU1
- Half-height risers 1, 2, and 3 only. Risers 1 and 2 are controlled from CPU1 and Riser 3 is controlled from CPU2
- Full-height risers 1 and 2 only. Riser 1 is controlled from CPU1 and riser 2 is controlled from CPU2.

STEP 3 SELECT CPU(s)

The standard CPU features are:

- 3rd Gen Intel® Xeon® Scalable Processors (Ice Lake)
- Intel® C621A series chipset
- Cache size of up to 60 MB
- Up to 40 cores

Select CPUs

The available CPUs are listed in [Table 4](#). See [Table 5 on page 21](#) for CPU suffix notations.

Table 4 Available CPUs

| Product ID (PID) | Clock Freq (GHz) | Power (W) | Cache Size (MB) | Cores | UPI ¹ Links (GT/s) | Highest DDR4 DIMM Clock Support (MHz) ² | PMem Support |
|-------------------------------|------------------|-----------|-----------------|-------|-------------------------------|--|--------------|
| 8000 Series Processors | | | | | | | |
| UCS-CPU-I8380 | 2.3 | 270 | 60 | 40 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I8368 | 2.4 | 270 | 57 | 38 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I8362 | 2.8 | 265 | 48 | 32 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I8360Y | 2.4 | 250 | 54 | 36 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I8358P | 2.6 | 240 | 48 | 32 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I8358 | 2.6 | 250 | 48 | 32 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I8352M | 2.3 | 185 | 48 | 32 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I8352Y | 2.2 | 205 | 48 | 32 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I8352V | 2.1 | 195 | 54 | 36 | 3 at 11.2 | 2933 | Yes |
| UCS-CPU-I8352S | 2.2 | 205 | 48 | 32 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I8351N ³ | 2.4 | 225 | 54 | 36 | 0 | 2933 | Yes |
| 6000 Series Processors | | | | | | | |
| UCS-CPU-I6354 | 3.0 | 205 | 39 | 18 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I6348 | 2.6 | 235 | 42 | 28 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I6346 | 3.1 | 205 | 36 | 16 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I6342 | 2.8 | 230 | 36 | 24 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I6338N | 2.2 | 185 | 48 | 32 | 3 at 11.2 | 2666 | Yes |
| UCS-CPU-I6338T | 2.1 | 165 | 36 | 24 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I6338 | 2.0 | 205 | 48 | 32 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I6336Y | 2.4 | 185 | 36 | 24 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I6334 | 3.6 | 165 | 18 | 8 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I6330N | 2.2 | 165 | 42 | 28 | 3 at 11.2 | 2666 | Yes |
| UCS-CPU-I6330 | 2.0 | 205 | 42 | 28 | 3 at 11.2 | 2933 | Yes |

Table 4 Available CPUs

| Product ID (PID) | Clock Freq (GHz) | Power (W) | Cache Size (MB) | Cores | UPI ¹ Links (GT/s) | Highest DDR4 DIMM Clock Support (MHz) ² | PMem Support |
|-------------------------------|------------------|-----------|-----------------|-------|-------------------------------|--|--------------|
| UCS-CPU-I6326 | 2.9 | 185 | 24 | 16 | 3 at 11.2 | 3200 | Yes |
| UCS-CPU-I6314U ⁴ | 2.3 | 205 | 48 | 32 | 0 | 3200 | Yes |
| UCS-CPU-I6312U ⁵ | 2.4 | 185 | 36 | 24 | 0 | 3200 | Yes |
| 5000 Series Processors | | | | | | | |
| UCS-CPU-I5320T | 2.3 | 150 | 30 | 20 | 3 at 11.2 | 2933 | Yes |
| UCS-CPU-I5320 | 2.2 | 185 | 39 | 26 | 3 at 11.2 | 2933 | Yes |
| UCS-CPU-I5318N | 2.1 | 150 | 36 | 24 | 3 at 11.2 | 2666 | Yes |
| UCS-CPU-I5318S | 2.1 | 165 | 36 | 24 | 3 at 11.2 | 2933 | Yes |
| UCS-CPU-I5318Y | 2.1 | 165 | 36 | 24 | 3 at 11.2 | 2933 | Yes |
| UCS-CPU-I5317 | 3.0 | 150 | 18 | 12 | 3 at 11.2 | 2933 | Yes |
| UCS-CPU-I5315Y | 3.2 | 140 | 12 | 8 | 3 at 11.2 | 2933 | Yes |
| 4000 Series Processors | | | | | | | |
| UCS-CPU-I4316 | 2.3 | 150 | 30 | 20 | 2 at 10.4 | 2666 | No |
| UCS-CPU-I4314 | 2.4 | 135 | 24 | 16 | 2 at 10.4 | 2666 | Yes |
| UCS-CPU-I4310T | 2.3 | 105 | 15 | 10 | 2 at 10.4 | 2666 | No |
| UCS-CPU-I4310 | 2.1 | 120 | 18 | 12 | 2 at 10.4 | 2666 | No |
| UCS-CPU-I4309Y | 2.8 | 105 | 12 | 8 | 2 at 10.4 | 2666 | No |

Notes:

1. UPI = Ultra Path Interconnect.
2. If higher or lower speed DIMMs are selected than what is shown in [Table 6 on page 24](#) for a given CPU speed, the DIMMs will be clocked at the lowest common denominator of CPU clock and DIMM clock.
3. The maximum number of UCS-CPU-I8351N CPUs is one
4. The maximum number of UCS-CPU-I6314U CPUs is one
5. The maximum number of UCS-CPU-I6312U CPUs is one

Table 5 CPU Suffixes

| CPU Suffix | Description | Features |
|------------|------------------------------------|--|
| N | Networking Optimized | Optimized for use in networking applications like L3 forwarding, 5G UPF, OVS DPDK, VPP FIB router, VPP IPsec, web server/NGINX, vEPC, vBNG, and vCMTS. SKUs have higher base frequency with lower TDPs to enable best performance/Watt |
| P | Cloud Optimized | SKU specifically designed for cloud IaaS environments to deliver higher frequencies at constrained TDPs |
| V | Cloud Optimized | SKUs specifically designed for cloud environments to deliver high rack density and maximize VM/cores per TCO\$ |
| T | High T case | SKUs designed for Network Environment-Building System (NEBS) environments |
| U | 1-socket Optimized | Optimized for targeted platforms adequately served by the cores, memory bandwidth and IO capacity available from a single processor |
| S | Max SGX enclave size | Supports Max SGX enclave size (512GB) to enhance and protect the most sensitive portions of a workload or service |
| M | Media and AI optimized | Media, AI and HPC Segment Optimized for lower TDP & higher frequencies delivering better perf/w |
| Y | Speed Select - Performance Profile | Intel® Speed Select Technology provides the ability to set a guaranteed base frequency for a specific number of cores, and assign this performance profile to a specific application/workload to guarantee performance requirements. It also provides the ability to configure settings during runtime and provide additional frequency profile configuration opportunities. |



CAUTION: For systems configured with 3rd Gen Intel® Xeon® Scalable Processors (Ice Lake) processors operating above 28° C [82.4° F], a fan fault or executing workloads with extensive use of heavy instructions sets such as Intel® Advanced Vector Extensions 512 (Intel® AVX-512), may assert thermal and/or performance faults with an associated event recorded in the System Event Log (SEL).

Approved Configurations

(1) DIMM only configurations:

- Select one or two identical CPUs listed in [Table 4 on page 19](#)

(2) DIMM/PMem Mixed Configurations:

- You must select two identical CPUs listed in [Table 4 on page 19](#)

(3) For the UCSC-C220-M6S:

- For 1-CPU systems, the server is shipped by default with riser 1 only
- For 2-CPU systems, the server is shipped:
 - With half-height risers 1, 2, and 3 by default, or
 - With full-height risers 1 and 2 if you order a non-T4 GPU with more than 75 W power dissipation

(4) For the UCSC-C220-M6N:

- Select one or two identical CPUs listed in [Table 4 on page 19](#)



NOTE:

- You cannot have two I8351N or two I6314U or I6312U CPUs in a two-CPU configuration.
 - If you configure a server with one I8351N CPU or one I6314U CPU or one I6312U CPU you cannot later upgrade to a 2-CPU system with two of these CPUs.
 - With using single CPU, up to four NVMe drives are allowed.
-

Caveats

- The selection of 1 or 2 CPUs depends on the desired server functionality. See the following sections:
 - [STEP 4 SELECT MEMORY, page 23](#)
 - [STEP 5 SELECT DRIVE CONTROLLERS, page 30](#)
 - [STEP 6 SELECT DRIVES, page 34](#)
 - [STEP 7 SELECT OPTION CARD\(s\), page 39](#)

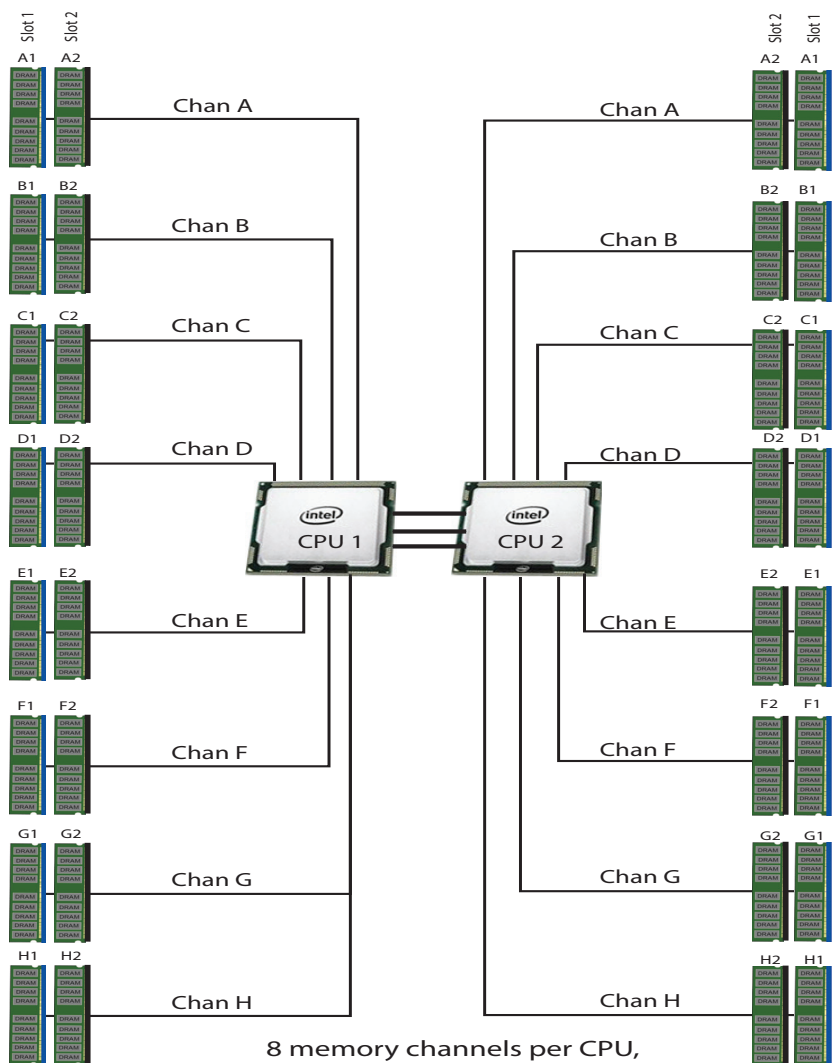
STEP 4 SELECT MEMORY

The available memory main characteristics for the C220 M6 SFF are as follows:

- Clock speed: 3200, 2933, or 2666 MHz depending on CPU speed
- Ranks per DIMM: 1, 2, 4, or 8
- Operational voltage: 1.2 V
- Registered ECC DDR4 DIMMs (RDIMMs), Load-reduced DIMMs (LRDIMMs), or Intel® Optane™ Persistent Memory Modules (PMem).

Memory is organized with eight memory channels per CPU, with up to two DIMMs per channel, as shown in [Figure 6](#).

Figure 6 C220 M6 SFF Memory Organization



8 memory channels per CPU,
 up to 2 DIMMs per channel
 32 DIMMs total (16 DIMMs per CPU)
 4 TB maximum memory (with 128 GB DIMMs)

DIMMs and Memory Mirroring

Select the memory configuration and whether or not you want the memory mirroring option. The supported memory DIMMs, DCPMMs, DCPMM Memory Mode, and the mirroring option are listed in [Table 6](#).



NOTE: When memory mirroring is enabled, the memory subsystem simultaneously writes identical data to two channels. If a memory read from one of the channels returns incorrect data due to an uncorrectable memory error, the system automatically retrieves the data from the other channel. A transient or soft error in one channel does not affect the mirrored data, and operation continues unless there is a simultaneous error in exactly the same location on a DIMM and its mirrored DIMM. Memory mirroring reduces the amount of memory available to the operating system by 50% because only one of the two populated channels provides data.

Table 6 Available DDR4 DIMMs and PMem

| Product ID (PID) | PID Description | Voltage | Ranks /DIMM |
|--|--|---------|-------------|
| 3200-MHz DIMMs | | | |
| UCS-MR-X16G1RW | 16 GB RDIMM SRx4 3200 (8Gb) | 1.2 V | 1 |
| UCS-MR-X32G1RW | 32 GB RDIMM SRx4 3200 (16Gb) | 1.2 V | 1 |
| UCS-MR-X32G2RW | 32 GB RDIMM DRx4 3200 (8Gb) | 1.2 V | 2 |
| UCS-MR-X64G2RW | 64 GB RDIMM DRx4 3200 (16Gb) | 1.2 V | 2 |
| UCS-ML-128G4RW | 128 GB LRDIMM QRx4 3200 (16Gb) (non-3DS) | 1.2 V | 4 |
| Intel® Optane™ Persistent Memory (PMem)¹ | | | |
| UCS-MP-128GS-B0 | Intel® Optane™ Persistent Memory, 128GB, 3200 MHz | | |
| UCS-MP-256GS-B0 | Intel® Optane™ Persistent Memory, 256 GB, 3200 MHz | | |
| UCS-MP-512GS-B0 | Intel® Optane™ Persistent Memory, 512 GB, 3200 MHz | | |
| DIMM Blank² | | | |
| UCS-DIMM-BLK | UCS DIMM Blank | | |
| Intel® Optane™ Persistent Memory (PMem) Operational Modes | | | |
| UCS-DCPMM-AD | App Direct Mode | | |
| UCS-DCPMM-MM | Memory Mode | | |
| Memory Mirroring Option | | | |
| N01-MMIRROR ³ | Memory mirroring option | | |

Notes:

1. All 3rd Generation Intel® Xeon® Scalable Processors (Ice Lake) support PMem products, except 4309Y, 4310, 4310T, and 4316 processor.
2. Any empty DIM M slot must be populated with a DIMM blank to maintain proper cooling airflow.
3. For more memory configuration details, please refer to and [UPGRADING or REPLACING CPUs, page 88](#).

Memory Configurations, Features, and Modes

System speed is dependent on the CPU DIMM speed support. Refer to [Available CPUs, page 19](#) for DIMM speeds.

- The server supports the following memory reliability, availability, and serviceability (RAS) BIOS options (only one option can be chosen):
 - Adaptive Double Device Data Correction (ADDDC) (default)
 - Maximum performance
 - Full mirroring
 - Partial mirroring
- For best performance, observe the following:
 - When one DIMM is used, it must be populated in DIMM slot 1 (farthest away from the CPU) of a given channel.
 - When single- or dual-rank DIMMs are populated in two DIMMs per channel (2DPC) configurations, always populate the higher number rank DIMM first (starting from the farthest slot). For a 2DPC example, first populate with dual-rank DIMMs in DIMM slot 1. Then populate single-rank DIMMs in DIMM 2 slot.
- DIMMs for CPU 1 and CPU 2 (when populated) must always be configured identically.
- Cisco memory from previous generation servers (DDR3 and DDR4) is not compatible with the server.
- Memory can be configured in any number of DIMMs as pairs, although for optimal performance, see the following document

[Cisco UCS C220/C240/B200 M6 Memory Guide](#)

- For additional information, refer to [Memory Support for 3rd Generation Intel® Xeon® Scalable Processors \(Ice Lake\), page 71](#).
- For detailed Intel® Optane™ Persistent Memory (PMem) configurations, refer to the following document

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c220m6/install/c220m6.html

Approved Configurations

(1) 1-CPU configuration without memory mirroring:

- Select from 1 to 16 DIMMs.
 - 1, 2, 4, 6, 8, 12, or 16 DIMMs allowed
 - 3, 5, 7, 9, 10, 11, 13, 14, 15 DIMMs not allowed
 - DIMMs for both CPUs must be configured identically.

The DIMMs will be placed by the factory as shown in the following tables.

| #DIMMs | CPU 1 DIMM Placement in Channels (for identically ranked DIMMs) |
|--------|--|
| 1 | (A1) |
| 2 | (A1, E1) |
| 4 | (A1, C1); (E1, G1) |
| 6 | (A1, C1); (D1, E1); (G1, H1) |
| 8 | (A1, C1); (D1, E1); (G1, H1); (B1, F1) |
| 12 | (A1, C1); (D1, E1); (G1, H1); (A2, C2); (D2, E2); (G2, H2) |
| 16 | (A1, B1); (C1, D1); (E1, F1); (G1, H1); (A2, B2); (C2, D2); (E2, F2); (G2, H2) |

(2) 1-CPU configuration with memory mirroring:

- Select 8 or 16 DIMMs per CPU (DIMMs for all CPUs must be configured identically). In addition, the memory mirroring option (N01-MMIRROR) as shown in [Table 6 on page 24](#) must be selected.

The DIMMs will be placed by the factory as shown in the following tables.

| # DIMMs Per CPU | CPU 1 DIMM Placement in Channels (for identical ranked DIMMs) |
|-----------------|--|
| 8 | (A1, C1); (D1, E1); (G1, H1); (B1, F1) |
| 16 | (A1, B1); (C1, D1); (E1, F1); (G1, H1); (A2, B2); (C2, D2); (E2, F2); (G2, H2) |

- Select the memory mirroring option (N01-MMIRROR) as shown in [Table 6 on page 24](#).

(3) 2-CPU configuration without memory mirroring:

- Select from 1 to 16 DIMMs per CPU.
 - 1, 2, 4, 6, 8, 12, or 16 DIMMs allowed
 - 3, 5, 7, 9, 10, 11, 13, 14, 15 DIMMs not allowed
 - DIMMs for both CPUs must be configured identically.

The DIMMs will be placed by the factory as shown in the following tables.

| #DIMMs | CPU 1 DIMM Placement in Channels (for identically ranked DIMMs) | CPU 2 DIMM Placement in Channels (for identically ranked DIMMs) |
|--------|--|--|
| 1 | (A1) | (A1) |
| 2 | (A1, E1) | (A1, E1) |
| 4 | (A1, C1); (E1, G1) | (A1, C1); (E1, G1) |
| 6 | (A1, C1); (D1, E1); (G1, H1) | (A1, C1); (D1, E1); (G1, H1) |
| 8 | (A1, C1); (D1, E1); (G1, H1); (B1, F1) | (A1, C1); (D1, E1); (G1, H1); (B1, F1) |
| 12 | (A1, C1); (D1, E1); (G1, H1); (A2, C2); (D2, E2); (G2, H2) | (A1, C1); (D1, E1); (G1, H1); (A2, C2); (D2, E2); (G2, H2) |
| 16 | (A1, B1); (C1, D1); (E1, F1); (G1, H1); (A2, B2); (C2, D2); (E2, F2); (G2, H2) | (A1, B1); (C1, D1); (E1, F1); (G1, H1); (A2, B2); (C2, D2); (E2, F2); (G2, H2) |

(4) 2-CPU configuration with memory mirroring:

- Select 8 or 16 DIMMs per CPU (DIMMs for all CPUs must be configured identically). In addition, the memory mirroring option (N01-MMIRROR) as shown in [Table 6 on page 24](#) must be selected.

The DIMMs will be placed by the factory as shown in the following tables.

| # DIMMs Per CPU | CPU 1 DIMM Placement in Channels (for identical ranked DIMMs) | CPU 2 DIMM Placement in Channels (for identically ranked DIMMs) |
|-----------------|--|--|
| 8 | (A1, C1); (D1, E1); (G1, H1); (B1, F1) | (A1, C1); (D1, E1); (G1, H1); (B1, F1) |
| 16 | (A1, B1); (C1, D1); (E1, F1); (G1, H1); (A2, B2); (C2, D2); (E2, F2); (G2, H2) | (A1, B1); (C1, D1); (E1, F1); (G1, H1); (A2, B2); (C2, D2); (E2, F2); (G2, H2) |

- Select the memory mirroring option (N01-MMIRROR) as shown in [Table 6 on page 24](#).



NOTE: System performance is optimized when the DIMM type and quantity are equal for both CPUs, and when all channels are filled equally across the CPUs in the server.

Table 7 3200-MHz DIMM Memory Speeds with Different Intel® Xeon® Ice Lake® Processors

| DIMM and CPU Frequencies (MHz) | DPC | LRDIMM (4Rx4)- 128 GB (MHz) | RDIMM (2Rx4) - 64 GB (MHz) | RDIMM (2Rx4) - 32 GB (MHz) | RDIMM (1Rx4) - 16 GB (MHz) |
|--------------------------------|------|-----------------------------|----------------------------|----------------------------|----------------------------|
| | | 1.2 V | 1.2 V | 1.2 V | 1.2 V |
| DIMM = 3200 CPU = 3200 | 1DPC | 3200 | 3200 | 3200 | 3200 |
| | 2DPC | 3200 | 3200 | 3200 | 3200 |
| DIMM = 3200 CPU = 2933 | 1DPC | 2933 | 2933 | 2933 | 2933 |
| | 2DPC | 2933 | 2933 | 2933 | 2933 |
| DIMM = 3200 CPU = 2666 | 1DPC | 2666 | 2666 | 2666 | 2666 |
| | 2DPC | 2666 | 2666 | 2666 | 2666 |

DIMM Rules

- Allowed DIMM count for 1 CPU:
 - Minimum DIMM count = 1; Maximum DIMM count = 16
 - 1, 2, 4, 6, 8, 12, or 16 DIMMs allowed
 - 3, 5, 7, 9, 10, 11, 13, 14, or 15 DIMMs not allowed.
- Allowed DIMM count for 2 CPUs
 - Minimum DIMM count = 2; Maximum DIMM count = 32
 - 2, 4, 8, 12, 16, 24, or 32 DIMMs allowed
 - 6, 10, 14, 18, 20, 22, 26, 28, or 30 DIMMs not allowed.
- DIMM Mixing:
 - Mixing different types of DIMM (RDIMM with LRDIMM) is not supported within a server.
 - Mixing RDIMM with RDIMM types is allowed if they are mixed in same quantities, in a balanced configuration.
 - Mixing 16GB, 32GB, and 64GB RDIMMs is supported.
 - 128GB LRDIMMs cannot be mixed with other RDIMMs.



