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# Cisco UCS C240 M5 Rack Server (Large Form Factor Disk Drive Model)

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# OVERVIEW

The UCS C240 M5 LFF server extends the capabilities of Cisco's Unified Computing System portfolio in a 2U form factor with the addition of the 2<sup>nd</sup> Generation Intel® Xeon® Scalable Processors, 2933-MHz DDR4 memory, and the new 512GB Intel® Optane™ Persistent Memory (PMem). With this combination of features, up to 9 TB of memory is possible (using 12 x 256 GB DDR4 DIMMs and 12 x 512 GB PMem), up to 6 PCI Express (PCIe) 3.0 slots, and up to 12 front-facing internal LFF drives. The C240 M5 LFF server also includes one dedicated internal slot for a 12G SAS storage controller card.

The C240 M5 server includes a dedicated modular LAN on motherboard (mLOM) slot for installation of a Cisco Virtual Interface Card (VIC) or third-party network interface card (NIC) without consuming a PCI slot, in addition to 2 x 10 Intel x550 10Gb-T embedded (on the motherboard) LOM ports.

The Cisco UCS C240 M5 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.

**Figure 1** Cisco UCS C240 M5 LFF Rack Server

## Front View



## Rear View

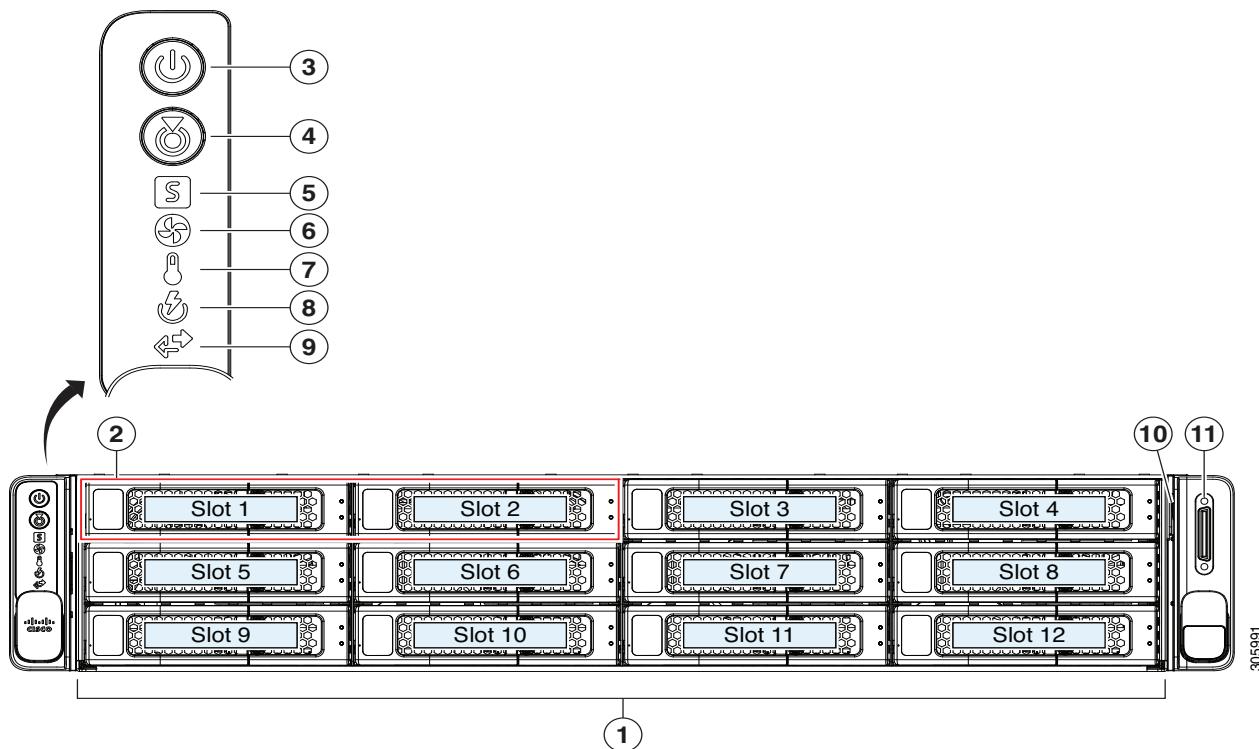


## DETAILED VIEWS

### Chassis Front View

**Figure 2** shows the 12-drive Cisco UCS C240 M5 LFF Rack Server.

**Figure 2** Chassis Front View



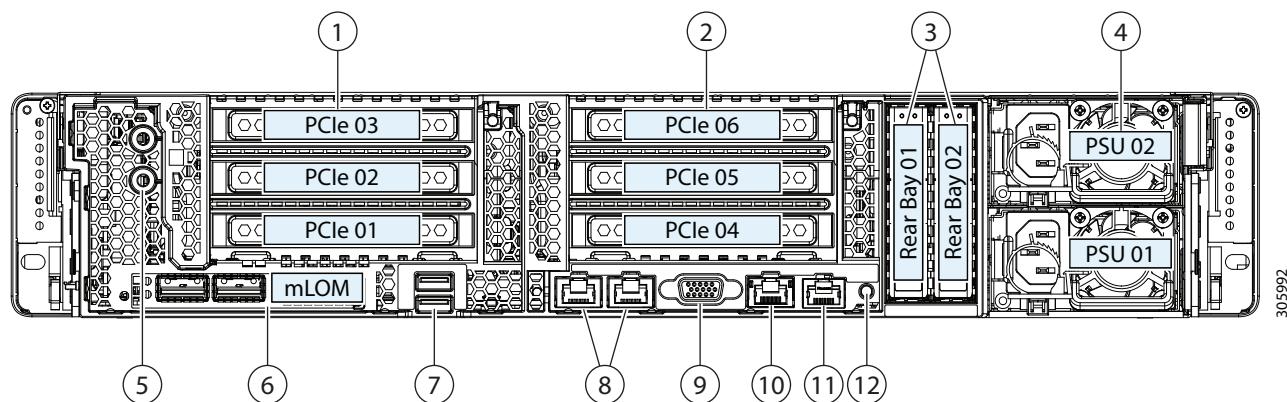
1	Drive bays 1-12 support 3.5-inch SAS/SATA hard drives and solid state drives (SSDs).	7	Temperature status LED