NOTE:

- DIMM mixing is not allowed when PMem are installed; in these cases, all DIMMs must be the same type and size.
- See the detailed mixing DIMM configurations at the following link

[Cisco UCS C220/C240/B200 M6 Memory Guide](#)

See [Table 8](#) for Intel® Optane™ Persistent Memory modes. See [Table 8](#) for allowed DIMM/PMem mixed configurations.

Table 8 Intel® Optane™ Persistent Memory Modes

| Intel® Optane® DC Persistent Memory Modes | |
|---|---|
| App Direct Mode: | PMem operates as a solid-state disk storage device. Data is saved and is non-volatile. Both PMem and DIMM capacities count towards the CPU capacity limit |
| Memory Mode: | PMem operates as a 100% memory module. Data is volatile and DRAM acts as a cache for PMem. Only the PMem capacity counts towards the CPU capacity limit). This is the factory default mode. |

Table 9 Intel® Whitley® Xeon® Processor Allowable Mixed DIMM/PMem¹ Physical Configuration

| DIMM + PMem Count | CPU 1 or CPU 2 | | | | | | | | | | | | | | | |
|--------------------|----------------|--------|------------|--------|------------|--------|------------|--------|------------|--------|------------|--------|------------|--------|------------|--------|
| | ICX: IMC2 | | | | ICX: IMC3 | | | | ICX: IMC1 | | | | ICX: IMC0 | | | |
| | Chan 0 (F) | | Chan 1 (E) | | Chan 0 (H) | | Chan 1 (G) | | Chan 0 (C) | | Chan 1 (D) | | Chan 0 (A) | | Chan 1 (B) | |
| | Slot 1 | Slot 2 | Slot 1 | Slot 2 | Slot 1 | Slot 2 | Slot 1 | Slot 2 | Slot 2 | Slot 1 | Slot 2 | Slot 1 | Slot 2 | Slot 1 | Slot 2 | Slot 1 |
| 4 + 4 ² | PMem | | DIMM | | PMem | | DIMM | | | DIMM | | PMem | | DIMM | | PMem |
| 8 + 1 ³ | DIMM | | DIMM | | DIMM | | DIMM | | | DIMM | | DIMM | PMem | DIMM | | DIMM |
| 8 + 4 ⁴ | DIMM | | DIMM | PMem | DIMM | | DIMM | PMem | PMem | DIMM | | DIMM | PMem | DIMM | | DIMM |
| 8 + 8 ⁵ | DIMM | PMem | DIMM | PMem | DIMM | PMem | DIMM | PMem | PMem | DIMM | PMem | DIMM | PMem | DIMM | PMem | DIMM |

NOTE: AD = App Direct Mode, MM = Memory Mode

Notes:

1. All systems must be fully populated with two CPUs when using PMem at this time.
2. AD, MM
3. AD
4. AD, MM
5. AD, MM

For detailed Intel PMem configurations, refer to the following documents:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c220m6/install/c220m6.html

[Cisco UCS C220/C240/B200 M6 Memory Guide](#)

STEP 5 SELECT DRIVE CONTROLLERS

The following list summarizes how drives are controlled on the server:

- Servers with SATA drives (only) are controlled by an Intel C621 PCH through the SATA Interposer (AHCI), or
- SAS/SATA drives are controlled through a Cisco 12G RAID Controller, or
- SAS/SATA drives are controlled through a Cisco 12G SAS pass-through HBA
- PCIe drives are controlled directly from the CPUs

AHCI with SATA Interposer

The default configuration is Advanced Host Control Interface (AHCI), which supports SATA-only drives. A maximum of 8 SATA drives are supported with AHCI and this configuration requires a SATA interposer board, which plugs directly into the drive backplane. The SATA Interposer supports drives in slots 1-8.



NOTE: AHCI is limited to Windows and Linux operating systems only. There is no VMware support for AHCI.

Cisco 12G SAS RAID Controller

This RAID controller supports up to 10 SAS or SATA drives operating at 3 Gbs, 6 Gbs, and 12 Gbs. It includes a SuperCap and a 4 GB flash-back write cache (FBWC) and supports RAID 0, 1, 5, 6, 10, 50, 60, JBOD mode, and SRAID0. The RAID controller plugs directly into a dedicated slot.



NOTE: 64 RAID groups (virtual drives) are supported with this RAID controller.

Cisco 12G SAS HBA

This HBA supports up to 10 SAS or SATA drives operating at 3 Gbs, 6 Gbs, and 12 Gbs. It supports JBOD or pass-through mode (not RAID) and plugs directly into a dedicated slot.

RAID Volumes and Groups

When creating each RAID volume, follow these guidelines:

- Use the same capacity for each drive in each RAID volume
- For the Cisco 12G SAS RAID controller, use either all SAS HDDs, or all SAS SSDs, or all SATA SSDs in each RAID volume

Select RAID Controller Options

If you do not want the default AHCI 8 SATA-only drive setup (8 internal drives in drive bays 1-8 and 2 SATA M.2 drives), select one of the following:

- One Cisco 12G RAID controller (see [Table 10](#)), or
- One Cisco 12G SAS HBA (see [Table 10](#))



NOTE:

- The default solution is AHCI, which supports a limited number of drives, operating systems, and virtualized environments. For a more comprehensive solution, choose a controller from [Table 10](#).
 - UCS-M2-HWRAID is required when selecting the M.2 SATA drives.
 - vSAN HCL listed/qualified component is UCSC-SAS-M6T (UCSC-SAS-220M6).
-

Table 10 Hardware Controller Options

| Product ID (PID) | PID Description |
|---|---|
| Controllers for Internal Drives | |
| Note that if the following Cisco 12G SAS RAID controller or Cisco 12G SAS HBA is selected, it is factory-installed in a dedicated slot. | |
| UCSC-RAID-220M6 | Cisco 12G SAS RAID controller with SuperCap and 4 GB FBWC <ul style="list-style-type: none"> ■ Supports up to 10 internal SAS HDDs and SAS/SATA SSDs. ■ Supports RAID 0, 1, 5, 6, 10, 50, 60, and JBOD mode. Supports mixed RAID and JBOD mode. ■ For all self-encrypting drives (SED), standalone Management (CIMC/UCSM) is supported for configuring and managing local keys. For now, SED drives are managed with local key management only. Third-party key management will be supported (KMIP compliant). |
| UCSC-SAS-220M6 | Cisco 12G SAS HBA <ul style="list-style-type: none"> ■ No RAID support ■ Supports up to 10 internal SAS HDDs and SAS/SATA SSDs ■ Supports JBOD or pass-through mode |
| SATA Interposer | |
| UCSC-SATAIN-220M6 | SATA Interposer (for control of up to 8 SATA-only drives using AHCI) |
| Supercap | |
| UCS-SCAP-M6 | M6 Supercap for write cache backup |
| RAID Configuration Options (not available for Cisco 12G SAS HBA or AHCI) | |
| R2XX-SRAID0 | Enable single disk RAID 0 Setting. |
| R2XX-RAID0 | Factory preconfigured RAID striping option Enable RAID 0 Setting. Requires two or more hard drive.s |
| R2XX-RAID1 | Factory preconfigured RAID mirroring option Enable RAID 1 Setting. Requires two or more drives with the same size, speed, capacity. |
| R2XX-RAID5 | Factory preconfigured RAID option Enable RAID 5 Setting. Requires a minimum of three drives of the same size, speed, capacity. |
| R2XX-RAID6 | Factory preconfigured RAID option Enable RAID 6 Setting. Requires a minimum of four drives of the same size, speed, capacity. |
| R2XX-RAID10 | Factory preconfigured RAID option Enable RAID 10 Setting. Requires a even number of drives (minimum of four drives) of the same size, speed, capacity. |

Approved Configurations

- AHCI supports up to 8 internal SATA HDDs (slots 1-8) with no RAID support.
- The Cisco 12G RAID SAS controller supports up to 10 internal SAS/SATA SSDs or HDDs with up to RAID 0, 1, 10, 5, 6, 50, 60 and JBOD mode support.
- The Cisco 12G SAS HBA supports up to 10 internal drives with JBOD support.

STEP 6 SELECT DRIVES

The standard disk drive features are:

- 2.5-inch small form factor
- Hot-pluggable
- Drives come mounted in sleds

Select Drives

The available drives are listed in [Table 11](#).

Table 11 Available Hot-Pluggable Sled-Mounted Drives
UCSC-C220-M6S (10-drive system) and UCSC-C220-M6N (10-drive NVMe only system)

| Product ID (PID) | PID Description | Drive Type | Capacity |
|--|---|------------|----------|
| HDDs | | | |
| HDDs (15K RPM) | | | |
| UCS-HD900G15K12N | 900 GB 12G SAS 15K RPM SFF HDD | SAS | 900 GB |
| UCS-HD300G15K12N | 300 GB 12G SAS 15K RPM SFF HDD | SAS | 300 GB |
| UCS-HD600G15K12N | 600 GB 12G SAS 15K RPM SFF HDD | SAS | 600 GB |
| HDDs (10K RPM) | | | |
| UCS-HD300G10K12N | 300 GB 12G SAS 10K RPM SFF HDD | SAS | 300 GB |
| UCS-HD600G10K12N | 600 GB 12G SAS 10K RPM SFF HDD | SAS | 600 GB |
| UCS-HD12TB10K12N | 1.2 TB 12G SAS 10K RPM SFF HDD | SAS | 1.2 TB |
| UCS-HD18TB10K4KN ¹ | 1.8 TB 12G SAS 10K RPM SFF HDD (4K) | SAS | 1.8 TB |
| UCS-HD24TB10K4KN ¹ | 2.4 TB 12G SAS 10K RPM SFF HDD (4K) | SAS | 2.4 TB |
| Enterprise Performance SAS/SATA SSDs (High endurance, supports up to 10X or 3X DWPD (drive writes per day))² | | | |
| UCS-SD19T63X-EP | 1.9 TB 2.5in Enterprise performance 6GSATA SSD(3X endurance) | SATA | 1.9 TB |
| UCS-SD960G63X-EP | 960 GB 2.5in Enterprise performance 6GSATA SSD(3X endurance) | SATA | 960 GB |
| UCS-SD480G63X-EP | 480 GB 2.5in Enterprise Performance 6GSATA SSD(3X endurance) | SATA | 480 GB |
| UCS-SD19TM3X-EP | 1.9 B 2.5in Enterprise performance 6GSATA SSD(3X endurance) | SATA | 1.9 TB |
| UCS-SD480GM3X-EP | 480 GB 2.5in Enterprise Performance 6GSATA SSD(3X endurance) | SATA | 480 GB |
| UCS-SD960GM3X-EP | 960 GB 2.5in Enterprise performance 6GSATA SSD(3X endurance) | SATA | 960 GB |
| UCS-SD19TBM3X-EP | 1.9TB 2.5in Enterprise performance 6GSATA SSD(3X endurance) | SATA | 1.9 TB |
| UCS-SD960GBM3X-EP | 960GB 2.5in Enterprise performance 6GSATA SSD(3X endurance) | SATA | 960 GB |
| UCS-SD480GBM3X-EP | 480GB 2.5in Enterprise Performance 6GSATA SSD(3X endurance) | SATA | 480 GB |
| UCS-SD800GK3X-EP | 800 GB 2.5in Enterprise Performance 12G SAS SSD(3X endurance) | SAS | 800 GB |
| UCS-SD16TK3X-EP | 1.6 TB 2.5in Enterprise Performance 12G SAS SSD(3X endurance) | SAS | 1.6 TB |
| UCS-SD32TK3X-EP | 3.2 TB 2.5in Enterprise Performance 12G SAS SSD(3X endurance) | SAS | 3.2 TB |
| Enterprise Value SAS/SATA SSDs (Low endurance, supports up to 1X DWPD (drive writes per day))³ | | | |
| UCS-SD38T611X-EV | 3.8 TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 3.8 TB |

Table 11 Available Hot-Pluggable Sled-Mounted Drives (continued)
UCSC-C220-M6S (10-drive system) and UCSC-C220-M6N (10-drive NVMe only system)

| Product ID (PID) | PID Description | Drive Type | Capacity |
|------------------------------------|---|------------|----------|
| UCS-SD960G611X-EV | 960 GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 960 GB |
| UCS-SD480G611X-EV | 480 GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 480 GB |
| UCS-SD960G61X-EV | 960 GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 960 GB |
| UCS-SD19T61X-EV | 1.9 TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 1.9 TB |
| UCS-SD38T61X-EV | 3.8 TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 3.8 TB |
| UCS-SD120GM1X-EV | 120 GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 120 GB |
| UCS-SD240GM1X-EV | 240 GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 240 GB |
| UCS-SD480GM1X-EV | 480 GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 480 GB |
| UCS-SD960GM1X-EV | 960 GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 960 GB |
| UCS-SD16TM1X-EV | 1.6 TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 1.6 TB |
| UCS-SD19TM1X-EV | 1.9 TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 1.9 TB |
| UCS-SD38TM1X-EV | 3.8 TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 3.8 TB |
| UCS-SD76TM1X-EV | 7.6T B 2.5 inch Enterprise Value 6G SATA SSD | SATA | 7.6 TB |
| UCS-SD960G6S1X-EV | 960GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 960 GB |
| UCS-SD19T6S1X-EV | 1.9TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 1.9 TB |
| UCS-SD38T6S1X-EV | 3.8TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 3.8 TB |
| UCS-SD76T6S1X-EV | 7.6TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 7.6 TB |
| UCS-SD240GBM1X-EV | 240GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 240 GB |
| UCS-SD480GBM1X-EV | 480 GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 480 GB |
| UCS-SD19TBM1X-EV | 1.9TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 1.9 TB |
| UCS-SD76TBM1X-EV | 7.6TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 7.6 TB |
| UCS-SD38TBM1X-EV | 3.8TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 3.8 TB |
| UCS-SD19TBM1X-EV | 1.9TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 1.9 TB |
| UCS-SD16TBM1X-EV | 1.6TB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 1.6 TB |
| UCS-SD960GBM1X-EV | 960GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 960 GB |
| UCS-SD480GBM1X-EV | 480GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 480 GB |
| UCS-SD240GBM1X-EV | 240GB 2.5 inch Enterprise Value 6G SATA SSD | SATA | 240 GB |
| UCS-SD960GK1X-EV | 960 GB 2.5 inch Enterprise Value 12G SAS SSD | SAS | 960 GB |
| UCS-SD19TK1X-EV | 1.9 TB 2.5 inch Enterprise Value 12G SAS SSD | SAS | 1.9 TB |
| UCS-SD38TK1X-EV | 3.8 TB 2.5 inch Enterprise Value 12G SAS SSD | SAS | 3.8 TB |
| UCS-SD76TK1X-EV | 7.6 TB 2.5 inch Enterprise Value 12G SAS SSD | SAS | 7.6 TB |
| UCS-SD15TK1X-EV | 15.3 TB 2.5 inch Enterprise Value 12G SAS SSD | SAS | 15.3 TB |
| Self-Encrypted Drives (SED) | | | |
| UCS-HD24T10NK9 | 2.4TB 10k rpm 4k SED HDD | SED | 2.4 TB |
| UCS-HD18T10NK9 | 1.8TB 12G SAS 10K RPM SFF HDD (4K format, SED) | SED | 1.8 TB |
| UCS-HD12T10NK9 | 1.2TB 12G SAS 10K RPM SFF HDD (SED-FIPS) | SED | 1.2 TB |
| UCS-HD600G15NK9 | 600GB 12G SAS 15K RPM SFF HDD (SED) | SED | 600 GB |
| UCS-SD800GBKNK9 | 800GB Enterprise Performance SAS SSD (3X DWPD, SED) | SED | 800 GB |
| UCS-SD960GBKNK9 | 960GB Enterprise Value SAS SSD (1X DWPD, SED) | SED | 960 GB |

Table 11 Available Hot-Pluggable Sled-Mounted Drives (continued)
UCSC-C220-M6S (10-drive system) and UCSC-C220-M6N (10-drive NVMe only system)

| Product ID (PID) | PID Description | Drive Type | Capacity |
|--|--|------------|----------|
| UCS-SD76TBKNK9 | 7.6TB Enterprise value SAS SSD (1 DWPD, SED-FIPS) | SED-FIPS | 7.6 TB |
| UCS-SD38TBKNK9 | 3.8TB Enterprise Value SAS SSD (1X DWPD, SED) | SED | 3.8 TB |
| UCS-SD16TBKNK9 | 1.6TB Enterprise performance SAS SSD (3X DWPD, SED) | SED | 1.6 TB |
| UCS-SD38TBEM2NK9 | 3.8TB Enterprise value SATA SSD (1X, SED) | SED | 3.8 TB |
| PCIe/NVMe SFF (2.5-inch) SFF drives⁴ | | | |
| UCSC-NVMEXPB-I375 | 375GB 2.5in Intel® Optane™ NVMe Extreme Performance SSD | NVMe | 375 GB |
| UCSC-NVMEXP-I750 | 750GB 2.5in Intel® Optane™ NVMe Extreme Perf. | NVMe | 750 GB |
| UCS-NVMEI4-I1920 | 1.9TB 2.5in U.2 Intel P5500 NVMe High Perf Medium Endurance | NVMe | 1.9 TB |
| UCS-NVMEI4-I1600 | 1.6TB 2.5in U.2 Intel P5600 NVMe High Perf Medium Endurance | NVMe | 1.6 TB |
| UCS-NVMEI4-I3200 | 3.2TB 2.5in U.2 Intel P5600 NVMe High Perf Medium Endurance | NVMe | 3.2 TB |
| UCS-NVMEI4-I6400 | 6.4TB 2.5in U.2 Intel P5600 NVMe High Perf Medium Endurance | NVMe | 6.4 TB |
| UCS-NVMEXP-I400 | 400GB 2.5in U.2 Intel P5800X Optane NVMe Extreme Perform SSD | NVMe | 400 GB |
| UCS-NVMEXP-I800 | 800GB 2.5in U.2 Intel P5800X Optane NVMe Extreme Perform SSD | NVMe | 800 GB |
| UCS-NVME4-1920 | 1.9TB 2.5in U.2 15mm P5520 Hg Perf Med End NVMe | NVMe | 1,9 TB |
| UCS-NVME4-3840 | 3.8TB 2.5in U.2 15mm P5520 Hg Perf Med End NVMe | NVMe | 3.8 TB |
| UCS-NVME4-7680 | 7.6TB 2.5in U.2 15mm P5520 Hg Perf Med End NVMe | NVMe | 7.6 TB |
| UCS-NVME4-1536 | 15.3TB 2.5in U.2 15mm P5520 Hg Perf Med End NVMe | NVMe | 15.3 TB |
| UCS-NVME4-1600 | 1.6TB 2.5in U.2 15mm P5620 Hg Perf Hg End NVMe (3X) | NVMe | 1.6 TB |
| UCS-NVME4-3200 | 3.2TB 2.5in U.2 15mm P5620 Hg Perf Hg End NVMe (3X) | NVMe | 3.2 TB |
| UCS-NVME4-6400 | 6.4TB 2.5in U.2 15mm P5620 Hg Perf Hg End NVMe (3X) | NVMe | 6.4 TB |
| UCS-NVMEQ-1536 | 15.3TB 2.5in U.2 15mm P5316 Hg Perf Low End NVMe | NVMe | 15.3 TB |
| UCSC-NVMEHW-I8000 | 8TB 2.5" U.2 Intel P4510 NVMe High Perf. Value Endurance | NVMe | 8.0 TB |
| UCS-NVMEM6-W3200 | 3.2TB 2.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance | NVMe | 3.2 TB |
| UCS-NVMEM6-W7680 | 7.6TB 2.5in U.2 WD SN840 NVMe Extreme Perf. Value Endurance | NVMe | 7.6 TB |
| UCS-NVMEM6-W15300 | 15.3TB 2.5in U.2 WD SN840 NVMe Extreme Perf. Value Endurance | NVMe | 15.3 TB |

NOTE: Cisco uses solid state drives from a number of vendors. All solid state drives are subject to physical write limits and have varying maximum usage limitation specifications set by the manufacturer. Cisco will not replace any solid state drives that have exceeded any maximum usage specifications set by Cisco or the manufacturer, as determined solely by Cisco.



NOTE: When configuring front facing drives with NVMe drives, you must order an NVMe cable (PID = CBL-FNVME-220M6) along with the drives.

Caveats

- With the UCSC-C220-M6S, you can choose only SATA HDDs when using AHCI with a SATA Interposer. The drives must be installed in slots 1-8.

Notes:

1. Operating Systems that support 4k sector size drives are as follows:
 - CentOS 7.9/8.2/8.3 (and later)
 - Windows Server 2016/2019 (and later)
 - Red Hat Enterprise Linux 7.9/8.2 (and later)
 - SUSE Linux Enterprise Server 15.2 (and later)
 - ESXi 6.7 U3/7.0 U2 (and later)
 - See this link for operating system guidance: <https://ucshcltool.cloudapps.cisco.com/public/>
 - UEFI Mode must be used when booting from 4K sector size drives (legacy mode is not supported).
 - Ensure that 4K sector size and 512 byte sector size drives are not mixed in the same RAID volume.
2. Targeted for write centric IO applications. Supports endurance of 10 or 3 DWPD (drive writes per day). Target applications are caching, online transaction processing (OLTP), data warehousing, and virtual desktop infrastructure (VDI).
3. Targeted for read centric IO applications. Supports endurance of 1 DWPD (drive write per day). Target applications are boot, streaming media, and collaboration.
4. Except HGST, Intel and WD NVMe drives can be mixed.
 - SFF NVMe drives are connected directly to CPU2 and not managed by any drive controller.
 - You can mix HDDs and SSDs as long as you keep all HDDs in their own RAID volume and all SSDs in their own RAID volume.
 - You can mix SAS HDDs and SAS/SATA SSDs when using the Cisco 12G RAID controller or Cisco 12G SAS controller.
 - If you order any NVMe SFF drives, you must also order two CPUs.
 - SFF NVMe drives are bootable in UEFI mode only.
 - SED drives can be mixed with the non-SED drives in [Table 11 on page 34](#).

Intel® Virtual RAID on CPU (Intel® VROC)

The server supports Intel® Virtual RAID on CPU (Intel® VROC). VROC is an enterprise RAID solution used with Intel NVMe SSDs (see [Table 11](#) for supported Intel NVMe SSDs). The Intel® Volume Management Device (Intel® VMD) is a controller integrated into the CPU PCIe root complex. Intel® VMD NVMe SSDs are connected to the CPU, which allows the full performance potential of fast Intel® Optane™ SSDs to be realized. Intel® VROC, when implemented, replaces traditional hardware RAID host bus adapter (HBA) cards placed between the drives and the CPU.

**NOTE:**

- Intel® VROC is only supported with Intel drives
 - Intel® VROC enablement key factory pre-provisioned to BIOS - no additional licensing required.
-

VROC has the following features:

- Small Form Factor (SFF) drive support (only)
- No battery backup (BBU) or external SuperCap needed
- Software-based solution utilizing Intel SFF NVMe direct connected to Intel CPU
- RAID 0/1/5/10 support
- Windows, Linux, VMware OS support.
- Host Tools- Windows GUI/CLI, Linux CLI.
- UEFI Support- HII Utility, OBSE.
- Intel VROC NVMe operates in UEFI mode only

See the [instructions on setting up and managing VROC for Intel NVMe SSDs](#) for more information.

STEP 7 SELECT OPTION CARD(S)

For up-to-date server compatibility, please check the Hardware and Software compatibility list (HCL) at <https://ucshcltool.cloudapps.cisco.com/public/>.

The standard PCIe card offerings are:

- Modular LAN on Motherboard (mLOM)
- Virtual Interface Cards (VICs)
- Network Interface Cards (NICs)
- Nexus Smart NIC
- Host Bus Adapters (HBAs)

Select Option Cards

The available option cards are listed in [Table 12](#).

Table 12 Available PCIe Option Cards

| Product ID (PID) | PID Description | Location | Card Size ¹ |
|--|---|------------------|------------------------|
| Modular LAN on Motherboard (mLOM) | | | |
| UCSC-M-V25-04 | Cisco UCS VIC 1467 quad port 10/25G SFP28 mLOM | mLOM | HHHL, SS |
| UCSC-M-V100-04 | Cisco UCS VIC 1477 dual port 40/100G QSFP28 mLOM | mLOM | HHHL, SS |
| UCSC-M-V5Q50G | Cisco UCS VIC 15428 quad port 10/25/50G MLOM | mLOM | HHHL, SS |
| UCSC-M-V5D200G | Cisco UCS VIC 15238 dual port 40/100/200G MLOM | mLOM | HHHL, SS |
| UCSC-M-V5Q50GV2 ² | Cisco UCS VIC 15427 Quad Port CNA MLOM with Secure Boot | mLOM | HHHL, SS |
| UCSC-M-V5D200GV2 ² | VIC 15237, MLOM, 2x40/100/200G for Rack | mLOM | HHHL, SS |
| Virtual Interface Card (VICs)³ | | | |
| UCSC-PCIE-C100-04 | Cisco UCS VIC 1495 Dual Port 40/100G QSFP28 CNA PCIe | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-PCIE-C25Q-04 | Cisco UCS VIC 1455 quad port 10/25G SFP28 PCIe | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-V5Q50G-D | Cisco UCS VIC 15425 Quad Port 10/25/50G CNA PCIE | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-V5D200G-D | Cisco UCS VIC 15235 Dual Port 40/100/200G CNA PCIE | Riser 1, 2, or 3 | HHHL, SS |
| Network Interface Cards (NICs) | | | |
| 1 Gb NICs | | | |
| UCSC-PCIE-IRJ45 | Intel i350 quad-port 1G copper PCIe | Riser 1, 2, or 3 | HHHL, SS |
| 10 Gb NICs | | | |
| UCSC-PCIE-ID10GF | Intel X710-DA2 Dual Port 10Gb SFP+ NIC | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-PCIE-IQ10GF | Intel X710 quad-port 10G SFP+ NIC | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-ID10GC | Cisco-Intel X710T2LG 2x10 GbE RJ45 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-IQ10GC | Cisco-Intel X710T4LG 4x10 GbE RJ45 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| 25 Gb NICs | | | |

Table 12 Available PCIe Option Cards (continued)

| Product ID (PID) | PID Description | Location | Card Size ¹ |
|---------------------------------|---|------------------|------------------------|
| UCSC-P-I8D25GF ⁴ | Cisco-Intel E810XXVDA2 2x25/10 GbE SFP28 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-M5D25GF ⁴ | Mellanox MCX512A-ACAT dual port 10/25G SFP28 NIC | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-I8Q25GF ^{4,5} | Cisco-Intel E810XXVDA4L 4x25/10 GbE SFP28 PCIe NIC | Riser 1 or 2 | FHHL, SS |
| 40 Gb NICs | | | |
| UCSC-PCIE-ID40GF | Intel XL710 dual-port 40G QSFP+ NIC | Riser 1, 2, or 3 | HHHL, SS |
| 100 Gb NICs | | | |
| UCSC-P-M5D100GF ⁴ | Mellanox CX-5 MCX516A-CDAT 2x100GbE QSFP PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-M6CD100GF ⁴ | Cisco-MLNX MCX623106AC-CDAT 2x100GbE QSFP56 PCIe NIC (with Crypto) | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-M6DD100GF ⁴ | Cisco-MLNX MCX623106AS-CDAT 2x100GbE QSFP56 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-I8D100GF ⁴ | Cisco-Intel E810CQDA2 2x100 GbE QSFP28 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| Nexus Smart NIC | | | |
| NXN-K3P-2X | Nexus X25 2-port SFP28 SmartNIC (2-channel), KU3P FPGA | Riser 1, 2, or 3 | HHHL, SS |
| NXN-K3P-2X-4GB | Nexus X25 2-port SFP28 SmartNIC (2-channel), KU3P FPGA, 4GB | Riser 1, 2, or 3 | HHHL, SS |
| NXN-K3P-8X | Nexus X100 2-port QSFP28 SmartNIC (8-channel), KU3P FPGA | Riser 1, 2, or 3 | HHHL, SS |
| NXN-K3P-8X-9GB | Nexus X100 2p QSFP28 SmartNIC (8-channel), KU3P FPGA, 9GB | Riser 1, 2, or 3 | HHHL, SS |
| NXN-V9P-16X-9GB | Nexus 2-port QDD SmartNIC+ (16-channel), VU9P FPGA, 9GB DDR | Riser 1, 2, or 3 | HHHL, SS |
| Host Bus Adapters (HBAs) | | | |
| UCSC-P-Q6D32GF | Cisco-QLogic QLE2772 2x32GFC Gen 6 Enhanced PCIe HBA | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-B7D32GF | Cisco-Emulex LPe35002-M2-2x32GFC Gen 7 PCIe HBA | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-PCIE-QD16GF | Qlogic QLE2692 dual-port 16G FC HBA | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-PCIE-BD16GF | Emulex LPe31002 dual port 16G FC HBA | Riser 1, 2, or 3 | HHHL, SS |
| External Storage HBA | | | |
| UCSC-9500-8E | 9500 Series PCIe Gen 4.0 Tri-Mode Storage HBA 12Gb/s SAS/SATA/PCIe (NVMe) | Riser 1, 2, or 3 | HHHL, SS |

Notes:

1. HHHL = half-height, half-length; FHHL = full-height, half-length; SS = single-slot; DS = double-slot.
2. Can not be mixed with 1400 series VICs
3. VICs can be placed/installed in riser 1 or 3 only using half height riser combination. For full height, you can use either card for the VICs.
4. When present, the recommended Fan Speed Control policy setting is balanced.
5. If UCSC-P-I8Q25GF selected then UCSC-GPURKIT-C220 riser is required.

Approved Configurations

(1) 1-CPU Systems

- You can select up to one of the PCIe option cards listed in [Table 12](#) to be installed in Riser 1 and one in Riser 2 if selected. Risers 1 and 2 are controlled by CPU 1. Riser 3 is not installed in a 1-CPU system.

(2) 2-CPU Systems

- You can select up to two of the PCIe option cards listed in [Table 12](#) for a two-riser system (Riser 1 and Riser 2 installed) and up to three of the PCIe option cards for a three-riser system (Riser 1, Riser 2, and Riser 3 installed). Risers 1 and 2 are controlled by CPU 1 and riser 3 is controlled by CPU 2.

Caveats

- For 1-CPU systems:
 - Half Height Riser 1 and Riser 2 is supported, Full Height Riser 1 only supported.
 - Only a single plug-in PCIe VIC card is supported and must be installed in Riser 1. However, in addition to the one PCIe VIC card, you can also choose to install an mLOM VIC card in the mLOM slot at the rear of the chassis.
- For 2-CPU systems:
 - All risers (Risiers 1, 2, and 3) are supported
 - Two plug-in PCIe VIC cards can be installed in 2-CPU systems. VICs can be placed in Riser 1 or 3 only for 1U in half height riser combination. For full height riser, you can use either Riser 1 or 2 for the VICs. In addition, you can order an mLOM VIC card, which is installed in the mLOM slot at the rear of the chassis and thus have three VIC cards in operation at the same time. See [Table 12 on page 39](#) for the selection of plug-in and mLOM VIC cards. See also [Table 1 on page 12](#).
- To help ensure that your operating system is compatible with the card you have selected, or to see additional cards that have been qualified to work with the UCS C220 M6 server, but are not sold on the Cisco pricelist, check the Hardware Compatibility List at this URL: http://www.cisco.com/en/US/products/ps10477/prod_technical_reference_list.html

ORDER OPTIONAL PCIe OPTION CARD ACCESSORIES

- These optics and cables have been tested for compatibility and are approved for use with Ethernet Network Adapter (as of the time of this publication). For the latest update, check the and consult Cisco Compatibility Matrix at <https://tmgmatrix.cisco.com>.
- For list of supported optics and cables for VIC 1455, VIC 1467, VIC 1495 and VIC 1477, refer to the VIC 1300 and VIC 1400 series data sheets at the following links:
 - <https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-b-series-blade-servers/datasheet-listing.html>
 - <https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/unified-computing-system-adapters/datasheet-c78-741130.html>

The information in the preceding tables was compiled from testing conducted by Cisco Transceiver Module Group (TMG) and vendors. The latest compatibility with optical modules and DACs can be found at <https://tmgmatrix.cisco.com/>.

Refer to the these links for additional connectivity options.

| Intel: | Marvell/Qlogic: | Mellanox: |
|-----------------------------------|--|--|
| Product Guide | 41000 series Interoperability Matrix | Firmware Release Notes |
| Speed White Paper | 45000 series Interoperability Matrix | |

STEP 8 ORDER GPU CARDS (OPTIONAL)

Select GPU Options

The available GPU PCIe options are listed in [Table 13](#).

Table 13 Available PCIe GPU Cards¹

| Product ID (PID) | PID Description | Card Size | Maximum cards Per node |
|------------------|-------------------------|-------------------|------------------------|
| UCSC-GPU-T4-16 | NVIDIA T4 PCIE 75W 16GB | HHHL, single-wide | 3 |

Notes:

1. Refer to 220 M6 [installation guide](#) for more details.



NOTE:

- All GPU cards must be procured from Cisco as there is a unique SBIOS ID required by CIMC and UCSM
- GPUs cannot be mixed.
- For the maximum of 3x T4 GPUs, the 3x half slot riser should be selected.
- A GPU can be installed in either full-height PCIe riser 1 or 2 (or both) or can be installed in three half-height riser 1, 2, or 3.

STEP 9 ORDER POWER SUPPLY

Power supplies share a common electrical and physical design that allows for hot-plug and tool-less installation into M6 C-series servers. Each power supply is certified for high-efficiency operation and offers multiple power output options. This allows users to “right-size” based on server configuration, which improves power efficiency, lowers overall energy costs and avoids stranded capacity in the data center. Use the power calculator at the following link to determine the needed power based on the options chosen (CPUs, drives, memory, and so on):

<http://ucspowercalc.cisco.com>

Table 14 Power Supply

| Product ID (PID) | PID Description |
|-------------------------------------|---|
| PSU (Input High Line 210VAC) | |
| UCSC-PSU1-1050W | 1050W AC power supply for C-Series servers Platinum |
| UCSC-PSUV2-1050DC | Cisco UCS 1050W -48V DC Power Supply for Rack Server Requires cable CAB-48DC-40A-8AWG |
| UCSC-PSU1-1600W | 1600W AC power supply for C-Series servers Platinum |
| UCSC-PSU1-2300W ¹ | 2300W Power supply for C-series servers Titanium |
| PSU (Input Low Line 110VAC) | |
| UCSC-PSU1-1050W | 1050W AC power supply for C-Series servers Platinum |
| UCSC-PSUV2-1050DC | Cisco UCS 1050W -48V DC Power Supply for Rack Server Requires cable CAB-48DC-40A-8AWG |
| UCSC-PSU1-1050ELV | 1050W AC Power Supply C-Series Enhanced Low Line Platinum |
| UCSC-PSU1-2300W | 2300W Power supply for C-series servers Titanium |

Notes:

1. The 2300 W power supply uses a different power connector than the rest of the power supplies, so you must use different power cables to connect it. See [Table 15 on page 45](#) and [Table 16 on page 48](#).



NOTE: In a server with two power supplies, both power supplies must be identical.

STEP 10 SELECT INPUT POWER CORD(S)

Using [Table 15](#) and [Table 16](#), select the appropriate AC power cords. You can select a minimum of no power cords and a maximum of two. If you select the option R2XX-DMYPWRCORD, no power cord is shipped with the server.



NOTE: [Table 15](#) lists the power cords for servers that use power supplies less than 2300 W. [Table 16](#) lists the power cords for servers that use 2300 W power supplies. Note that the power cords for 2300 W power supplies use a C19 connector so they only fit the 2300 W power supply connector.

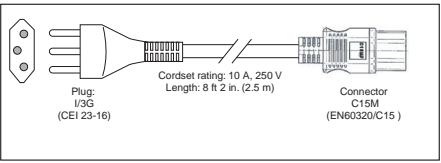
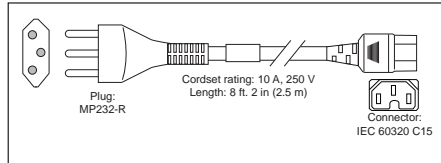
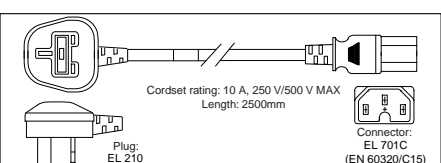
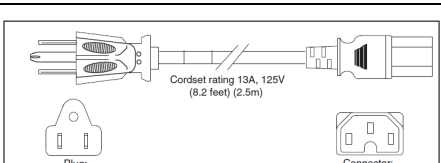
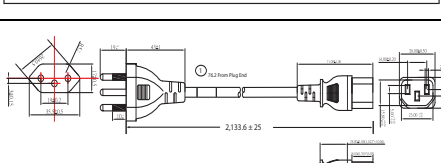
Table 15 Available Power Cords (for server PSUs less than 2300 W)

| Product ID (PID) | PID Description | Images |
|-------------------|---|--|
| NO-POWER-CORD | ECO friendly green option, no power cable will be shipped | |
| R2XX-DMYPWRCORD | No power cord (dummy PID to allow for a no power cord option) | Not applicable |
| CAB-48DC-40A-8AWG | C-Series -48VDC PSU Power Cord, 3.5M, 3 Wire, 8AWG, 40A | <p>Figure 1-3 CAB-48DC-40A-8AWG, DC Power Cord (3.5 m)</p> |
| CAB-N5K6A-NA | Power Cord, 200/240V 6A, North America | |
| CAB-AC-L620-C13 | AC Power Cord, NEMA L6-20 - C13, 2M/6.5ft | |
| CAB-C13-CBN | CABASY,WIRE,JUMPER CORD, 27" L, C13/C14, 10A/250V | |
| CAB-C13-C14-2M | CABASY,WIRE,JUMPER CORD, PWR, 2 Meter, C13/C14,10A/250V | |

Table 15 Available Power Cords (for server PSUs less than 2300 W)

| Product ID (PID) | PID Description | Images |
|-------------------|--|---------------------|
| CAB-C13-C14-AC | CORD,PWR,JMP,IEC60320/C14,IEC60320/C13, 3.0M | |
| CAB-250V-10A-AR | Power Cord, 250V, 10A, Argentina | |
| CAB-9K10A-AU | Power Cord, 250VAC 10A 3112 Plug, Australia | |
| CAB-250V-10A-CN | AC Power Cord - 250V, 10A - PRC | |
| CAB-9K10A-EU | Power Cord, 250VAC 10A CEE 7/7 Plug, EU | |
| CAB-250V-10A-ID | Power Cord, 250V, 10A, India | |
| CAB-C13-C14-3M-IN | Power Cord Jumper, C13-C14 Connectors, 3 Meter Length, India | Image not available |
| CAB-C13-C14-IN | Power Cord Jumper,C13-C14 Connectors,1.4 Meter Length, India | Image not available |
| CAB-250V-10A-IS | Power Cord, SFS, 250V, 10A, Israel | |

Table 15 Available Power Cords (for server PSUs less than 2300 W)

| Product ID (PID) | PID Description | Images |
|----------------------------|--|---|
| CAB-9K10A-IT | Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy |  <p>Plug: 13G (CEI 23-16)</p> <p>Cordset rating: 10 A, 250 V Length: 8 ft 2 in. (2.5 m)</p> <p>Connector: C15M (EN60320/C15)</p> |
| CAB-9K10A-SW | Power Cord, 250VAC 10A MP232 Plug, Switzerland |  <p>Plug: MP232-R</p> <p>Cordset rating: 10 A, 250 V Length: 8 ft. 2 in (2.5 m)</p> <p>Connector: IEC 60320 C15</p> |
| CAB-9K10A-UK | Power Cord, 250VAC 10A BS1363 Plug (13 A fuse), UK |  <p>Plug: EL 210 (BS 1363A) 13 AMP fuse</p> <p>Cordset rating: 10 A, 250 V/500 V MAX Length: 2500mm</p> <p>Connector: EL 701 C (EN 60320/C15)</p> |
| CAB-9K12A-NA ¹ | Power Cord, 125VAC 13A NEMA 5-15 Plug, North America |  <p>Plug: NEMA 5-15P</p> <p>Cordset rating: 13A, 125V (8.2 feet) (2.5m)</p> <p>Connector: IEC60320/C15</p> |
| CAB-250V-10A-BR | Power Cord - 250V, 10A - Brazil |  <p>2,133.6 ± 25</p> |
| CAB-C13-C14-2M-JP | Power Cord C13-C14, 2M/6.5ft Japan PSE mark | Image not available |
| CAB-9K10A-KOR ¹ | Power Cord, 125VAC 13A KSC8305 Plug, Korea | Image not available |
| CAB-ACTW | AC Power Cord (Taiwan), C13, EL 302, 2.3M | Image not available |
| CAB-JPN-3PIN | Japan, 90-125VAC 12A NEMA 5-15 Plug, 2.4m | Image not available |
| CAB-48DC-40A-INT | C-Series -48VDC PSU PWR Cord, 3.5M, 3 Wire, 8AWG, 40A (INT) | Image not available |
| CAB-48DC-40A-AS | C-Series -48VDC PSU PWR Cord, 3.5M, 3Wire, 8AWG, 40A (AS/NZ) | Image not available |

Notes:

1. This power cord is rated to 125V and only supported for PSU rated at 1050W or less

Table 16 Available Power Cords (for servers with 2300 W PSUs)

| Product ID (PID) | PID Description | Images |
|-------------------|--|---------------------|
| CAB-C19-CBN | Cabinet Jumper Power Cord, 250 VAC 16A, C20-C19 Connectors | Not applicable |
| CAB-S132-C19-ISRL | S132 to IEC-C19 14ft Israeli | Image not available |
| CAB-IR2073-C19-AR | IRSM 2073 to IEC-C19 14ft Argen | Image not available |
| CAB-BS1363-C19-UK | BS-1363 to IEC-C19 14ft UK | Image not available |
| CAB-SABS-C19-IND | SABS 164-1 to IEC-C19 India | Image not available |
| CAB-C2316-C19-IT | CEI 23-16 to IEC-C19 14ft Italy | Image not available |
| CAB-L520P-C19-US | NEMA L5-20 to IEC-C19 6ft US | Image not available |
| CAB-US515P-C19-US | NEMA 5-15 to IEC-C19 13ft US | Image not available |
| CAB-US520-C19-US | NEMA 5-20 to IEC-C19 14ft US | Image not available |
| CAB-US620P-C19-US | NEMA 6-20 to IEC-C19 13ft US | Image not available |

STEP 11 ORDER TOOL-LESS RAIL KIT AND OPTIONAL REVERSIBLE CABLE MANAGEMENT ARM

Select a Tool-less Rail Kit

Select a tool-less rail kit from [Table 17](#).

Table 17 Tool-less Rail Kit Options

| Product ID (PID) | PID Description |
|------------------|---|
| UCSC-RAIL-M6 | Ball Bearing Rail Kit for C220 and C240 M6 rack servers |
| UCSC-RAIL-NONE | No rail kit option |



NOTE: Cisco recommends a minimum quantity of 1 Rail Kit.

Select an Optional Reversible Cable Management Arm

The reversible cable management arm mounts on either the right or left slide rails at the rear of the server and is used for cable management. Use [Table 18](#) to order a cable management arm.