2	Drive bays 1 and 2 support 2.5-inch NVMe PCIe SSDs, when a size-adapter sled is used	8	Power supply status LED
3	Power button/Power status LED	9	Network link activity LED
4	Unit Identification button/LED	10	Pull-out asset tag
5	System status LED	11	KVM connector (used with KVM cable that provides two USB 2.0 connectors, one VGA connector, and one serial connector)
6	Fan status LED		

For more information about the KVM cable connection, see [KVM CABLE, page 85](#).

## Chassis Rear View

**Figure 3** shows the external features of the rear panel.

**Figure 3** Chassis Rear View



1	PCIe riser 1 (slots 1, 2, 3) Two options: <ul style="list-style-type: none"> <li>■ Riser 1A option               <ul style="list-style-type: none"> <li>• slot 1 (x8, CPU1 controlled)</li> <li>• slot 2 (x16, CPU1 controlled)</li> <li>• slot 3 (x8, CPU2 controlled)</li> </ul> </li> <li>■ Riser 1B option               <ul style="list-style-type: none"> <li>• slot 1 (x8, CPU1 controlled)</li> <li>• slot 2 (x8, CPU1 controlled)</li> <li>• slot 3 (x8, CPU1 controlled)</li> </ul> </li> </ul> <p>See <a href="#">Riser Card Configuration and Options, page 83</a> for details.</p>	7	USB 3.0 ports (two)
2	PCIe riser 2 (slots 4, 5, 6) Four options: <ul style="list-style-type: none"> <li>■ Riser 2A option               <ul style="list-style-type: none"> <li>• slot 4 (x16, CPU2 controlled)</li> <li>• slot 5 (x16, CPU2 controlled)</li> <li>• slot 6 (x8, CPU2 controlled)</li> </ul> </li> </ul>	8	Dual 1/10-Gb Ethernet ports (LAN1, LAN2) LAN1 is left connector, LAN2 is right connector