Table 18 Cable Management Arm

| Product ID (PID) | PID Description |
|------------------|--|
| UCSC-CMA-C220M6 | Reversible CMA for C220 M6 ball bearing rail kit |

For more information about the tool-less rail kit and cable management arm, see the *Cisco UCS C220 M6 Installation and Service Guide* at this URL:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c220m6/install/c220m6.html



NOTE: If you plan to rackmount your UCS C220 M6 server, you must order a tool-less rail kit. The same rail kits and CMAs are used for M5 and M6 servers.

STEP 12 SELECT MANAGEMENT CONFIGURATION (OPTIONAL)

By default, the C220 M6 server NIC mode is configured to be Shared LOM Extended. This NIC mode allows any LOM port or adapter card port to be used to access the Cisco Integrated Management Controller (CIMC). The Cisco VIC card must be installed in a slot with NCSI support.

To change the default NIC mode to Dedicated, select the UCSC-DLOM-01 PID shown in [Table 19](#). In Dedicated NIC mode, the CIMC can be accessed only through the dedicated management port. See [Chassis Rear View \(two full-height, 3/4-length PCIe risers\), page 11](#) for the location of the management port.

To change the default NIC mode to Cisco Card Mode, select the UCSC-CCARD-01 PID shown in [Table 19](#). In this mode, you can assign an IP address to the CIMC using DHCP and from there you can fully automate your deployment.

For more details on all the NIC mode settings, see

https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C480M5/install/C480M5/C480M5_chapter_010.html#concept_srj_vsr_fz

Table 19 Management Configuration Ordering Information

| Product ID (PID) | PID Description |
|------------------|---|
| UCSC-DLOM-01 | Dedicated Mode BIOS setting for C-Series Servers |
| UCSC-CCARD-01 | Cisco Card Mode BIOS setting for C-Series Servers |

STEP 13 SELECT SERVER BOOT MODE (OPTIONAL)

By default, the C220 M6 SFF server ships with UEFI as the default boot mode. To have a server shipped with the Legacy BIOS mode (which was standard on M4 and previous generation servers), select the Legacy BIOS PID from [Table 20](#).

Table 20 Server Boot Mode Ordering Information

| Product ID (PID) | PID Description |
|------------------|--|
| UCSC-LBIOS-01 | Legacy Boot Mode BIOS setting for C-Series Servers |

STEP 14 ORDER SECURITY DEVICES (OPTIONAL)

A Trusted Platform Module (TPM) is a computer chip (microcontroller) that can securely store artifacts used to authenticate the platform (server). These artifacts can include passwords, certificates, or encryption keys. A TPM can also be used to store platform measurements that help ensure that the platform remains trustworthy. Authentication (ensuring that the platform can prove that it is what it claims to be) and attestation (a process helping to prove that a platform is trustworthy and has not been breached) are necessary steps to ensure safer computing in all environments.

A chassis intrusion switch gives a notification of any unauthorized mechanical access into the server.

The security device ordering information is listed in [Table 21](#).

Table 21 Security Devices

| Product ID (PID) | PID Description |
|------------------|---|
| UCSX-TPM-002C | Trusted Platform Module 2.0 for UCS servers |
| UCSC-INT-SW02 | C220 and C240 M6 Chassis Intrusion Switch |
| UCSX-TPM-OPT-OUT | OPT OUT, TPM 2.0, TCG, FIPS140-2, CC EAL4+ Certified ¹ |

Notes:

1. Please note that Microsoft certification requires a TPM 2.0 for bare-metal or guest VM deployments. Opt-out of the TPM 2.0 voids the Microsoft certification



NOTE:

- The TPM module used in this system conforms to TPM v1.2 and 2.0, as defined by the Trusted Computing Group (TCG). It is also SPI-based.
- TPM installation is supported after-factory. However, a TPM installs with a one-way screw and cannot be replaced, upgraded, or moved to another server. If a server with a TPM is returned, the replacement server must be ordered with a new TPM.

STEP 15 SELECT LOCKING SECURITY BEZEL (OPTIONAL)

An optional locking bezel can be mounted to the front of the chassis to prevent unauthorized access to the drives.

Select the locking bezel from [Table 22](#).

Table 22 Locking Bezel Option

| Product ID (PID) | Description |
|------------------|------------------------|
| UCSC-BZL-C220M5 | C220 M5 Security Bezel |

STEP 16 ORDER M.2 SATA SSDs (OPTIONAL)

Order one or two matching M.2 SATA SSDs along with a boot-optimized RAID controller. See [Figure 8 on page 64](#) for the location of the module connector on the motherboard. This connector accepts the boot-optimized RAID controller (see [Table 24](#)). Each boot-optimized RAID controller can accommodate up to two SATA M.2 SSDs shown in [Table 23](#).

Each boot-optimized RAID controller can accommodate up to two SATA M.2 SSDs shown in [Table 23](#).



NOTE: It is recommended that M.2 SATA SSDs be used as boot-only devices.

Table 23 M.2 SATA SSDs

| Product ID (PID) | PID Description |
|------------------|--------------------|
| UCS-M2-I240GB | 240GB SATA M.2 SSD |
| UCS-M2-I480GB | 480GB SATA M.2 SSD |
| UCS-M2-240G | 240GB SATA M.2 |
| UCS-M2-480G | 480GB M.2 SATA SSD |
| UCS-M2-960G | 960GB SATA M.2 |

Order the UCS-M2-HWRAID Boot-Optimized RAID controller from [Table 24](#). The Boot-Optimized RAID controller plugs into a connector on the motherboard and holds up to two M.2 SATA drives.



NOTE: The Boot-Optimized RAID controller supports VMWare, Windows and Linux Operating Systems

Table 24 Mini Storage Carrier/Boot-Optimized RAID Controller

| Product ID (PID) | PID Description |
|------------------|--|
| UCS-M2-HWRAID | Cisco Boot optimized M.2 RAID controller (holds up to two M.2 SATA SSDs) |



NOTE:

- The UCS-M2-HWRAID boot-optimized RAID controller supports RAID 1 and JBOD mode
- CIMC is supported for configuring of volumes and monitoring of the controller and installed SATA M.2 drives
- The minimum version of Cisco IMC and Cisco UCS Manager that supports this controller is 4.2(1) and later. The name of the controller in the software is MSTOR-RAID
- The SATA M.2 drives can boot in UEFI mode only. Legacy boot mode is not supported
- Hot-plug replacement is not supported. The server must be powered off.

Caveats

- Order one or two identical M.2 SATA SSDs for the boot-optimized RAID controller. You cannot mix M.2 SATA SSD capacities.

STEP 17 SELECT OPERATING SYSTEM AND VALUE-ADDED SOFTWARE



NOTE: See this link for operating system guidance:
<https://ucshcltool.cloudapps.cisco.com/public/>

Select

- OEM Software ([Table 25](#))
- Operating System ([Table 26](#))
- NVIDIA GPU Licenses ([Table 27 on page 59](#))

Table 25 OEM Software

| Product ID (PID) | PID Description |
|-----------------------|---|
| VMware vCenter | |
| VMW-VCS-STD-1A | VMware vCenter 6 Server Standard, 1 yr support required |
| VMW-VCS-STD-3A | VMware vCenter 6 Server Standard, 3 yr support required |
| VMW-VCS-STD-5A | VMware vCenter 6 Server Standard, 5 yr support required |
| VMW-VCS-FND-1A | VMware vCenter 6 Server Foundation (4 Host), 1 yr supp reqd |
| VMW-VCS-FND-3A | VMware vCenter 6 Server Foundation (4 Host), 3 yr supp reqd |
| VMW-VCS-FND-5A | VMware vCenter 6 Server Foundation (4 Host), 5 yr supp reqd |

Table 26 Operating System

| Product ID (PID) | PID Description |
|---------------------------------|--|
| Microsoft Windows Server | |
| MSWS-19-DC16C | Windows Server 2019 Data Center (16 Cores/Unlimited VMs) |
| MSWS-19-DC16C-NS | Windows Server 2019 DC (16 Cores/Unlim VMs) - No Cisco SVC |
| MSWS-19-ST16C | Windows Server 2019 Standard (16 Cores/2 VMs) |
| MSWS-19-ST16C-NS | Windows Server 2019 Standard (16 Cores/2 VMs) - No Cisco SVC |
| MSWS-22-DC16C | Windows Server 2022 Data Center (16 Cores/Unlimited VMs) |
| MSWS-22-DC16C-NS | Windows Server 2022 DC (16 Cores/Unlim VMs) - No Cisco SVC |

Table 26 Operating System (continued)

| Product ID (PID) | PID Description |
|--|--|
| MSWS-22-DCA2C | Windows Server 2022 Data Center - Additional 2 Cores |
| MSWS-22-DCA2C-NS | Windows Server 2022 DC - Additional 2 Cores - No Cisco SVC |
| MSWS-22-ST16C | Windows Server 2022 Standard (16 Cores/2 VMs) |
| MSWS-22-ST16C-NS | Windows Server 2022 Standard (16 Cores/2 VMs) - No Cisco SVC |
| MSWS-22-STA2C | Windows Server 2022 Standard - Additional 2 Cores |
| MSWS-22-STA2C-NS | Windows Server 2022 Stan - Additional 2 Cores - No Cisco SVC |
| Red Hat | |
| RHEL-2S2V-1A | Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 1-Yr Support Req |
| RHEL-2S2V-3A | Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 3-Yr Support Req |
| RHEL-2S2V-5A | Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 5-Yr Support Req |
| RHEL-VDC-2SUV-1A | RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 1 Yr Supp Req |
| RHEL-VDC-2SUV-3A | RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 3 Yr Supp Req |
| RHEL-VDC-2SUV-5A | RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 5 Yr Supp Req |
| Red Hat Ent Linux/ High Avail/ Res Strg/ Scal | |
| RHEL-2S2V-1S | Red Hat Enterprise Linux (1-2 CPU,1-2 VN); Prem 1-Yr SnS |
| RHEL-2S2V-3S | Red Hat Enterprise Linux (1-2 CPU,1-2 VN); Prem 3-Yr SnS |
| RHEL-2S-HA-1S | RHEL High Availability (1-2 CPU); Premium 1-yr SnS |
| RHEL-2S-HA-3S | RHEL High Availability (1-2 CPU); Premium 3-yr SnS |
| RHEL-2S-RS-1S | RHEL Resilient Storage (1-2 CPU); Premium 1-yr SnS |
| RHEL-2S-RS-3S | RHEL Resilient Storage (1-2 CPU); Premium 3-yr SnS |
| RHEL-VDC-2SUV-1S | RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 1 Yr SnS Reqd |
| RHEL-VDC-2SUV-3S | RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 3 Yr SnS Reqd |
| Red Hat SAP | |
| RHEL-SAP-2S2V-1S | RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 1-Yr SnS |
| RHEL-SAP-2S2V-3S | RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 3-Yr SnS |
| VMware | |
| VMW-VSP-STD-1A | VMware vSphere 6 Standard (1 CPU), 1-yr, Support Required |
| VMW-VSP-STD-3A | VMware vSphere 6 Standard (1 CPU), 3-yr, Support Required |
| VMW-VSP-STD-5A | VMware vSphere 6 Standard (1 CPU), 5-yr, Support Required |

Table 26 Operating System (continued)

| Product ID (PID) | PID Description |
|------------------|--|
| VMW-VSP-EPL-3A | VMware vSphere 6 Ent Plus (1 CPU), 3-yr, Support Required |
| VMW-VSP-EPL-1A | VMware vSphere 6 Ent Plus (1 CPU), 1-yr, Support Required |
| VMW-VSP-EPL-5A | VMware vSphere 6 Ent Plus (1 CPU), 5-yr, Support Required |
| SUSE | |
| SLES-2S2V-1A | SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 1-Yr Support Req |
| SLES-2S2V-3A | SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 3-Yr Support Req |
| SLES-2S2V-5A | SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 5-Yr Support Req |
| SLES-2S2V-1S | SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 1-Yr SnS |
| SLES-2S2V-3S | SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 3-Yr SnS |
| SLES-2S2V-5S | SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 5-Yr SnS |
| SLES-2S-HA-1S | SUSE Linux High Availability Ext (1-2 CPU); 1yr SnS |
| SLES-2S-HA-3S | SUSE Linux High Availability Ext (1-2 CPU); 3yr SnS |
| SLES-2S-HA-5S | SUSE Linux High Availability Ext (1-2 CPU); 5yr SnS |
| SLES-2S-GC-1S | SUSE Linux GEO Clustering for HA (1-2 CPU); 1yr SnS |
| SLES-2S-GC-3S | SUSE Linux GEO Clustering for HA (1-2 CPU); 3yr SnS |
| SLES-2S-GC-5S | SUSE Linux GEO Clustering for HA (1-2 CPU); 5yr SnS |
| SLES-2S-LP-1S | SUSE Linux Live Patching Add-on (1-2 CPU); 1yr SnS Required |
| SLES-2S-LP-3S | SUSE Linux Live Patching Add-on (1-2 CPU); 3yr SnS Required |
| SLES-2S-LP-1A | SUSE Linux Live Patching Add-on (1-2 CPU); 1yr Support Req |
| SLES-2S-LP-3A | SUSE Linux Live Patching Add-on (1-2 CPU); 3yr Support Req |
| SLES-2SUVM-1A | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; 1Y Supp Req |
| SLES-2SUVM-1S | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 1Y SnS |
| SLES-2SUVM-1YR | SUSE Linux Entp Svr (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 1Y |
| SLES-2SUVM-3A | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; 3Y Supp Req |
| SLES-2SUVM-3S | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 3Y SnS |
| SLES-2SUVM-3YR | SUSE Linux Entp Svr (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 3Y |
| SLES-2SUVM-5A | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; 5Y Supp Req |
| SLES-2SUVM-5S | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 5Y SnS |
| SLES-2SUVM-5YR | SUSE Linux Entp Svr (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 5Y |

Table 26 Operating System (continued)

| Product ID (PID) | PID Description |
|---------------------|--|
| SLES-SAP2SUVM-1A | SLES for SAP Apps w/ HA (1-2 CPU, Unl VM) LP; 1Y Supp Reqd |
| SLES-SAP2SUVM-1S | SLES for SAP Apps (1-2 CPU, Unl VM) LP; Priority 1Y SnS |
| SLES-SAP2SUVM-1YR | SUSE for SAP Apps; (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 1Y |
| SLES-SAP2SUVM-3A | SLES for SAP Apps w/ HA (1-2 CPU, Unl VM) LP; 3Y Supp Reqd |
| SLES-SAP2SUVM-3S | SLES for SAP Apps (1-2 CPU, Unl VM) LP; Priority 3Y SnS |
| SLES-SAP2SUVM-3YR | SUSE for SAP Apps; (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 3Y |
| SLES-SAP2SUVM-5A | SLES for SAP Apps w/ HA (1-2 CPU, Unl VM) LP; 5Y Supp Reqd |
| SLES-SAP2SUVM-5S | SLES for SAP Apps (1-2 CPU, Unl VM) LP; Priority 5Y SnS |
| SLES-SAP2SUVM-5YR | SUSE for SAP Apps; (1-2 CPU,Unl VM) LP; Prio SnS 24x7 - 5Y |
| SLES and SAP | |
| SLES-SAP-2S2V-1A | SLES for SAP Apps (1-2 CPU, 1-2 VM); 1-Yr Support Reqd |
| SLES-SAP-2S2V-3A | SLES for SAP Apps (1-2 CPU, 1-2 VM); 3-Yr Support Reqd |
| SLES-SAP-2S2V-5A | SLES for SAP Apps (1-2 CPU, 1-2 VM); 5-Yr Support Reqd |
| SLES-SAP-2S2V-1S | SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 1-Yr SnS |
| SLES-SAP-2S2V-3S | SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 3-Yr SnS |
| SLES-SAP-2S2V-5S | SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 5-Yr SnS |

Table 27 NVIDIA GPU Licenses

| Product ID (PID) | PID Description |
|------------------|--|
| NV-VCS-1YR | NVIDIA vCompute Server Subscription - 1 GPU - 1 Year |
| NV-VCS-3YR | NVIDIA vCompute Server Subscription - 1 GPU - 3 Year |
| NV-VCS-5YR | NVIDIA vCompute Server Subscription - 1 GPU - 5 Year |
| NV-GRDWK-1-5S | Quadro Perpetual Lic - NVIDIA vDWS 1CCU; 5Yr SUMS Req |
| NV-GRDVA-1-5S | GRID Perpetual Lic - NVIDIA VDI APPs 1CCU; 5Yr SUMS Reqd |
| NV-GRDPC-1-5S | GRID Perpetual Lic - NVIDIA VDI PC 1CCU; 5Yr SUMS Reqd |
| NV-GRD-EDP-5S | EDU - Quadro Perpetual Lic - NVIDIA vDWS 1CCU; 5Yr SUMS Reqd |
| NV-GRID-WKP-5YR | NVIDIA Quadro Production SUMS - vDWS 1CCU - 5 Year |
| NV-GRID-VAP-5YR | NVIDIA GRID Production SUMS - VDI Apps 1CCU - 5 Year |

Table 27 NVIDIA GPU Licenses (continued)

| Product ID (PID) | PID Description |
|------------------|--|
| NV-GRID-PCP-5YR | NVIDIA GRID Production SUMS - VDI PC 1CCU - 5 Year |
| NV-GRID-EDP-5YR | EDU - NVIDIA Quadro vDWS Production SUMS - 1CCU - 5 Year |
| NV-GRID-WKS-1YR | NVIDIA Quadro SW Subscription - vDWS 1CCU - 1 Year |
| NV-GRID-WKS-3YR | NVIDIA Quadro SW Subscription - vDWS 1CCU - 3 Year |
| NV-GRID-WKS-4YR | NVIDIA Quadro SW Subscription - vDWS 1CCU - 4 Year |
| NV-GRID-WKS-5YR | NVIDIA Quadro SW Subscription - vDWS 1CCU - 5 Year |
| NV-GRID-PCS-1YR | NVIDIA GRID Software Subscription - VDI PC 1CCU - 1 Year |
| NV-GRID-PCS-3YR | NVIDIA GRID Software Subscription - VDI PC 1CCU - 3 Year |
| NV-GRID-PCS-4YR | NVIDIA GRID Software Subscription - VDI PC 1CCU - 4 Year |
| NV-GRID-PCS-5YR | NVIDIA GRID Software Subscription - VDI PC 1CCU - 5 Year |
| NV-GRID-VAS-1YR | NVIDIA GRID Software Subscription - VDI Apps 1CCU - 1 Year |
| NV-GRID-VAS-3YR | NVIDIA GRID Software Subscription - VDI Apps 1CCU - 3 Year |
| NV-GRID-VAS-4YR | NVIDIA GRID Software Subscription - VDI Apps 1CCU - 4 Year |
| NV-GRID-VAS-5YR | NVIDIA GRID Software Subscription - VDI Apps 1CCU - 5 Year |
| NV-GRID-EDS-1YR | EDU - NVIDIA Quadro vDWS SW Subscription - 1CCU - 1 Year |
| NV-GRID-EDS-3YR | EDU - NVIDIA Quadro vDWS SW Subscription - 1CCU - 3 Year |
| NV-GRID-EDS-4YR | EDU - NVIDIA Quadro vDWS SW Subscription - 1CCU - 4 Year |
| NV-GRID-EDS-5YR | EDU - NVIDIA Quadro vDWS SW Subscription - 1CCU - 5 Year |

STEP 18 SELECT OPERATING SYSTEM MEDIA KIT

Select the optional operating system media listed in [Table 28](#).

Table 28 OS Media

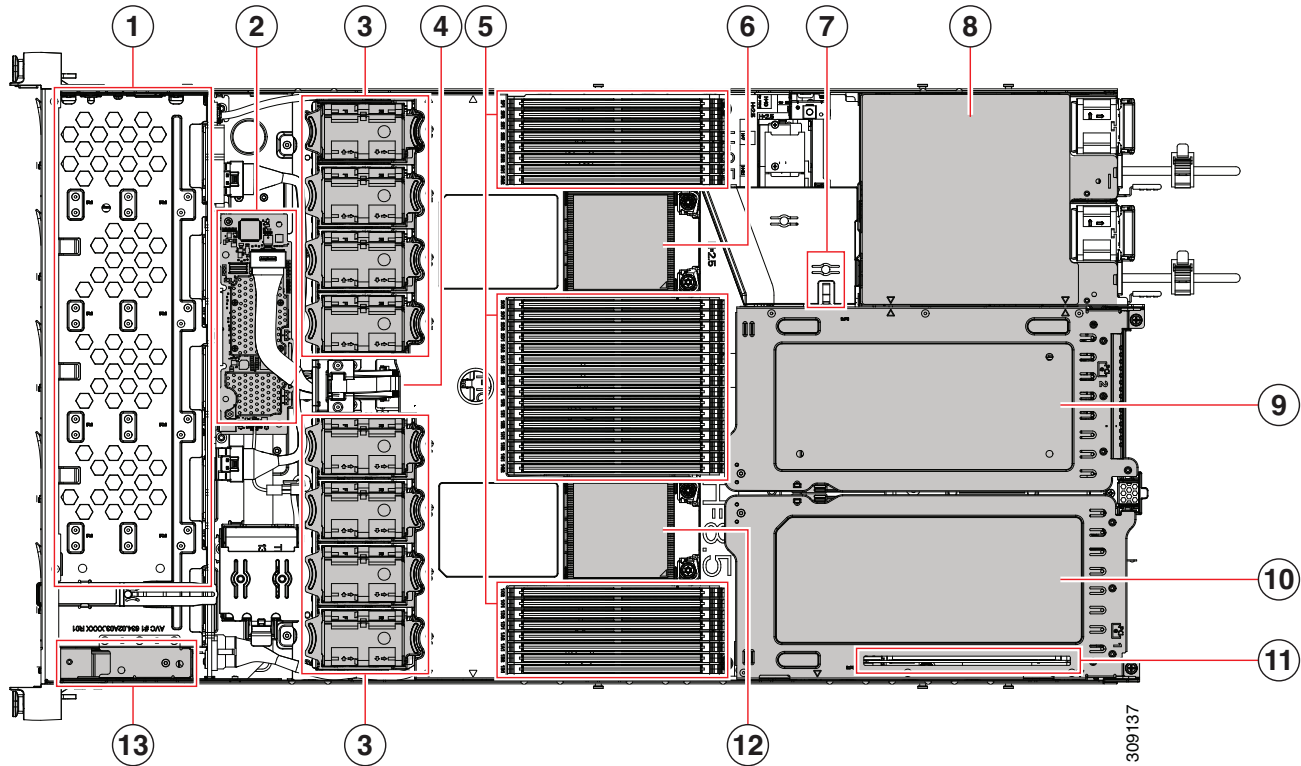
| Product ID (PID) | PID Description |
|------------------|--|
| MSWS-19-ST16C-RM | Windows Server 2019 Stan (16 Cores/2 VMs) Rec Media DVD Only |
| MSWS-19-DC16C-RM | Windows Server 2019 DC (16Cores/Unlim VM) Rec Media DVD Only |
| MSWS-22-ST16C-RM | Windows Server 2022 Stan (16 Cores/2 VMs) Rec Media DVD Only |
| MSWS-22-DC16C-RM | Windows Server 2022 DC (16Cores/Unlim VM) Rec Media DVD Only |

SUPPLEMENTAL MATERIAL

Chassis

Internal views of the C220 M6 chassis with the top cover removed are shown in [Figure 7](#) and [Figure 8 on page 64](#).

Figure 7 C220 M6 SFF With Top Cover Off (full-height, full-width PCIe cards)



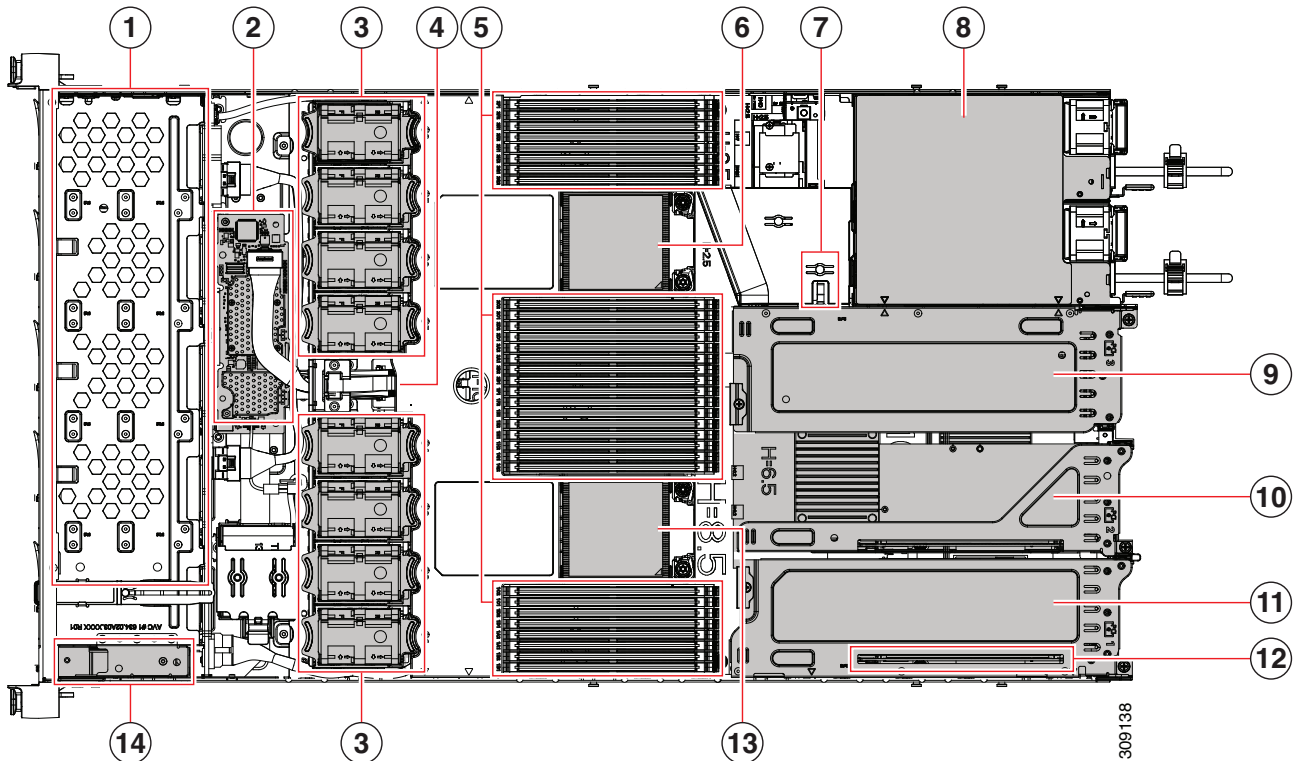
| | | | |
|---|--|----|---|
| 1 | Front-loading drive bays | 2 | M6 modular RAID card (or SATA Interposer) |
| 3 | Cooling fan modules (eight) Each fan is hot-swappable | 4 | Supercap module mounting bracket |
| 5 | DIMM sockets on motherboard, 32 total, 16 per CPU CPUs are arranged in groups of eight sockets above the top CPU and below the bottom CPU, and 16 sockets between the CPUs. | 6 | Motherboard CPU2 socket |
| 7 | M.2 module connector, supporting a boot-optimized RAID controller with connectors for up to two SATA M.2 SSDs. | 8 | Two power supplies |
| 9 | PCIe riser 3 Accepts 1 full height, full width PCIe riser card | 10 | PCIe riser 1 Accepts 1 full height, full width PCIe riser card |

SUPPLEMENTAL MATERIAL

| | | | |
|----|---|----|-------------------------|
| 11 | Modular LOM (mLOM) card bay on chassis floor(x16 PCIe lane) Connector shown, but the card bay sits below PCIe riser 1. | 12 | Motherboard CPU1 socket |
| 13 | Front Panel Controller board | - | |

An internal view of the C220 M6 chassis with the top cover removed is shown in [Figure 8](#).

Figure 8 C220 M6 SFF With Top Cover Off (full-height, half-width PCIe cards)



| | | | |
|----|--|----|--|
| 1 | Front-loading drive bays | 2 | M6 modular RAID card (or SATA Interposer) |
| 3 | Cooling fan modules (eight) Each fan is hot-swappable | 4 | Supercap module mounting bracket |
| 5 | DIMM sockets on motherboard, 32 total, 16 per CPU CPUs are arranged in groups of eight sockets above the top CPU and below the bottom CPU, and 16 sockets between the CPUs. | 6 | Motherboard CPU2 socket |
| 7 | M.2 module connector, supporting a boot-optimized RAID controller with connectors for up to two SATA M.2 SSDs. | 8 | Two power supplies |
| 9 | PCIe riser 3 Accepts 1 half height, half width PCIe riser card | 10 | PCIe riser 2 Accepts 1 half height, half width PCIe riser card |
| 11 | PCIe riser 1 Accepts 1 half height, half width PCIe riser card | 12 | Modular LOM (mLOM) card bay on chassis floor(x16 PCIe lane) Connector shown, but the card bay sits below PCIe riser slot 1. |
| 13 | Motherboard CPU1 socket | 14 | Front Panel Controller board |

Risers

Figure 9 shows the locations of the PCIe riser connectors on the C220 M6 SFF motherboard. The allowed configurations are:

- Half-height risers in riser 1 connector, riser 2 connector, and riser 3 connector, or
- Full-height risers in riser 1 connector and riser 3 connector.

See *Figure 10* and *Figure 11* for more details.

Figure 9 C220 M6 SFF Riser Connector Locations
C220 M6 SFF Motherboard

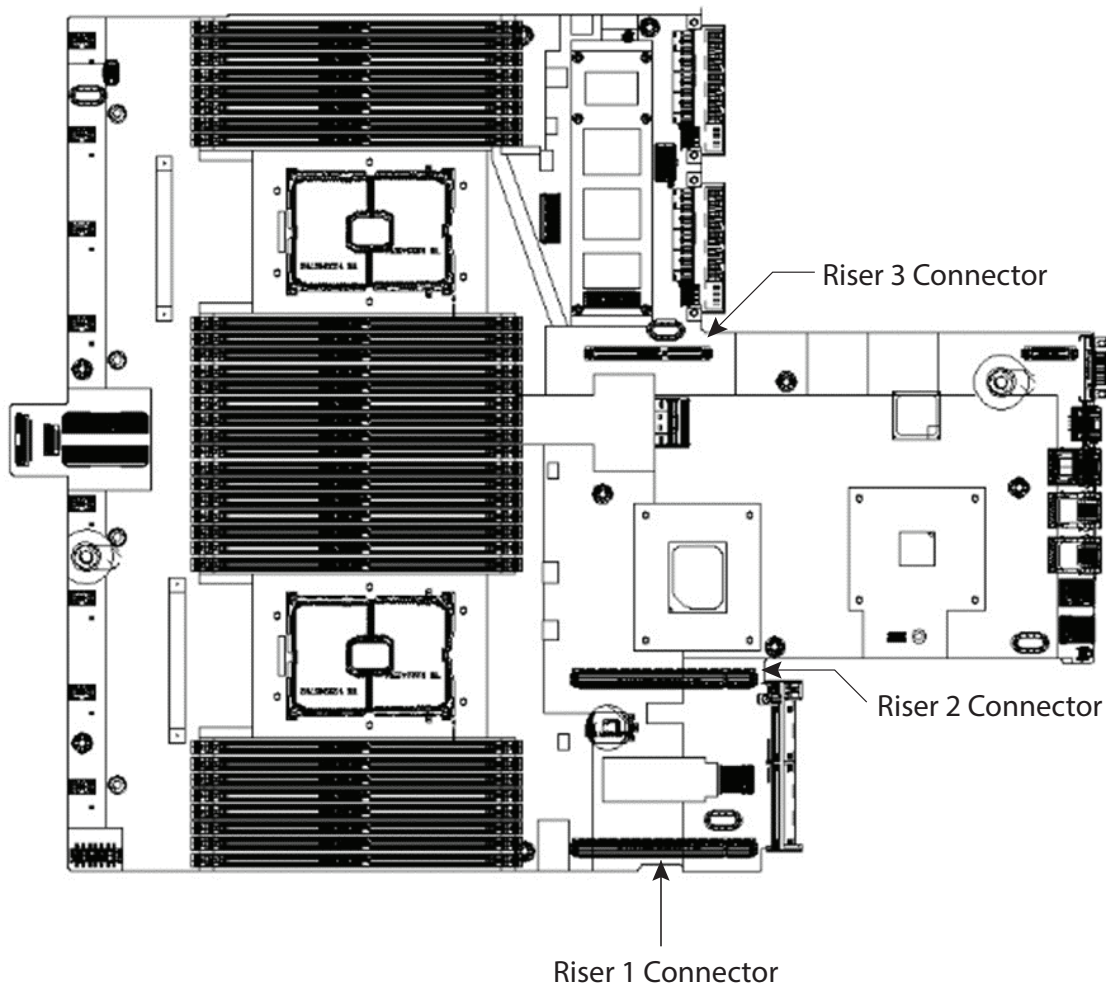


Figure 10 shows three half-height risers plugged into their respective connectors.

Figure 10 C220 M6 SFF With Three Half-Height Risers Plugged In
C220 M6 SFF Motherboard

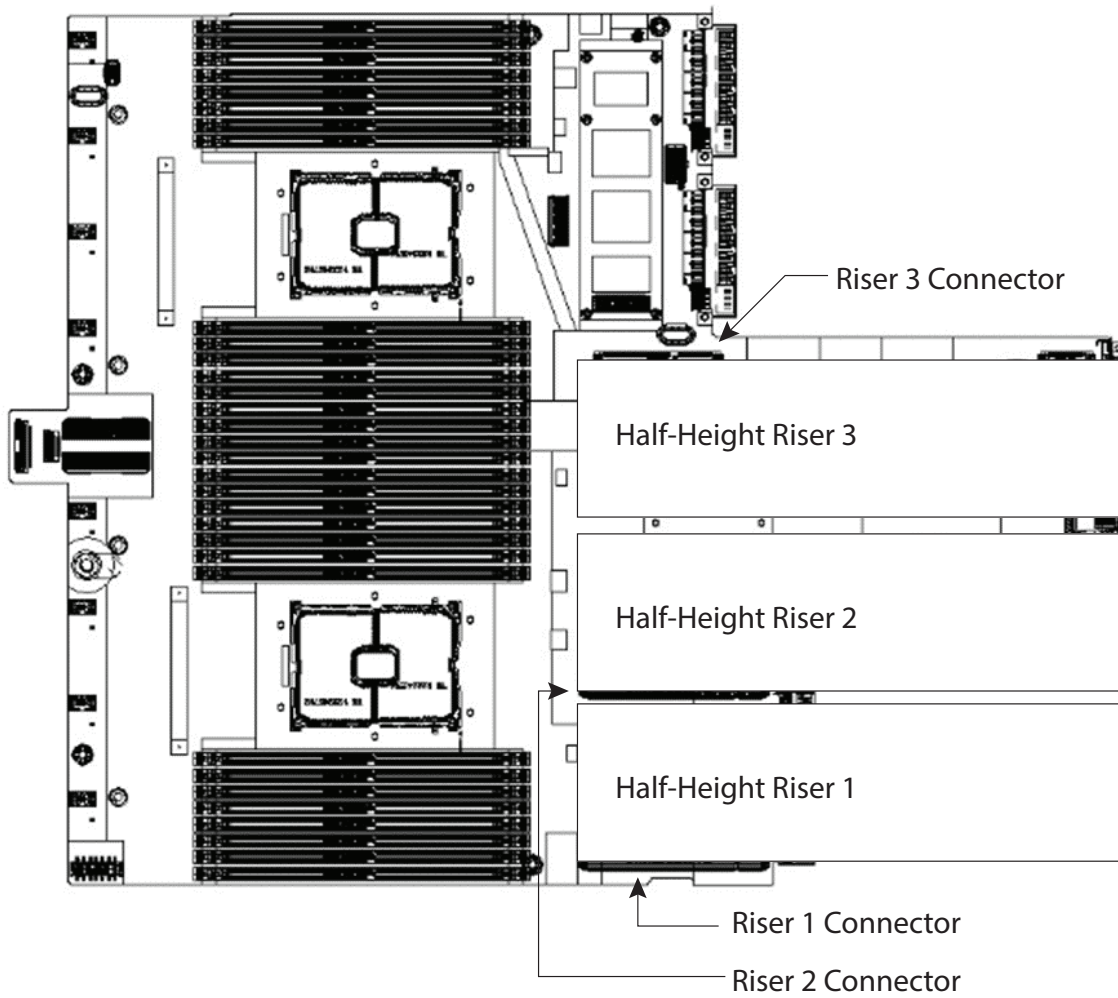
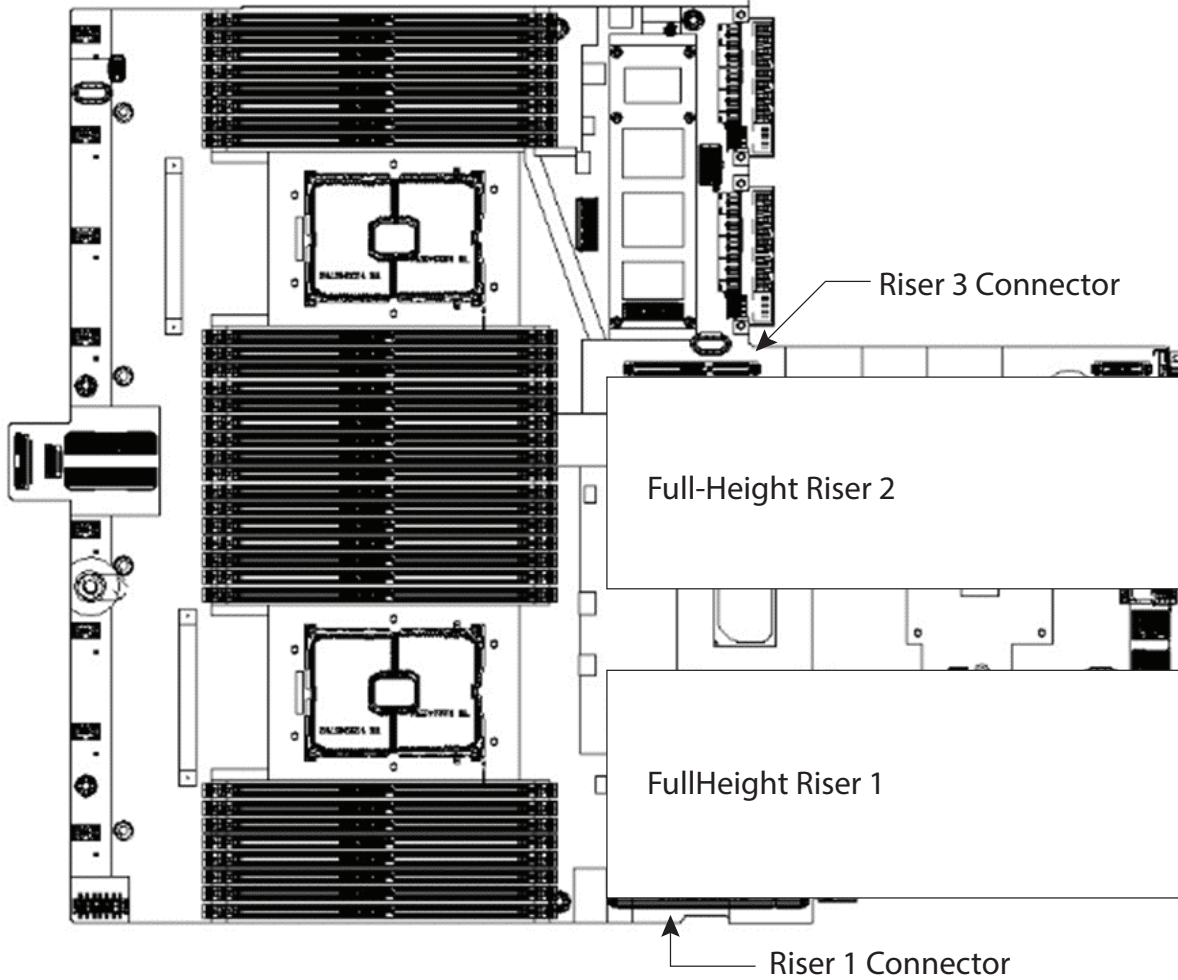


Figure 11 shows two full-height risers plugged in. Note that riser 1 is plugged into the riser 1 connector and riser 2 is plugged into the riser 3 connector. Riser 2 connector is not used.

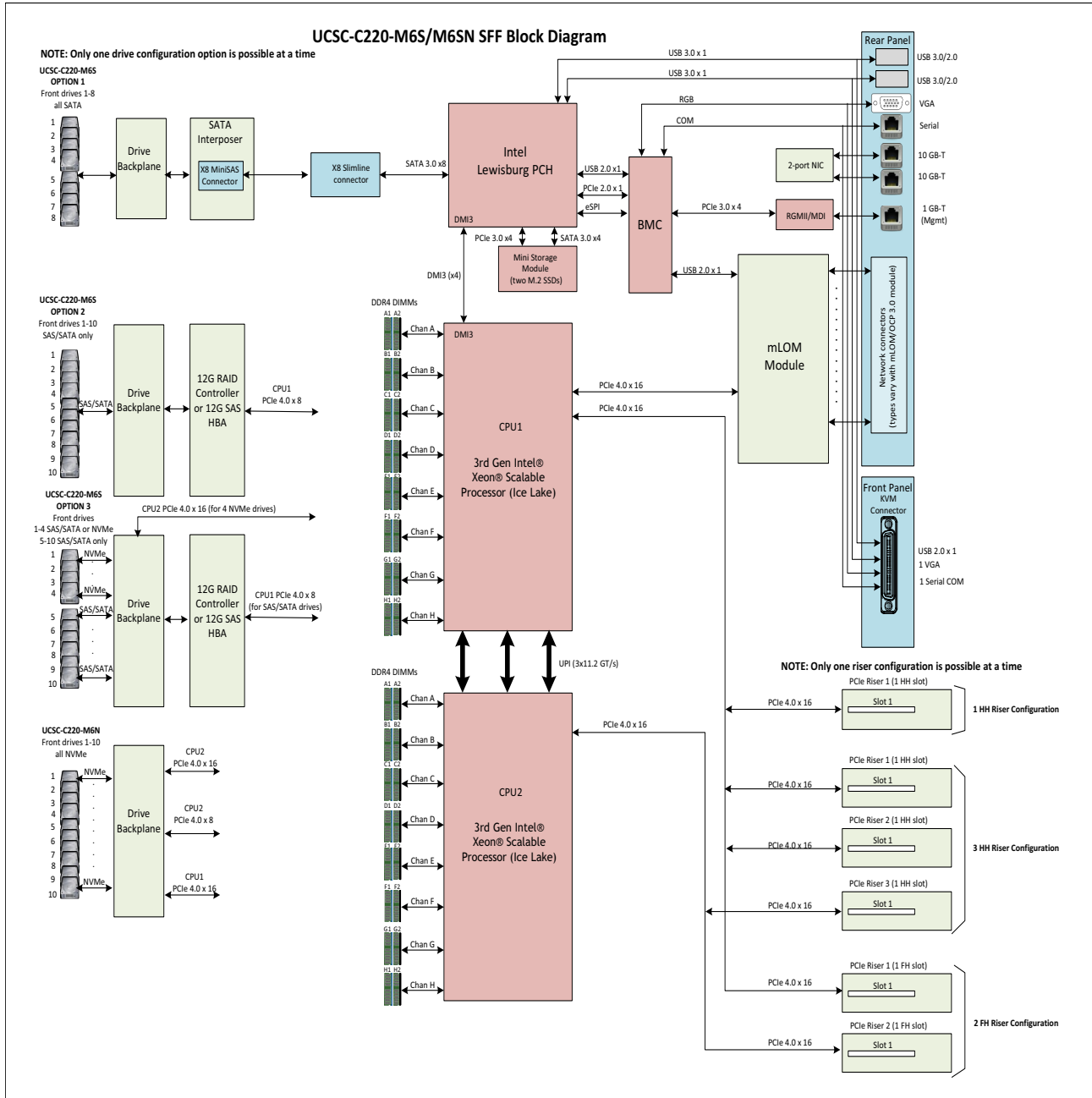
Figure 11 C220 M6 SFF With Two Full-Height Risers Plugged In
C220 M6 SFF Motherboard



Block Diagram

A block diagram of the C220 M6S and C220 M6SN is shown in [Figure 12](#).