2 (cont.)	<ul style="list-style-type: none"> <li>■ Riser 2B option           <ul style="list-style-type: none"> <li>• slot 4 (x8, CPU2 controlled)</li> <li>• slot 5 (x16, CPU2 controlled)</li> <li>• slot 6 (x8, CPU2 controlled)</li> <li>• One x8 NVMe connector (for two rear drives) from slot 4</li> </ul> </li> <li>■ Riser 2C option           <ul style="list-style-type: none"> <li>• slot 4 (x8, CPU2 controlled)</li> <li>• slot 5 (x8, CPU2 controlled)</li> <li>• slot 6 (x8, CPU2 controlled)</li> <li>• Two NVMe connectors (for two front and two rear drives) from slots 4 and 5</li> </ul> </li> <li>■ Riser 2D option           <ul style="list-style-type: none"> <li>• slot 4 (x16, CPU2 controlled)</li> <li>• slot 5 (x8, CPU2 controlled)</li> <li>• slot 6 (x8, CPU2 controlled)</li> <li>• One NVMe connector (for two rear drives) from slot 6</li> </ul> </li> </ul> <p>See <i>Riser Card Configuration and Options, page 83</i> for details.</p>		
3	<p>Rear 2.5-inch drive bays:</p> <ul style="list-style-type: none"> <li>■ Support up to two drives:           <ul style="list-style-type: none"> <li>• When using a hardware RAID controller card in the server, SAS/SATA HDDs or SSDs or NVMe PCIe SSDs are supported in the rear bays.</li> <li>• When using software RAID in the server, only NVMe PCIe SSDs are supported in the rear bays.</li> </ul> </li> </ul>	9	VGA video port (DB-15 connector)
4	Power supplies (two, redundant as 1+1)	10	1-Gb Ethernet dedicated management port
5	Screw holes for dual-hole grounding lug	11	Serial port (RJ-45 connector)
6	Modular LAN-on-motherboard (mLOM) card slot (x16)	12	Rear Unit Identification button/LED

# 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 11](#).

**Table 1 Capabilities and Features**

Capability/Feature	Description
Chassis	Two rack unit (2RU) chassis
CPU	One or two 2 <sup>nd</sup> Generation Intel® Xeon® scalable family CPUs
Chipset	Intel® C621 series chipset
Memory	24 slots for registered DIMMs (RDIMMs), load-reduced DIMMs (LRDIMMs), or through silicon via (TSV) DIMMs and support for Intel® Optane™ Persistent Memory (PMem)
Multi-bit Error Protection	This server supports multi-bit error protection.
Video	The Cisco Integrated Management Controller (CIMC) provides video using the Matrox G200e video/graphics controller: <ul style="list-style-type: none"> <li>■ Integrated 2D graphics core with hardware acceleration</li> <li>■ 512MB total DDR4 memory, with 16MB dedicated to Matrox video memory</li> <li>■ Supports display resolutions up to 1920 x 1200 16bpp @ 60Hz</li> <li>■ High-speed integrated 24-bit RAMDAC</li> <li>■ Single lane PCI-Express host interface running at Gen 1 speed</li> </ul>
Power subsystem	Up to two of the following hot-swappable power supplies: <ul style="list-style-type: none"> <li>■ 770 W (AC)</li> <li>■ 1050 W (AC)</li> <li>■ 1050 W (DC)</li> <li>■ 1600 W (AC)</li> <li>■ 1050ELV (AC)</li> </ul> One power supply is mandatory; one more can be added for 1 + 1 redundancy.
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	■ Six hot-swappable fans for front-to-rear cooling
Infiniband	The InfiniBand architecture is supported by the PCIe slots.