Figure 12 UCSC-C220-M6S/M6N Block Diagram

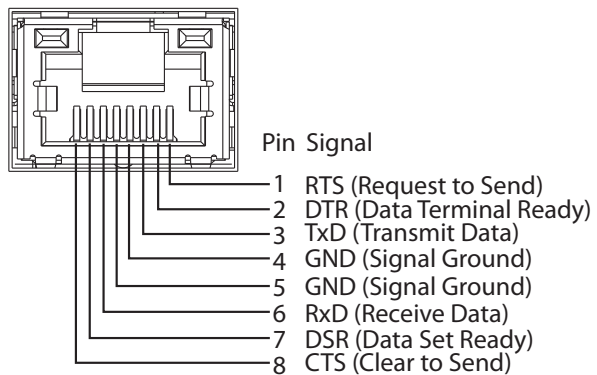


Serial Port Details

The pinout details of the rear RJ-45 serial port connector are shown in [Figure 13](#).

Figure 13 Serial Port (Female RJ-45 Connector) Pinout

Serial Port (RJ-45 Female Connector)



KVM Cable

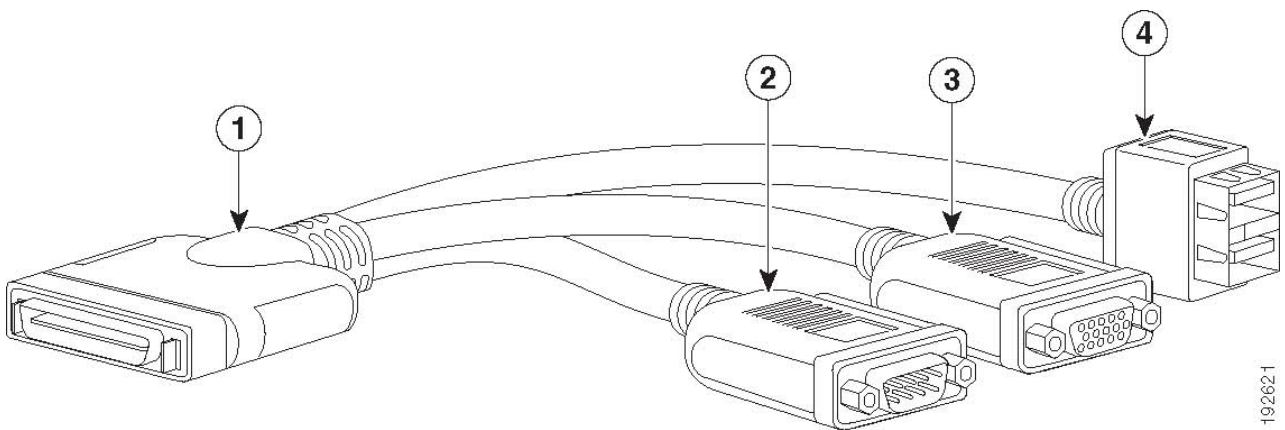
The KVM cable provides a connection into the server, providing a DB9 serial connector, a VGA connector for a monitor, and dual USB ports for a keyboard and mouse. With this cable, you can create a direct connection to the operating system and the BIOS running on the server.

The KVM cable ordering information is listed in [Table 29](#).

Table 29 KVM Cable

| Product ID (PID) | PID Description |
|------------------|---------------------------------------|
| N20-BKVM | KVM cable for UCS Server console port |

Figure 14 KVM Cable



| | | | |
|---|-----------------------------------|---|---|
| 1 | Connector (to server front panel) | 3 | VGA connector (for a monitor) |
| 2 | DB-9 serial connector | 4 | Two-port USB connector (for a mouse and keyboard) |

Memory Support for 3rd Generation Intel® Xeon® Scalable Processors (Ice Lake)

PMem Support

The Ice Lake CPUs support two memory modes:

- App Direct Mode
- Memory Mode

App Direct Mode

PMem operates as a solid-state disk storage device. Data is saved and is non-volatile. Both DCPMM and DIMM capacities count towards the CPU capacity limit.

For example, if App Direct mode is configured and the DIMM sockets for a CPU are populated with 8 x 128 GB DRAMs (1 TB total DRAM) and 8 x 512 GB PMem (4 TB total PMem), then 5 TB counts towards the CPU capacity limit. Follow the Intel recommended DRAM:PMem ratio for App Direct Mode.

Memory Mode

PMem operates as a 100% memory module. Data is volatile and DRAM acts as a cache for PMem. Only the PMem capacity counts towards the CPU capacity limit. This is the factory default mode.

For example, if Memory mode is configured and the DIMM sockets for a CPU are populated with 8 x 128 GB DRAMs (1 TB total DRAM) and 8 x 512 GB PMem (4 TB total PMem), then only 4 TB total (the PMem memory) counts towards the CPU capacity limit. All of the DRAM capacity (1 TB) is used as cache and does not factor into CPU capacity. The recommended Intel DRAM:PMem ratio for Memory Mode is 1:4, 1:8, or 1:16

For 3rd Generation Intel® Xeon® Scalable Processors (Ice Lake):

- DRAMs and PMem are supported
- Each CPU has 16 DIMM sockets and supports the following maximum memory capacities:
 - 2 TB using 16 x 128 GB DRAMs, or
 - 5 TB using 8 x 128 GB DRAMs and 8 x 512 GB Intel® Optane™ Persistent Memory Modules (PMem)

Only the following mixed DRAM/PMem memory configurations are supported per CPU socket:

- 4 DRAMs and 4 PMem, or 8 DRAMs and 4 PMem, or 8 DRAMs and 1 PMem, or 8 DRAMs and 8 PMem

The available DRAM capacities are 32 GB, 64 GB, or 128 GB

The available PMem capacities are 128 GB, 256 GB, or 512 GB

For further details see the following link:

<https://www.cisco.com/c/dam/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/memory-guide-c220-c240-b200-m6.pdf>

SPARE PARTS

This section lists the upgrade and service-related parts for the UCS C220 M6 server. Some of these parts are configured with every server.



NOTE: Some spare parts you order may also require accessories for full functionality. For example, drives or RAID controllers may need accompanying cables. CPUs may need heatsinks, thermal paste, and installation tools. The spares and their accessory parts are listed in [Table 30](#).

Table 30 Spare Parts

| Product ID (PID) | PID Description |
|---|--|
| KVM Cable | |
| N20-BKVM= | KVM local IO cable for UCS servers console port |
| Risers | |
| UCSC-RIS2H-220M6= | Half-height riser 2 (controlled by CPU 1) |
| UCSC-RIS3H-220M6= | Half-height riser 3 (controlled by CPU 2) |
| UCSC-GPURKIT-C220 ¹ = | Kit containing a GPU mounting bracket and the following risers (risers 1 and 2): |
| UCSC-FBRS-C220M6= | Riser 3 blank panel |
| UCSC-LP-C25-1485= | Low profile bracket for VIC |
| CPUs | |
| <p>Note: If you are ordering a second CPU, see the CPU Accessories section in this table for additional parts you may need to order for the second CPU.</p> | |
| 8000 Series Processors | |
| UCS-CPU-I8380= | Intel 8380 2.3GHz/270W 40C/60MB DDR4 3200MHz |
| UCS-CPU-I8368= | Intel 8368 2.4GHz/270W 38C/57MB DDR4 3200MHz |
| UCS-CPU-I8362= | Intel 8362 2.8GHz/265W 32C/48MB DDR4 3200MHz |
| UCS-CPU-I8360Y= | Intel 8360Y 2.4GHz/250W 36C/54MB DDR4 3200MHz |
| UCS-CPU-I8358P= | Intel 8358P 2.6GHz/240W 32C/48MB DDR4 3200MHz |
| UCS-CPU-I8358= | Intel 8358 2.6GHz/250W 32C/48MB DDR4 3200MHz |

Table 30 Spare Parts (continued)

| Product ID (PID) | PID Description |
|-------------------------------|---|
| UCS-CPU-I8352M= | Intel 8352M 2.3GHz/185W 32C/48MB DDR4 3200MHz |
| UCS-CPU-I8352Y= | Intel 8352Y 2.2GHz/205W 32C/48MB DDR4 3200MHz |
| UCS-CPU-I8352V= | Intel 8352V 2.1GHz/195W 36C/54MB DDR4 2933MHz |
| UCS-CPU-I8352S= | Intel 8352S 2.2GHz/205W 32C/48MB DDR4 3200MHz |
| UCS-CPU-I8351N ² = | Intel 8351N 2.4GHz/225W 36C/54MB DDR4 2933MHz |
| 6000 Series Processors | |
| UCS-CPU-I6354= | Intel 6354 3.0GHz/205W 18C/39MB DDR4 3200MHz |
| UCS-CPU-I6348= | Intel 6348 2.6GHz/235W 28C/42MB DDR4 3200MHz |
| UCS-CPU-I6346= | Intel 6346 3.1GHz/205W 16C/36MB DDR4 3200MHz |
| UCS-CPU-I6342= | Intel 6342 2.8GHz/230W 24C/36MB DDR4 3200MHz |
| UCS-CPU-I6338N= | Intel 6338T 2.1GHz/165W 24C/36MB DDR4 3200MHz |
| UCS-CPU-I6338T= | Intel 6338N 2.2GHz/185W 32C/48MB DDR4 2667MHz |
| UCS-CPU-I6338= | Intel 6338 2.0GHz/205W 32C/48MB DDR4 3200MHz |
| UCS-CPU-I6336Y= | Intel 6336Y 2.4GHz/185W 24C/36MB DDR4 3200MHz |
| UCS-CPU-I6334= | Intel 6334 3.6GHz/165W 8C/18MB DDR4 3200MHz |
| UCS-CPU-I6330N= | Intel 6330N 2.2GHz/165W 28C/42MB DDR4 2667MHz |
| UCS-CPU-I6330= | Intel 6330 2.0GHz/205W 28C/42MB DDR4 2933MHz |
| UCS-CPU-I6326= | Intel 6326 2.9GHz/185W 16C/24MB DDR4 3200MHz |
| UCS-CPU-I6314U ³ | Intel 6314U 2.3GHz/205W 32C/48MB DDR4 3200MHz |
| UCS-CPU-I6312U ⁴ = | Intel 6312U 2.4GHz/185W 24C/36MB DDR4 3200MHz |
| 5000 Series Processors | |
| UCS-CPU-I5320T= | Intel 5320T 2.3GHz/150W 20C/30MB DDR4 2933MHz |
| UCS-CPU-I5320= | Intel 5320 2.2GHz/185W 26C/39MB DDR4 2933MHz |
| UCS-CPU-I5318N= | Intel 5318Y 2.1GHz/165W 24C/36MB DDR4 2933MHz |
| UCS-CPU-I5318S= | Intel 5318S 2.1GHz/165W 24C/36MB DDR4 2933MHz |
| UCS-CPU-I5318Y= | Intel 5318N 2.1GHz/150W 24C/36MB DDR4 2667MHz |
| UCS-CPU-I5317= | Intel 5317 3.0GHz/150W 12C/18MB DDR4 2933MHz |
| UCS-CPU-I5315Y= | Intel 5315Y 3.2GHz/150W 8C/12MB DDR4 2933MHz |
| 4000 Series Processors | |

Table 30 Spare Parts (continued)






| Product ID (PID) | PID Description |
|--|--|
| UCS-CPU-I4316= | Intel 4316 2.3GHz/150W 20C/30MB DDR4 2667MHz |
| UCS-CPU-I4314= | Intel 4314 2.4GHz/135W 16C/24MB DDR4 2667MHz |
| UCS-CPU-I4310T= | Intel 4310T 2.3GHz/105W 10C/15MB DDR4 2667MHz |
| UCS-CPU-I4310= | Intel 4310 2.1GHz/120W 12C/18MB DDR4 2667MHz |
| UCS-CPU-I4309Y= | Intel 4309Y 2.8GHz/105W 8C/12MB DDR4 2667MHz |
| CPU Accessories | |
| UCS-CPU-TIM=  Note: This part is included with the purchase of spare CPU.Can be ordered separately. | Single CPU thermal interface material syringe for M5 server HS seal ⁵ |
| UCS-M6-CPU-CAR=  Note: This part is included with the purchase of spare CPU.Can be ordered separately. | Spare CPU Carrier for M6 |
| UCSX-HSCK=  Note: This part is included with the purchase of spare CPU.Can be ordered separately. | UCS CPU/Heatsink Cleaning Kit, for up to 4 CPU/heatsink sets |
| UCS-CPUAT=  Note: This part is included with the purchase of spare CPU.Can be ordered separately. | CPU Assembly Tool for Servers |
| UCSC-HSHP-240M6=  Note: Order this Heatsink, if you are adding additional CPU/spare CPU | Heatsink for 2U SFF M6 PCIe SKU |

Table 30 Spare Parts (continued)


| Product ID (PID) | PID Description |
|--|--|
| UCSC-FAN-C220M6= | C240M6 2U Fan |
| Memory | |
| UCS-MR-X16G1RW= | 16 GB RDIMM SRx4 3200 (8Gb) |
| UCS-MR-X32G2RW= | 32 GB RDIMM DRx4 3200 (8Gb) |
| UCS-MR-X32G1RW= | 32 GB RDIMM SRx4 3200 (16Gb) |
| UCS-MR-X64G2RW= | 64 GB RDIMM DRx4 3200 (16Gb) |
| UCS-ML-128G4RW= | 128 GB LRDIMM QRx4 3200 (16Gb) |
| Intel® Optane™ Persistent Memory (PMem) | |
| UCS-MP-128GS-B0= | Intel® Optane™ Persistent Memory, 128GB, 3200 MHz |
| UCS-MP-256GS-B0= | Intel® Optane™ Persistent Memory, 256 GB, 3200 MHz |
| UCS-MP-512GS-B0= | Intel® Optane™ Persistent Memory, 512 GB, 3200 MHz |
| DIMM Blank | |
| UCS-DIMM-BLK= | UCS DIMM Blank |
| HDDs | |
|  <p>Note: When ordering additional SAS/SATA or NVMe front or rear drives, you may need to order a cable to connect from the drive to the motherboard. See the Drive Cables section in this table.</p> | |
| HDDs (15K RPM) | |
| UCS-HD900G15K12N= | 900 GB 12G SAS 15K RPM SFF HDD |
| UCS-HD300G15K12N= | 300 GB 12G SAS 15K RPM SFF HDD |
| UCS-HD600G15K12N= | 600 GB 12G SAS 15K RPM SFF HDD |
| HDDs (10K RPM) | |
| UCS-HD300G10K12N= | 300 GB 12G SAS 10K RPM SFF HDD |
| UCS-HD600G10K12N= | 600 GB 12G SAS 10K RPM SFF HDD |
| UCS-HD12TB10K12N= | 1.2 TB 12G SAS 10K RPM SFF HDD |
| UCS-HD18TB10K4KN= | 1.8 TB 12G SAS 10K RPM SFF HDD (4K) |
| UCS-HD24TB10K4KN | 2.4 TB 12G SAS 10K RPM SFF HDD (4K) |
| Enterprise Performance SAS/SATA SSDs (High endurance, supports up to 10X or 3X DWPD (drive writes per day)) | |
| UCS-SD19T63X-EP= | 1.9 TB 2.5in Enterprise performance 6GSATA SSD(3X endurance) |

Table 30 Spare Parts (continued)

| Product ID (PID) | PID Description |
|--|---|
| UCS-SD960G63X-EP= | 960 GB 2.5in Enterprise performance 6GSATA SSD(3X endurance) |
| UCS-SD480G63X-EP= | 480 GB 2.5in Enterprise Performance 6GSATA SSD(3X endurance) |
| UCS-SD19TM3X-EP= | 1.9 B 2.5in Enterprise performance 6GSATA SSD(3X endurance) |
| UCS-SD480GM3X-EP= | 480 GB 2.5in Enterprise Performance 6GSATA SSD(3X endurance) |
| UCS-SD960GM3X-EP= | 960 GB 2.5in Enterprise performance 6GSATA SSD(3X endurance) |
| UCS-SD19TBM3X-EP= | 1.9TB 2.5in Enterprise performance 6GSATA SSD(3X endurance) |
| UCS-SD960GBM3X-EP= | 960GB 2.5in Enterprise performance 6GSATA SSD(3X endurance) |
| UCS-SD480GBM3X-EP= | 480GB 2.5in Enterprise Performance 6GSATA SSD(3X endurance) |
| UCS-SD800GK3X-EP= | 800 GB 2.5in Enterprise Performance 12G SAS SSD(3X endurance) |
| UCS-SD16TK3X-EP= | 1.6 TB 2.5in Enterprise Performance 12G SAS SSD(3X endurance) |
| UCS-SD32TK3X-EP= | 3.2 TB 2.5in Enterprise Performance 12G SAS SSD(3X endurance) |
| Enterprise Value SAS/SATA SSDs (Low endurance, supports up to 1X DWPD (drive writes per day)) | |
| UCS-SD38T6I1X-EV= | 3.8 TB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD960G6I1X-EV= | 960 GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD480G6I1X-EV= | 480 GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD960G6I1X-EV= | 960 GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD19T6I1X-EV= | 1.9 TB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD38T6I1X-EV= | 3.8 TB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD120GM1X-EV= | 120 GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD240GM1X-EV= | 240 GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD480GM1X-EV= | 480 GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD960GM1X-EV= | 960 GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD16TM1X-EV= | 1.6 TB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD19TM1X-EV= | 1.9 TB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD38TM1X-EV= | 3.8 TB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD76TM1X-EV= | 7.6T B 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD960GK1X-EV= | 960 GB 2.5 inch Enterprise Value 12G SAS SSD |
| UCS-SD19TK1X-EV= | 1.9 TB 2.5 inch Enterprise Value 12G SAS SSD |
| UCS-SD38TK1X-EV= | 3.8 TB 2.5 inch Enterprise Value 12G SAS SSD |

Table 30 Spare Parts (continued)

| Product ID (PID) | PID Description |
|--|--|
| UCS-SD76TK1X-EV= | 7.6 TB 2.5 inch Enterprise Value 12G SAS SSD |
| UCS-SD15TK1X-EV= | 15.3 TB 2.5 inch Enterprise Value 12G SAS SSD |
| UCS-SD960G6S1X-EV= | 960GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD19T6S1X-EV= | 1.9TB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD38T6S1X-EV= | 3.8TB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD76T6S1X-EV= | 7.6TB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD240GBM1X-EV= | 240GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD480GBM1X-EV= | 480 GB 2.5 inch Enterprise Value 6G SATA SSD |
| UCS-SD19TBM1X-EV= | 1.9TB 2.5 inch Enterprise Value 6G SATA SSD |
| Self-Encrypted Drives (SED) | |
| UCS-HD18T10NK9= | 1.8TB 12G SAS 10K RPM SFF HDD (4K format, SED) |
| UCS-HD24T10NK9= | 2.4TB 10k rpm 4k SED HDD |
| UCS-HD12T10NK9= | 1.2TB 12G SAS 10K RPM SFF HDD (SED-FIPS) |
| UCS-HD600G15NK9= | 600GB 12G SAS 15K RPM SFF HDD (SED) |
| UCS-SD800GBKNK9= | 800GB Enterprise Performance SAS SSD (3X DWPD, SED) |
| UCS-SD960GBKNK9= | 960GB Enterprise Value SAS SSD (1X DWPD, SED) |
| UCS-SD76TBKNK9= | 7.6TB Enterprise value SAS SSD (1 DWPD, SED-FIPS) |
| UCS-SD38TBKNK9= | 3.8TB Enterprise Value SAS SSD (1X DWPD, SED) |
| UCS-SD16TBKNK9= | 1.6TB Enterprise performance SAS SSD (3X DWPD, SED) |
| UCS-SD38TBEM2NK9= | 3.8TB Enterprise value SATA SSD (1X, SED) |
| PCIe/NVMe SFF (2.5-inch) SFF drives | |
| UCSC-NVMEXPB-I375= | 375GB 2.5in Intel® Optane™ NVMe Extreme Performance SSD |
| UCSC-NVMEXP-I750= | 750GB 2.5in Intel® Optane™ NVMe Extreme Perf. |
| UCS-NVMEI4-I1920= | 1.9TB 2.5in U.2 Intel P5500 NVMe High Perf Medium Endurance |
| UCS-NVMEI4-I1600= | 1.6TB 2.5in U.2 Intel P5600 NVMe High Perf Medium Endurance |
| UCS-NVMEI4-I3200= | 3.2TB 2.5in U.2 Intel P5600 NVMe High Perf Medium Endurance |
| UCS-NVMEI4-I6400= | 6.4TB 2.5in U.2 Intel P5600 NVMe High Perf Medium Endurance |
| UCS-NVMEXP-I400= | 400GB 2.5in U.2 Intel P5800X Optane NVMe Extreme Perform SSD |
| UCS-NVMEXP-I800= | 800GB 2.5in U.2 Intel P5800X Optane NVMe Extreme Perform SSD |

Table 30 Spare Parts (continued)




| Product ID (PID) | PID Description |
|---|--|
| UCS-NVME4-1920= | 1.9TB 2.5in U.2 15mm P5520 Hg Perf Med End NVMe |
| UCS-NVME4-3840= | 3.8TB 2.5in U.2 15mm P5520 Hg Perf Med End NVMe |
| UCS-NVME4-7680= | 7.6TB 2.5in U.2 15mm P5520 Hg Perf Med End NVMe |
| UCS-NVME4-1536= | 15.3TB 2.5in U.2 15mm P5520 Hg Perf Med End NVMe |
| UCS-NVME4-1600= | 1.6TB 2.5in U.2 15mm P5620 Hg Perf Hg End NVMe (3X) |
| UCS-NVME4-3200= | 3.2TB 2.5in U.2 15mm P5620 Hg Perf Hg End NVMe (3X) |
| UCS-NVME4-6400= | 6.4TB 2.5in U.2 15mm P5620 Hg Perf Hg End NVMe (3X) |
| UCS-NVMEQ-1536= | 15.3TB 2.5in U.2 15mm P5316 Hg Perf Low End NVMe |
| UCS-NVMEM6-W3200= | 3.2TB 2.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance |
| UCS-NVMEM6-W7680 = | 7.6TB 2.5in U.2 WD SN840 NVMe Extreme Perf. Value Endurance |
| UCS-NVMEM6-W15300= | 15.3TB 2.5in U.2 WD SN840 NVMe Extreme Perf. Value Endurance |
| Drive Cables | |
| CBL-SATA-C220M6=  Note: Order this cable if you are adding a front SAS/SATA drive. | SATA cable C220M6 (1U) |
| CBL-FNVME-220M6=  Note: Order this cable set if you are adding a front NVMe drive | C220M6 1U x4 Front NVMe cable |
| Drive Blanking Panel | |
| UCSC-BBLKD-S2 | C-Series M5 SFF drive blanking panel |
| M.2 SATA SSDs  Note: UCS-M2-HWRAID is required when selecting the M.2 SATA drives. | |
| UCS-M2-I240GB= | 240GB SATA M.2 SSD |
| UCS-M2-I480GB= | 480GB SATA M.2 SSD |
| UCS-M2-240G= | 240GB SATA M.2 |
| UCS-M2-480G= | 480GB M.2 SATA SSD |

Table 30 Spare Parts (continued)





| Product ID (PID) | PID Description |
|---|--|
| UCS-M2-960G= | 960GB SATA M.2 |
| UCS-M2-HWRAID= | Cisco Boot optimized M.2 RAID controller (holds up to two M.2 SATA SSDs) |
| RAID Controllers | |
|  <p>Note: When ordering additional RAID controllers, you may need to order a cable/supercap to connect from the RAID controller to the motherboard. See the RAID Controller Accessories section in this table.</p> | |
| UCSC-SAS-220M6= | Cisco 12G SAS HBA |
| UCSC-RAID-220M6= | Cisco 12G SAS RAID controller |
| RAID Controller Accessories | |
| CBL-SAS-C220M6=  <p>Note: This cable set may be required, if you are adding SAS Drive and UCSC-SAS-220M6 or UCSC-RAID-220M6</p> | C220M6 SAS cable (1U); (Pismo HBA) |
| UCS-SCAP-M6=  <p>Note: Order this Super cap, if you are adding UCSC-RAID-220M6. If you are ordering a Supercap spare, you may also need supercap cable.</p> | M6 Supercap for write cache backup |
| CBL-SCAP-C220M6=  <p>Note: you may need this Super cap cable if you are adding UCSC-RAID-220M6 and UCS-SCAP-M6.</p> | C220M6 2U Super Cap cable |
| Modular LAN on Motherboard (mLOM) | |
| UCSC-M-V25-04= | Cisco UCS VIC 1467 quad port 10/25G SFP28 mLOM |
| UCSC-M-V100-04= | Cisco UCS VIC 1477 dual port 40/100G QSFP28 mLOM |
| UCSC-M-V5Q50G= | Cisco UCS VIC 15428 quad port 10/25/50G MLOM |
| UCSC-M-V5D200G= | Cisco UCS VIC 15238 dual port 40/100/200G MLOM |

Table 30 Spare Parts (continued)

| Product ID (PID) | PID Description |
|---------------------------------------|--|
| UCSC-M-V5Q50GV2= | Cisco UCS VIC 15427 Quad Port CNA MLOM with Secure Boot |
| UCSC-M-V5D200GV2= | VIC 15237, MLOM, 2x40/100/200G for Rack |
| Virtual Interface Card (VICs) | |
| UCSC-PCIE-C100-04= | Cisco UCS VIC 1495 Dual Port 40/100G QSFP28 CNA PCIe |
| UCSC-PCIE-C25Q-04= | Cisco UCS VIC 1455 quad port 10/25G SFP28 PCIe |
| Network Interface Cards (NICs) | |
| 1 Gb NICs | |
| UCSC-PCIE-IRJ45= | Intel i350 quad-port 1G copper PCIe |
| 10 Gb NICs | |
| UCSC-PCIE-ID10GF= | Intel X710-DA2 Dual Port 10Gb SFP+ NIC |
| UCSC-PCIE-IQ10GF= | Intel X710 quad-port 10G SFP+ NIC |
| UCSC-P-ID10GC= | Cisco-Intel X710T2LG 2x10 GbE RJ45 PCIe NIC |
| 25 Gb NICs | |
| UCSC-P-I8D25GF= | Cisco-Intel E810XXVDA2 2x25/10 GbE SFP28 PCIe NIC |
| UCSC-P-M5D25GF= | Mellanox MCX512A-ACAT dual port 10/25G SFP28 NIC |
| UCSC-P-I8Q25GF= | Cisco-Intel E810XXVDA4L 4x25/10 GbE SFP28 PCIe NIC |
| 40 Gb NICs | |
| UCSC-PCIE-ID40GF | Intel XL710 dual-port 40G QSFP+ NIC |
| 100 Gb NICs | |
| UCSC-P-M5D100GF= | Mellanox CX-5 MCX516A-CDAT 2x100GbE QSFP PCIe NIC |
| UCSC-P-M6DD100GF= | Cisco-MLNX MCX623106AS-CDAT 2x100GbE QSFP56 PCIe NIC |
| UCSC-P-M6CD100GF= | Cisco-MLNX MCX623106AC-CDAT 2x100GbE QSFP56 PCIe NIC (with Crypto) |
| UCSC-P-I8D100GF= | Cisco-Intel E810CQDA2 2x100 GbE QSFP28 PCIe NIC |
| UCSC-P-I8S100GF= | Cisco-Intel E810CQDA1 1x100 GbE QSFP28 PCIe NIC |
| Host Bus Adapters (HBAs) | |
| UCSC-P-IQAT8970= | Cisco-Intel 8970 QAT Offload PCIe Adapter |
| UCSC-P-Q6D32GF= | Cisco-QLogic QLE2772 2x32GFC Gen 6 Enhanced PCIe HBA |
| UCSC-P-B7D32GF= | Cisco-Emulex LPe35002-M2-2x32GFC Gen 7 PCIe HBA |

Table 30 Spare Parts (continued)


| Product ID (PID) | PID Description |
|---|---|
| UCSC-PCIE-QD16GF= | Qlogic QLE2692 dual-port 16G FC HBA |
| UCSC-PCIE-BD16GF= | Emulex LPe31002 dual port 16G FC HBA |
| External Storage HBA | |
| UCSC-9500-8E= | 9500 Series PCIe Gen 4.0 Tri-Mode Storage HBA 12Gb/s SAS/SATA/PCIe (NVMe) |
| SATA Interposer | |
| UCSC-SATAIN-220M6= | SATA Interposer (for control of up to 8 SATA-only drives using AHCI) |
| GPU PCIe Cards | |
|  <p>Note: If you are adding a GPU, you may need the NVIDIA license. See the NVIDIA GPU Licenses section of this table.</p> | |
| UCSC-GPU-T4-16= | NVIDIA T4 PCIE 75W 16GB |
| NVIDIA GPU Licenses | |
| NV-VCS-1YR | NVIDIA vCompute Server Subscription - 1 GPU - 1 Year |
| NV-VCS-3YR | NVIDIA vCompute Server Subscription - 1 GPU - 3 Year |
| NV-VCS-5YR | NVIDIA vCompute Server Subscription - 1 GPU - 5 Year |
| NV-VCS-R-1Y= | Renew NVIDIA vCompute Server Subscription - 1 GPU - 1 Year |
| NV-VCS-R-3Y= | Renew NVIDIA vCompute Server Subscription - 1 GPU - 3 Year |
| NV-VCS-R-5Y= | Renew NVIDIA vCompute Server Subscription - 1 GPU - 5 Year |
| NV-GRDWK-1-5S= | Quadro Perpetual Lic - NVIDIA vDWS 1CCU; 5Yr SUMS Req |
| NV-GRDVA-1-5S= | GRID Perpetual Lic - NVIDIA VDI APPs 1CCU; 5Yr SUMS Reqd |
| NV-GRDPC-1-5S= | GRID Perpetual Lic - NVIDIA VDI PC 1CCU; 5Yr SUMS Reqd |
| NV-GRD-EDP-5S= | EDU - Quadro Perpetual Lic - NVIDIA vDWS 1CCU; 5Yr SUMS Reqd |
| NV-GRID-WKP-5YR= | NVIDIA Quadro Production SUMS - vDWS 1CCU - 5 Year |
| NV-GRID-VAP-5YR= | NVIDIA GRID Production SUMS - VDI Apps 1CCU - 5 Year |
| NV-GRID-PCP-5YR= | NVIDIA GRID Production SUMS - VDI PC 1CCU - 5 Year |
| NV-GRID-EDP-5YR= | EDU - NVIDIA Quadro vDWS Production SUMS - 1CCU - 5 Year |
| NV-GRID-WKS-1YR= | NVIDIA Quadro SW Subscription - vDWS 1CCU - 1 Year |
| NV-GRID-WKS-3YR= | NVIDIA Quadro SW Subscription - vDWS 1CCU - 3 Year |
| NV-GRID-WKS-4YR= | NVIDIA Quadro SW Subscription - vDWS 1CCU - 4 Year |

Table 30 Spare Parts (continued)

| Product ID (PID) | PID Description |
|--------------------|--|
| NV-GRID-WKS-5YR= | NVIDIA Quadro SW Subscription - vDWS 1CCU - 5 Year |
| NV-GRID-PCS-1YR= | NVIDIA GRID Software Subscription - VDI PC 1CCU - 1 Year |
| NV-GRID-PCS-3YR= | NVIDIA GRID Software Subscription - VDI PC 1CCU - 3 Year |
| NV-GRID-PCS-4YR= | NVIDIA GRID Software Subscription - VDI PC 1CCU - 4 Year |
| NV-GRID-PCS-5YR= | NVIDIA GRID Software Subscription - VDI PC 1CCU - 5 Year |
| NV-GRID-VAS-1YR= | NVIDIA GRID Software Subscription - VDI Apps 1CCU - 1 Year |
| NV-GRID-VAS-3YR= | NVIDIA GRID Software Subscription - VDI Apps 1CCU - 3 Year |
| NV-GRID-VAS-4YR= | NVIDIA GRID Software Subscription - VDI Apps 1CCU - 4 Year |
| NV-GRID-VAS-5YR= | NVIDIA GRID Software Subscription - VDI Apps 1CCU - 5 Year |
| NV-GRID-EDS-1YR= | EDU - NVIDIA Quadro vDWS SW Subscription - 1CCU - 1 Year |
| NV-GRID-EDS-3YR= | EDU - NVIDIA Quadro vDWS SW Subscription - 1CCU - 3 Year |
| NV-GRID-EDS-4YR= | EDU - NVIDIA Quadro vDWS SW Subscription - 1CCU - 4 Year |
| NV-GRID-EDS-5YR= | EDU - NVIDIA Quadro vDWS SW Subscription - 1CCU - 5 Year |
| NV-GRID-VAP-R-4Y= | Renew NVIDIA GRID vApps SUMS 1CCU 4 Year |
| NV-GRID-PCP-R-4Y= | Renew NVIDIA GRID vPC SUMS 1CCU 4 Year |
| NV-QUAD-WKP-R-4Y= | Renew NVIDIA Quadro vDWS SUMS 1CCU 4 Year |
| NV-QUAD-WKPE-R-4Y= | Renew NVIDIA Quadro vDWS SUMS 1CCU EDU 4 Year |
| NV-QUAD-WKS-R-1Y= | Renew NVIDIA Quadro vDWS Subscr 1CCU 1 Year |
| NV-QUAD-WKS-R-3Y= | Renew NVIDIA Quadro vDWS Subscr 1CCU 3 Year |
| NV-QUAD-WKS-R-4Y= | Renew NVIDIA Quadro vDWS Subscr 1CCU 4 Year |
| NV-QUAD-WKS-R-5Y= | Renew NVIDIA Quadro vDWS Subscr 1CCU 5 Year |
| NV-QUAD-WKSE-R-1Y= | Renew NVIDIA Quadro vDWS Subscr 1CCU EDU 1 Year |
| NV-QUAD-WKSE-R-3Y= | Renew NVIDIA Quadro vDWS Subscr 1CCU EDU 3 Year |
| NV-QUAD-WKSE-R-4Y= | Renew NVIDIA Quadro vDWS Subscr 1CCU EDU 4 Year |
| NV-GRID-VAS-R-1Y= | Renew NVIDIA GRID vApps Subscr 1CCU 1 Year |
| NV-GRID-VAS-R-3Y= | Renew NVIDIA GRID vApps Subscr 1CCU 3 Year |
| NV-GRID-VAS-R-4Y= | Renew NVIDIA GRID vApps Subscr 1CCU 4 Year |
| NV-GRID-VAS-R-5Y= | Renew NVIDIA GRID vApps Subscr 1CCU 5 Year |
| NV-GRID-PCS-R-1Y= | Renew NVIDIA GRID vPC Subscr 1CCU 1 Year |

Table 30 Spare Parts (continued)

| Product ID (PID) | PID Description |
|------------------------------------|---|
| NV-GRID-PCS-R-3Y= | Renew NVIDIA GRID vPC Subscr 1CCU 3 Year |
| NV-GRID-PCS-R-4Y= | Renew NVIDIA GRID vPC Subscr 1CCU 4 Year |
| NV-GRID-PCS-R-5Y= | Renew NVIDIA GRID vPC Subscr 1CCU 5 Year |
| NV-QUAD-WKP-R-1Y= | Renew NVIDIA Quadro vDWS SUMS 1CCU 1 Year |
| NV-QUAD-WKP-R-3Y= | Renew NVIDIA Quadro vDWS SUMS 1CCU 3 Year |
| NV-QUAD-WKP-R-5Y= | Renew NVIDIA Quadro vDWS SUMS 1CCU 5 Year |
| NV-QUAD-WKPE-R-1Y= | Renew NVIDIA Quadro vDWS SUMS 1CCU EDU 1 Year |
| NV-QUAD-WKPE-R-3Y= | Renew NVIDIA Quadro vDWS SUMS 1CCU EDU 3 Year |
| NV-QUAD-WKPE-R-5Y= | Renew NVIDIA Quadro vDWS SUMS 1CCU EDU 5 Year |
| NV-GRID-VAP-R-1Y= | Renew NVIDIA GRID vApps SUMS 1CCU 1 Year |
| NV-GRID-VAP-R-3Y= | Renew NVIDIA GRID vApps SUMS 1CCU 3 Year |
| NV-GRID-VAP-R-5Y= | Renew NVIDIA GRID vApps SUMS 1CCU 5 Year |
| NV-GRID-PCP-R-1Y= | Renew NVIDIA GRID vPC SUMS 1CCU 1 Year |
| NV-GRID-PCP-R-3Y= | Renew NVIDIA GRID vPC SUMS 1CCU 3 Year |
| NV-GRID-PCP-R-5Y= | Renew NVIDIA GRID vPC SUMS 1CCU 5 Year |
| NV-GRD-VA2WKP-5S= | Upgrade NVIDIA VDI APPs to Quadro vDWS 1CCU; 5Yr SUMS Req'd |
| NV-GRD-VA2PCP-5S= | Upgrade NVIDIA VDI APPs to vPC 1CCU; 5Yr SUMS Req'd |
| NV-GRD-VA2WKPE-5S= | Upgrade NVIDIA VDI to Quadro vDWS 1CCU; 5Yr SUMS Req'd |
| NV-GRD-PC2WKP-5S= | Upgrade NVIDIA vPC to Quadro vDWS 1CCU; 5Yr SUMS Req'd |
| NV-GRD-PC2WKPE-5S= | Upgrade NVIDIA vPC to Quadro vDWS 1CCU; 5Yr SUMS Req'd |
| Power Supplies | |
| UCSC-PSU1-1050W | 1050W AC power supply for C-Series servers Platinum |
| UCSC-PSUV2-1050DC | Cisco UCS 1050W -48V DC Power Supply for Rack Server Requires cable CAB-48DC-40A-8AWG |
| UCSC-PSU1-1600W | 1600W AC power supply for C-Series servers Platinum |
| UCSC-PSU1-2300W ⁶ | 2300W Power supply for C-series servers Titanium |
| PSU (Input Low Line 110VAC) | |
| UCSC-PSU1-1050W | 1050W AC power supply for C-Series servers Platinum |
| UCSC-PSUV2-1050DC | Cisco UCS 1050W -48V DC Power Supply for Rack Server Requires cable CAB-48DC-40A-8AWG |

Table 30 Spare Parts (continued)

| Product ID (PID) | PID Description |
|---------------------|--|
| UCSC-PSU1-1050ELV | 1050W AC Power Supply C-Series Enhanced Low Line Platinum |
| UCSC-PSU1-2300W | 2300W Power supply for C-series servers Titanium |
| UCSC-PSU-M5BLK= | Power Supply Blanking Panel for M5 servers |
| Power Cables | |
| CAB-48DC-40A-8AWG= | C-Series -48VDC PSU Power Cord, 3.5M, 3 Wire, 8AWG, 40A |
| CAB-N5K6A-NA= | Power Cord, 200/240V 6A, North America |
| CAB-AC-L620-C13= | AC Power Cord, NEMA L6-20 - C13, 2M/6.5ft |
| CAB-C13-CBN= | CABASY,WIRE,JUMPER CORD, 27" L, C13/C14, 10A/250V |
| CAB-C13-C14-2M= | CABASY,WIRE,JUMPER CORD, PWR, 2 Meter, C13/C14,10A/250V |
| CAB-C13-C14-AC= | CORD,PWR,JMP,IEC60320/C14,IEC6 0320/C13, 3.0M |
| CAB-250V-10A-AR= | Power Cord, 250V, 10A, Argentina |
| CAB-9K10A-AU= | Power Cord, 250VAC 10A 3112 Plug, Australia |
| CAB-250V-10A-CN= | AC Power Cord - 250V, 10A - PRC |
| CAB-9K10A-EU= | Power Cord, 250VAC 10A CEE 7/7 Plug, EU |
| CAB-250V-10A-ID= | Power Cord, SFS, 250V, 10A, India |
| CAB-250V-10A-IS= | Power Cord, SFS, 250V, 10A, Israel |
| CAB-9K10A-IT= | Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy |
| CAB-9K10A-SW= | Power Cord, 250VAC 10A MP232 Plug, Switzerland |
| CAB-9K10A-UK= | Power Cord, 250VAC 10A BS1363 Plug (13 A fuse), UK |
| CAB-9K12A-NA= | Power Cord, 125VAC 13A NEMA 5-15 Plug, North America |
| CAB-250V-10A-BR= | Power Cord - 250V, 10A - Brazil |
| CAB-C13-C14-2M-JP= | Power Cord C13-C14, 2M/6.5ft Japan PSE mark |
| CAB-9K10A-KOR= | Power Cord, 125VAC 13A KSC8305 Plug, Korea |
| CAB-ACTW= | AC Power Cord (Taiwan), C13, EL 302, 2.3M |
| CAB-JPN-3PIN= | Japan, 90-125VAC 12A NEMA 5-15 Plug, 2.4m |
| Rail Kit | |
| UCSC-RAIL-M6= | Ball Bearing Rail Kit for C220 and C240 M6 rack servers |
| UCSC-RAIL-NONE= | No rail kit option |
| CMA | |

Table 30 Spare Parts (continued)

| Product ID (PID) | PID Description |
|--------------------------------------|--|
| UCSC-CMA-C220M6= | Reversible CMA for C220 M6 ball bearing rail kit |
| Security | |
| UCSX-TPM-002C= | Trusted Platform Module 2.0 for UCS servers |
| UCSC-INT-SW02= | C220 and C240 M6 Chassis Intrusion Switch |
| Bezel | |
| UCSC-BZL-C220M5 | C220 M5 Security Bezel |
| Software/Firmware | |
| Windows Server Recovery Media | |
| MSWS-19-ST16C-RM= | Windows Server 2019 Stan (16 Cores/2 VMs) Rec Media DVD Only |
| MSWS-19-DC16C-RM= | Windows Server 2019 DC (16Cores/Unlim VM) Rec Media DVD Only |
| MSWS-22-ST16C-RM= | Windows Server 2022 Stan (16 Cores/2 VMs) Rec Media DVD Only |
| MSWS-22-DC16C-RM= | Windows Server 2022 DC (16Cores/Unlim VM) Rec Media DVD Only |
| RHEL SAP | |
| RHEL-SAPSP-3S= | RHEL SAP Solutions Premium - 3 Years |
| RHEL-SAPSS-3S= | RHEL SAP Solutions Standard - 3 Years |
| RHEL-SAPSP-R-1S= | Renew RHEL SAP Solutions Premium - 1 Year |
| RHEL-SAPSS-R-1S= | Renew RHEL SAP Solutions Standard - 1 Year |
| RHEL-SAPSP-R-3S= | Renew RHEL SAP Solutions Premium - 3 Years |
| RHEL-SAPSS-R-3S= | Renew RHEL SAP Solutions Standard -3 Years |
| VMware vSphere | |
| VMW-VSP-STD-1A= | VMware vSphere 7 Std (1 CPU, 32 Core) 1-yr, Support Required |
| VMW-VSP-STD-3A= | VMware vSphere 7 Std (1 CPU, 32 Core) 3-yr, Support Required |
| VMW-VSP-STD-5A= | VMware vSphere 7 Std (1 CPU, 32 Core) 5-yr, Support Required |
| VMW-VSP-EPL-1A= | VMware vSphere 7 Ent Plus (1 CPU, 32 Core) 1Yr, Support Reqd |
| VMW-VSP-EPL-3A= | VMware vSphere 7 Ent Plus (1 CPU, 32 Core) 3Yr, Support Reqd |
| VMW-VSP-EPL-5A= | VMware vSphere 7 Ent Plus (1 CPU, 32 Core) 5Yr, Support Reqd |
| VMW-VSP-STD-1S= | VMware vSphere 7 Std (1 CPU, 32 Core), 1-yr VMware SnS Reqd |
| VMW-VSP-STD-3S= | VMware vSphere 7 Std (1 CPU, 32 Core), 3-yr VMware SnS Reqd |