Capability/Feature	Description
Expansion slots	<p>Up to six PCIe slots (on two riser cards)</p> <ul style="list-style-type: none"> <li>■ Riser 1 (PCIe slots 1, 2, and 3), controlled by CPU 1 and CPU 2 <ul style="list-style-type: none"> <li>• Option 1A: three slots available. <ul style="list-style-type: none"> <li>Slot 1 = full height, half length, x8, 230 pins, CPU1, NCSI<sup>1</sup> support.</li> <li>Slot 2 = full height, full length, x16, 230 pins, CPU1, NCSI and GPU support.</li> <li>Slot 3 = full height, half length, x8, 164 pins, CPU2.</li> </ul> </li> <li>• Option 1B: three slots available. <ul style="list-style-type: none"> <li>Slot 1 = full height, half length, x8, 230 pins, CPU1, NCSI support.</li> <li>Slot 2 = full height, full length, x8, 230 pins, CPU1, NCSI support.</li> <li>Slot 3 = full height, full length, x8, 164 pins, CPU1.</li> </ul> </li> </ul> </li> <li>■ Riser 2 (PCIe slots 4, 5, and 6), all controlled by CPU 2. Three slots available. <ul style="list-style-type: none"> <li>• Option 2A: three slots available <ul style="list-style-type: none"> <li>Slot 4 = full height, half length, x16, 230 pins, NCSI support.</li> <li>Slot 5 = full height, full length, x16, 230 pins, NCSI and GPU support.</li> <li>Slot 6 = full height, full length, x8, 164 pins.</li> </ul> </li> <li>• Option 2B: three slots available <ul style="list-style-type: none"> <li>Slot 4 = full height, half length, x8, 230 pins, NCSI support.</li> <li>Slot 5 = full height, full length, x16, 230 pins, NCSI and GPU support.</li> <li>Slot 6 = full height, full length, x8, 164 pins.</li> </ul> </li> <li>• Option 2C: three slots available <ul style="list-style-type: none"> <li>Slot 4 = full height, half length, x8, 230 pins, NCSI support.</li> <li>Slot 5 = full height, full length, x8, 230 pins, NCSI and GPU support.</li> <li>Slot 6 = full height, full length, x8, 164 pins.</li> </ul> </li> </ul> </li> <li>■ Dedicated RAID controller slot (see <a href="#">Figure 5 on page 78</a>) <ul style="list-style-type: none"> <li>• An internal slot is reserved for the Cisco 12G SAS RAID controller or the Cisco 12G SAS HBA.</li> </ul> </li> </ul> <p>For more details on riser 1 and riser 2 see <a href="#">Riser Card Configuration and Options, page 83</a>.</p>

Capability/Feature	Description
Internal storage devices	<ul style="list-style-type: none"> <li>■ Large Form Factor (LFF) drives with 12-drive backplane. The server can hold up to: <ul style="list-style-type: none"> <li>• 12 LFF 3.5 inch front-facing SAS/SATA hard drives (HDDs) or SAS/SATA solid state drives (SSDs).</li> <li>• Optionally, up to two front-facing SFF NVMe PCIe SSDs (replacing SAS/SATA drives). These drives must be placed in front drive bays 1 and 2 only.</li> <li>• Optionally, up to two SFF 2.5-inch, rear-facing SAS/SATA HDDs/SSDs or up to two rear-facing SFF NVMe PCIe SSDs.</li> </ul> </li> <li>■ One internal USB 3.0 port on the motherboard that you can use with an optional 16 GB USB thumb drive for additional storage.</li> <li>■ A mini-storage module connector supports either: <ul style="list-style-type: none"> <li>• An SD card module with two SD card slots. Mixing different capacity SD cards is not supported.</li> <li>• An M.2 module with two SATA M.2 SSD slots. Mixing different capacity M.2 modules is not supported.</li> </ul> </li> </ul> <p> <b>NOTE:</b> SD cards and M.2 SSDs cannot be mixed. See details for RAID functionality in the <a href="#">ORDER M.2 SATA SSDs (OPTIONAL)</a> section.</p>
I/O Interfaces	<ul style="list-style-type: none"> <li>■ Rear panel <ul style="list-style-type: none"> <li>• One 1Gbase-T RJ-45 management port (Marvell 88E6176)</li> <li>• Two 10Gbase-T LOM ports (Intel x550 10Gbase-T controller embedded on the motherboard)</li> <li>• One RS-232 serial port (RJ45 connector)</li> <li>• One DB15 VGA connector</li> <li>• Two USB 3.0 port connectors</li> <li>• One flexible modular LAN on motherboard (mLOM) slot that can accommodate various interface cards</li> <li>• A dedicated socket can be used to add an mLOM-style card for additional rear-panel connectivity (up to four Ethernet ports).</li> </ul> </li> <li>■ Front panel <ul style="list-style-type: none"> <li>• One KVM console connector (supplies two USB 2.0 connectors, one VGA DB15 video connector, and one serial port (RS232) RJ45 connector)</li> </ul> </li> </ul>