Table 30 Spare Parts (continued)

| Product ID (PID) | PID Description |
|--------------------------------|---|
| VMW-VSP-STD-1YR | VMware vSphere 7 Std SnS - 1 Year (reports to PID VMW-VSP-STD-1S=) |
| VMW-VSP-STD-3YR | VMware vSphere 7 Std SnS - 3 Year (reports to PID VMW-VSP-STD-3S=) |
| VMW-VSP-EPL-1S= | VMware vSphere 7 EntPlus (1 CPU 32 Core) 1Yr VMware SnS Reqd |
| VMW-VSP-EPL-3S= | VMware vSphere 7 EntPlus (1 CPU 32 Core) 3Yr VMware SnS Reqd |
| VMW-VSP-EPL-1YR | VMware vSphere 7 Enterprise Plus SnS - 1 Year (reports to PID VMW-VSP-EPL-1S=) |
| VMW-VSP-EPL-3YR | VMware vSphere 7 Enterprise Plus SnS - 3 Year (reports to PID VMW-VSP-EPL-3S=) |
| VMware vCenter | |
| VMW-VCS-STD-1A= | VMware vCenter 7 Server Standard, 1 yr support required |
| VMW-VCS-STD-3A= | VMware vCenter 7 Server Standard, 3 yr support required |
| VMW-VCS-STD-5A= | VMware vCenter 7 Server Standard, 5 yr support required |
| VMW-VCS-STD-1S= | VMware vCenter 7 Server Standard, 1-yr VMware SnS Reqd |
| VMW-VCS-STD-3S= | VMware vCenter 7 Server Standard, 3-yr VMware SnS Reqd |
| VMW-VCS-STD-1YR= | VMware vCenter 6 Server Standard SnS - 1 Year (reports to PID VMW-VCS-STD-1S=) |
| VMW-VCS-STD-3YR= | VMware vCenter 6 Server Standard SnS - 3 Year (reports to PID VMW-VCS-STD-3S=) |
| VMW-VCS-FND-1A= | VMware vCenter Server 7 Foundation (4 Host), 1 yr supp reqd |
| VMW-VCS-FND-3A= | VMware vCenter Server 7 Foundation (4 Host), 3 yr supp reqd |
| VMW-VCS-FND-5A= | VMware vCenter Server 7 Foundation (4 Host), 5 yr supp reqd |
| VMW-VCS-FND-1S= | VMware vCenter Server 7 Foundation (4 Host), 1yr VM SnS Reqd |
| VMW-VCS-FND-3S= | VMware vCenter Server 7 Foundation (4 Host), 3yr VM SnS Reqd |
| VMW-VCS-FND-1YR= | VMware vCenter Server 6 Foundation (4 Host) SnS - 1 Year (reports to PID VMW-VCS-FND-1S=) |
| VMW-VCS-FND-3YR= | VMware vCenter Server 6 Foundation (4 Host) SnS - 3 Year (reports to PID VMW-VCS-FND-3S=) |
| VMware vSphere Upgrades | |
| VMW-VSS2VSP-1A= | Upgrade: vSphere 7 Std to vSphere 7 Ent Plus (1 yr Supp Req) |
| VMW-VSS2VSP-3A= | Upgrade: vSphere 7 Std to vSphere 7 Ent Plus (1 yr Supp Req) |

Notes:

1. Can be selected with quantity 1 or 2 CPUs. It is recommended that the user purchase 2 QTY of Processor to support Riser2 FH x16 Slot. Full-height Riser 1 is controlled from CPU1 and Riser 2 is controlled from CPU2.
2. The maximum number of UCS-CPU-I8351N CPUs is one
3. The maximum number of UCS-CPU-I6314U CPUs is one
4. The maximum number of UCS-CPU-I6312U CPUs is one
5. This part is included with the purchase of option or spare CPU or CPU processor kits.
6. The 2300 W power supply uses a different power connector than the rest of the power supplies, so you must use different power cables to connect it. See [Table 15 on page 45](#) and [Table 16 on page 48](#).

Please refer to “Cisco UCS C220 M6 Server Installation and Service Guide” for installation procedures. See this link:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c220m6/install/c220m6.html

UPGRADING or REPLACING CPUs



NOTE: Before servicing any CPU, do the following:

- Decommission and power off the server.
- Slide the C220 M6 SFF server out from the rack.
- Remove the top cover.

To replace an existing CPU, follow these steps:

(1) Have the following tools and materials available for the procedure:

- T-30 Torx driver—Supplied with replacement CPU.
- #1 flat-head screwdriver—Supplied with replacement CPU.
- CPU assembly tool—Supplied with replacement CPU. Can be ordered separately as Cisco PID UCS-CPUAT=.
- Heatsink cleaning kit—Supplied with replacement CPU. Can be ordered separately as Cisco PID UCSX-HSCK=.
- Thermal interface material (TIM)—Syringe supplied with replacement CPU. Can be ordered separately as Cisco PID UCS-CPU-TIM=.

(2) Order the appropriate replacement CPU from [Table 4 on page 19](#)

Carefully remove and replace the CPU and heatsink in accordance with the instructions found in “Cisco UCS C220 M6 Server Installation and Service Guide,” found at:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c220m6/install/c220m6.html

To add a new CPU, follow these steps:

(1) Have the following tools and materials available for the procedure:

- T-30 Torx driver—Supplied with new CPU.
- #1 flat-head screwdriver—Supplied with new CPU
- CPU assembly tool—Supplied with new CPU. Can be ordered separately as Cisco PID UCS-CPUAT=
- Thermal interface material (TIM)—Syringe supplied with replacement CPU. Can be ordered separately as Cisco PID UCS-CPU-TIM=

(2) Order the appropriate new CPU from [Table 4 on page 19](#)

(3) Order one heat sink for each new CPU. Order PID UCSC-HSLP-M6=.

Carefully install the CPU and heatsink in accordance with the instructions found in “Cisco UCS C220 M6 Server Installation and Service Guide,” found at:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c220m6/install/c220m6.html

UPGRADING or REPLACING MEMORY



NOTE: Before servicing any DIMM or PMem, do the following:

- Decommission and power off the server.
- Remove the top cover from the server
- Slide the server out the front of the chassis.

To add or replace DIMMs or PMem, follow these steps:

Step 1 Open both DIMM connector latches.

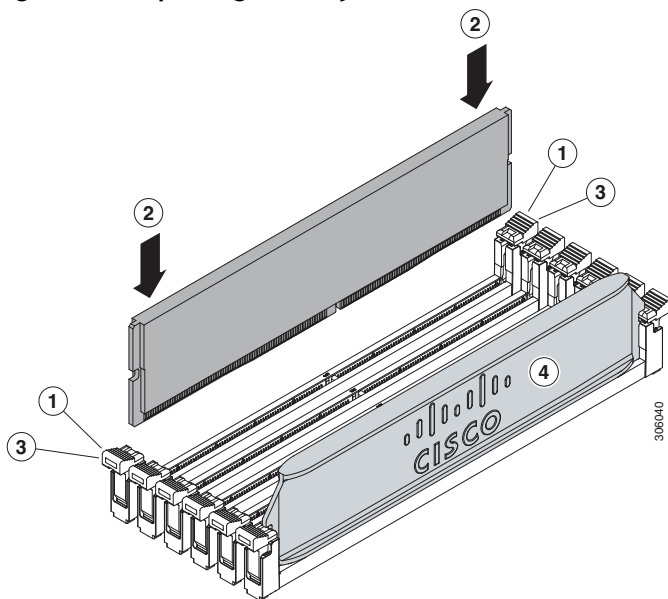
Step 2 Press evenly on both ends of the DIMM until it clicks into place in its slot

Note: Ensure that the notch in the DIMM aligns with the slot. If the notch is misaligned, it is possible to damage the DIMM, the slot, or both.

Step 3 Press the DIMM connector latches inward slightly to seat them fully.

Step 4 Populate all slots with a DIMM or DIMM blank. A slot cannot be empty.

Figure 15 Replacing Memory



For additional details on replacing or upgrading DIMMs and PMem, see “Cisco UCS C220 M6 Server Installation and Service Guide,” found at this link:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c220m6/install/c220m6.html

DISCONTINUED EOL PRODUCTS

Below is the list of parts were previously available for this product and are no longer sold. Please refer to the EOL Bulletin Links via the Table 36 below to determine if still supported.

Table 31 EOS

| Product ID | Description | EOL/EOS link |
|-------------------------|--|---|
| software | | |
| NV-GRDVA-1-4S | GRID Perpetual Lic - NVIDIA VDI APPs 1CCU; 4Yr SUMS Reqd | https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-commvault-veeam-vmware-nvidia-mapr-software-resell-eol.html |
| NV-GRDPC-1-4 | GRID Perpetual Lic - NVIDIA VDI PC 1CCU; 4Yr SUMS Reqd | https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-commvault-veeam-vmware-nvidia-mapr-software-resell-eol.html |
| NV-GRDVK-1-4S | Quadro Perpetual Lic - NVIDIA vDWS 1CCU; 4Yr SUMS Req | https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-commvault-veeam-vmware-nvidia-mapr-software-resell-eol.html |
| NV-GRD-EDP-4S | EDU - Quadro Perpetual Lic - NVIDIA vDWS 1CCU; 4Yr SUMS Reqd | https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-commvault-veeam-vmware-nvidia-mapr-software-resell-eol.html |
| NV-GRID-VAP-4YR | NVIDIA GRID Production SUMS - VDI Apps 1CCU - 4 Year | https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-commvault-veeam-vmware-nvidia-mapr-software-resell-eol.html |
| NV-GRID-PCP-4YR | NVIDIA GRID Production SUMS - VDI PC 1CCU - 4 Year | https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-commvault-veeam-vmware-nvidia-mapr-software-resell-eol.html |
| NV-GRID-WKP-4YR | NVIDIA Quadro Production SUMS - vDWS 1CCU - 4 Year | https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-commvault-veeam-vmware-nvidia-mapr-software-resell-eol.html |
| NV-GRID-EDP-4YR | EDU - NVIDIA Quadro vDWS Production SUMS - 1CCU - 4 Year | https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-commvault-veeam-vmware-nvidia-mapr-software-resell-eol.html |
| Operating system | | |
| SLES-2SUV-1A | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); 1-Yr Support Req | |
| SLES-2SUV-1S | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); Prio 1-Yr SnS | |
| SLES-2SUV-3A | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); 3-Yr Support Req | |
| SLES-2SUV-3S | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); Prio 3-Yr SnS | |
| SLES-2SUV-5A | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); 5-Yr Support Req | |
| SLES-2SUV-5S | SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); Prio 5-Yr SnS | |

Table 31 EOS

| | | |
|------------------|--|--|
| SLES-SAP-2SUV-1A | SLES for SAP Apps w/ HA (1-2 CPU, Unl VM); 1-Yr Support Reqd | |
| SLES-SAP-2SUV-1S | SLES for SAP Apps (1-2 CPU, Unl VM); Priority 1-Yr SnS | |
| SLES-SAP-2SUV-3A | SLES for SAP Apps w/ HA (1-2 CPU, Unl VM); 3-Yr Support Reqd | |
| SLES-SAP-2SUV-3S | SLES for SAP Apps (1-2 CPU, Unl VM); Priority 3-Yr SnS | |
| SLES-SAP-2SUV-5A | SLES for SAP Apps w/ HA (1-2 CPU, Unl VM); 5-Yr Support Reqd | |
| SLES-SAP-2SUV-5S | SLES for SAP Apps (1-2 CPU, Unl VM); Priority 5-Yr SnS | |

TECHNICAL SPECIFICATIONS

Dimensions and Weight

Table 32 UCS C220 M6 Dimensions and Weight

| Parameter | Value |
|---|---------------------|
| Height | 1.70 in. (4.3 cm) |
| Width (Not including slam latches) | 16.9 in. (42.9 cm) |
| Width (including slam latches) | 18.9 in. (48.0 cm) |
| Depth | 30 in. (76.2 cm) |
| Front Clearance | 3 in. (76 mm) |
| Side Clearance | 1 in. (25 mm) |
| Rear Clearance | 6 in. (152 mm) |
| Weight | |
| Weight with following options and no rail kit: 1 HDD, 1 CPU, 1 DIMM, and 1 1600 W power supply | 22.32 lbs (10.1 kg) |
| Weight with following options and including rail kit: 1 HDD, 1 CPU, 1 DIMM, and 1 1600 W power supply | 32.38 lbs (14.7 kg) |
| Weight with following options and no rail kit: 10 HDDs, 2 CPUs, 32 DIMMs, and 2 1600 W power supplies | 32.38 lbs (14.7 kg) |
| Weight with following options and including rail kit: 10 HDDs, 2 CPUs, 32 DIMMs, and 2 1600 W power supplies | 42.43 lbs (19.3 kg) |

Power Specifications

The server is available with the following types of power supplies:

- 1050 W (AC) power supply (see [Table 33](#)).
- 1050 W V2 (DC) power supply (see [Table 34](#))
- 1600 W (AC) power supply (see [Table 35](#))
- 2300 W (AC) power supply (see [Table 36](#))

Table 33 UCS C220 M6 SFF Power Specifications (1050 W AC power supply)

| Parameter | Specification | | | |
|---|---------------|------|------|------|
| Input Connector | IEC320 C14 | | | |
| Input Voltage Range (V rms) | 100 to 240 | | | |
| Maximum Allowable Input Voltage Range (V rms) | 90 to 264 | | | |
| Frequency Range (Hz) | 50 to 60 | | | |
| Maximum Allowable Frequency Range (Hz) | 47 to 63 | | | |
| Maximum Rated Output (W) ¹ | 800 | | 1050 | |
| Maximum Rated Standby Output (W) | 36 | | | |
| Nominal Input Voltage (V rms) | 100 | 120 | 208 | 230 |
| Nominal Input Current (A rms) | 9.2 | 7.6 | 5.8 | 5.2 |
| Maximum Input at Nominal Input Voltage (W) | 889 | 889 | 1167 | 1154 |
| Maximum Input at Nominal Input Voltage (VA) | 916 | 916 | 1203 | 1190 |
| Minimum Rated Efficiency (%) ² | 90 | 90 | 90 | 91 |
| Minimum Rated Power Factor ² | 0.97 | 0.97 | 0.97 | 0.97 |
| Maximum Inrush Current (A peak) | 15 | | | |
| Maximum Inrush Current (ms) | 0.2 | | | |
| Minimum Ride-Through Time (ms) ³ | 12 | | | |

Notes:

1. Maximum rated output is limited to 800W when operating at low-line input voltage (100-127V)
2. This is the minimum rating required to achieve 80 PLUS Platinum certification, see test reports published at <http://www.80plus.org/> for certified values
3. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

Table 34 UCS C220 M6 SFF Power Specifications (1050 W V2 DC power supply)

| Parameter | Specification |
|---|---------------|
| Input Connector | Molex 42820 |
| Input Voltage Range (V rms) | -48 |
| Maximum Allowable Input Voltage Range (V rms) | -40 to -72 |
| Frequency Range (Hz) | NA |
| Maximum Allowable Frequency Range (Hz) | NA |
| Maximum Rated Output (W) | 1050 |
| Maximum Rated Standby Output (W) | 36 |
| Nominal Input Voltage (V rms) | -48 |
| Nominal Input Current (A rms) | 24 |
| Maximum Input at Nominal Input Voltage (W) | 1154 |
| Maximum Input at Nominal Input Voltage (VA) | 1154 |
| Minimum Rated Efficiency (%) ¹ | 91 |
| Minimum Rated Power Factor ¹ | NA |
| Maximum Inrush Current (A peak) | 15 |
| Maximum Inrush Current (ms) | 0.2 |
| Minimum Ride-Through Time (ms) ² | 5 |

Notes:

1. This is the minimum rating required to achieve 80 PLUS Platinum certification, see test reports published at <http://www.80plus.org/> for certified values
2. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

Table 35 UCS C220 M6 1600 W (AC) Power Supply Specifications

| Parameter | Specification | | | |
|---|---------------|-----|------|------|
| Input Connector | IEC320 C14 | | | |
| Input Voltage Range (V rms) | 200 to 240 | | | |
| Maximum Allowable Input Voltage Range (V rms) | 180 to 264 | | | |
| Frequency Range (Hz) | 50 to 60 | | | |
| Maximum Allowable Frequency Range (Hz) | 47 to 63 | | | |
| Maximum Rated Output (W) | 1600 | | | |
| Maximum Rated Standby Output (W) | 36 | | | |
| Nominal Input Voltage (V rms) | 100 | 120 | 208 | 230 |
| Nominal Input Current (A rms) | NA | NA | 8.8 | 7.9 |
| Maximum Input at Nominal Input Voltage (W) | NA | NA | 1778 | 1758 |
| Maximum Input at Nominal Input Voltage (VA) | NA | NA | 1833 | 1813 |
| Minimum Rated Efficiency (%) ¹ | NA | NA | 90 | 91 |
| Minimum Rated Power Factor ² | NA | NA | 0.97 | 0.97 |
| Maximum Inrush Current (A peak) | 30 | | | |
| Maximum Inrush Current (ms) | 0.2 | | | |
| Minimum Ride-Through Time (ms) ² | 12 | | | |

Notes:

1. This is the minimum rating required to achieve 80 PLUS Platinum certification, see test reports published at <http://www.80plus.org/> for certified values
2. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

Table 36 UCS C220 M6 2300 W (AC) Power Supply Specifications

| Parameter | Specification | | | |
|--|---------------|------|------|------|
| Input Connector | IEC320 C20 | | | |
| Input Voltage Range (Vrms) | 100 to 240 | | | |
| Maximum Allowable Input Voltage Range (Vrms) | 90 to 264 | | | |
| Frequency Range (Hz) | 50 to 60 | | | |
| Maximum Allowable Frequency Range (Hz) | 47 to 63 | | | |
| Maximum Rated Output (W) ¹ | 2300 | | | |
| Maximum Rated Standby Output (W) | 36 | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 208 | 230 |
| Nominal Input Current (Arms) | 13 | 11 | 12 | 10.8 |
| Maximum Input at Nominal Input Voltage (W) | 1338 | 1330 | 2490 | 2480 |
| Maximum Input at Nominal Input Voltage (VA) | 1351 | 1343 | 2515 | 2505 |
| Minimum Rated Efficiency (%) ² | 92 | 92 | 93 | 93 |
| Minimum Rated Power Factor ² | 0.99 | 0.99 | 0.97 | 0.97 |
| Maximum Inrush Current (A peak) | 30 | | | |
| Maximum Inrush Current (ms) | 0.2 | | | |
| Minimum Ride-Through Time (ms) ³ | 12 | | | |

Notes:

1. Maximum rated output is limited to 1200W when operating at low-line input voltage (100-127V)
2. This is the minimum rating required to achieve 80 PLUS Titanium certification, see test reports published at <http://www.80plus.org/> for certified values
3. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

For configuration-specific power specifications, use the Cisco UCS Power Calculator at this URL:

<http://ucspowercalc.cisco.com>

Environmental Specifications

The environmental specifications for the C220 M6 server are listed in [Table 37](#).

Table 37 UCS C220 M6 Environmental Specifications

| Parameter | Minimum |
|---|---|
| Operating Temperature | <p>Dry bulb temperature of 10°C to 35°C (50°F to 95°F)</p> <p>Maximum temperature change of 20°C (36°F) per hour (a temperature change within a specified period of time and not a rate of change)</p> <p>Humidity condition: Uncontrolled, not to exceed 50% RH starting condition</p> <p>Derate the maximum temperature by 1°C (33.8°F) per every 305 meters of altitude above 900m</p> |
| Extended Operating Temperature | <p>5°C to 40°C (41°F to 104°F) with no direct sunlight</p> <p>Humidity condition: Uncontrolled, not to exceed 50% RH starting condition</p> <p>Derate the maximum temperature by 1°C (33.8°F) per every 305 meters of altitude above 900m</p> |
| Non-Operating Temperature | Dry bulb temperature of -40°C to 65°C (-40°F to 149°F) |
| Operating Relative Humidity | <p>10% to 90% and 28°C (82.4°F) maximum dew-point temperature, non-condensing environment</p> <p>Minimum to be higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity</p> <p>Maximum to be 24°C (75.2°F) dew point or 90% relative humidity</p> |
| Non-Operating Relative Humidity | 5% to 93% relative humidity, non-condensing, with a maximum wet bulb temperature of 28°C across the 20°C to 40°C dry bulb range. |
| Maximum Operating Duration | Unlimited |
| Operating Altitude | A maximum elevation of 3050 meters (10,006 ft) |
| Non-Operating Altitude | An elevation of 0 to 12,000 meters (39,370 ft) |
| Sound Power level, Measure A-weighted per ISO7779 LWAd (Bels) Operation at 23°C (73°F) | 5.5 |
| Sound Pressure level, Measure A-weighted per ISO7779 LpAm (dBA) Operation at 23°C (73°F) | 40 |

Extended Operating Temperature Hardware Configuration Limits

Table 38 Cisco UCS C220 M6 Extended Operating Temperature Hardware Configuration Limits

| Platform ¹ | ASHRAE A3 (5°C to 40°C) ² | ASHRAE A4 (5°C to 45°C) ³ |
|-----------------------|--------------------------------------|--|
| Processors: | 155W+ | 155W+ and 105W+ (4 or 6 Cores) |
| Memory: | LRDIMMs | LRDIMMs |
| Storage: | M.2 SATA SSDs NVMe SSDs | M.2 SATA SSDs NVMe SSDs |
| Peripherals: | PCIe NVMe SSDs GPUs | MRAID PCIe NVMe SSDs GPUs mLOMs VICs NICs HBAs |

Notes:

1. Two PSUs are required and PSU failure is not supported
2. Non-Cisco UCS qualified peripherals and/or peripherals that consume more than 25W are not supported
3. High power or maximum power fan control policy must be applied

Compliance Requirements

The regulatory compliance requirements for C-Series servers are listed in [Table 39](#).

Table 39 UCS C-Series Regulatory Compliance Requirements

| Parameter | Description |
|-----------------------|---|
| Regulatory Compliance | Products should comply with CE Markings per directives 2014/30/EU and 2014/35/EU |
| Safety | UL 60950-1 Second Edition CAN/CSA-C22.2 No. 60950-1 Second Edition EN 60950-1 Second Edition IEC 60950-1 Second Edition AS/NZS 60950-1 GB4943 2001 |
| EMC - Emissions | 47CFR Part 15 (CFR 47) Class A AS/NZS CISPR32 Class A CISPR32 Class A EN55032 Class A ICES003 Class A VCCI Class A EN61000-3-2 EN61000-3-3 KN32 Class A CNS13438 Class A |
| EMC - Immunity | EN55024 CISPR24 EN300386 KN35 |



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