Capability/Feature	Description
Storage controller	<ul style="list-style-type: none"> <li>■ Cisco 12G SAS RAID controller card with internal SAS connectivity.           <ul style="list-style-type: none"> <li>• Supports up to 14 internal SAS/SATA drives</li> <li>• Plugs into a dedicated RAID controller slot</li> <li>• Comes with 2 GB cache</li> <li>• Supports RAID 0, 1, 5, 6, 10, 50, 60, and JBOD mode</li> </ul> </li> <li>■ Cisco 12G SAS HBA           <ul style="list-style-type: none"> <li>• Supports up to 14 SAS/SATA internal drives</li> <li>• Plugs into the dedicated RAID controller slot</li> </ul> </li> <li>■ Cisco 12G 9400-8e SAS HBA (up to two supported)           <ul style="list-style-type: none"> <li>• Supports external JBOD attach</li> <li>• Plugs into an appropriate riser slot</li> <li>• No RAID support</li> </ul> </li> </ul>
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"> <li>■ Cisco Virtual Interface Cards</li> <li>■ Quad Port Intel i350 1GbE RJ45 Network Interface Card (NIC)</li> </ul> <hr/> <p> <b>NOTE:</b> The four Intel i350 ports are provided on an optional card that plugs into the mLOM slot, and are separate from the two embedded (on the motherboard) LAN ports</p>
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 LOM 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>
UCSM	Unified Computing System Manager (UCSM) runs in the Fabric Interconnect and automatically discovers and provisions some of the server components.

**Notes:**

1. NCSI is supported on only one slot per riser at a time.

# CONFIGURING the SERVER

Follow these steps to configure the Cisco UCS C240 M5 LFF Rack Server:

- [\*\*STEP 1 VERIFY SERVER SKU, page 12\*\*](#)
- [\*\*STEP 2 SELECT RISER CARDS \(REQUIRED\), page 13\*\*](#)
- [\*\*STEP 3 SELECT CPU\(s\), page 14\*\*](#)
- [\*\*STEP 4 SELECT MEMORY, page 20\*\*](#)
- [\*\*STEP 5 SELECT RAID CONTROLLERS, page 28\*\*](#)
- [\*\*STEP 6 SELECT DRIVES, page 31\*\*](#)
- [\*\*STEP 7 SELECT PCIe OPTION CARD\(s\), page 39\*\*](#)
- [\*\*STEP 8 ORDER OPTIONAL PCIE OPTION CARD ACCESSORIES, page 44\*\*](#)
- [\*\*STEP 9 ORDER GPU CARDS \(OPTIONAL\), page 49\*\*](#)
- [\*\*STEP 10 ORDER POWER SUPPLY, page 51\*\*](#)
- [\*\*STEP 11 SELECT INPUT POWER CORD\(s\), page 52\*\*](#)
- [\*\*STEP 12 ORDER TOOL-LESS RAIL KIT AND OPTIONAL REVERSIBLE CABLE MANAGEMENT ARM, page 56\*\*](#)
- [\*\*STEP 13 MANAGEMENT CONFIGURATION \(OPTIONAL\), page 57\*\*](#)
- [\*\*STEP 14 SELECT SERVER BOOT MODE \(OPTIONAL\), page 58\*\*](#)
- [\*\*STEP 15 ORDER SECURITY DEVICES \(OPTIONAL\), page 59\*\*](#)
- [\*\*STEP 16 SELECT LOCKING SECURITY BEZEL \(OPTIONAL\), page 60\*\*](#)
- [\*\*STEP 17 ORDER CISCO SD CARD MODULE \(OPTIONAL\), page 61\*\*](#)
- [\*\*STEP 18 ORDER M.2 SATA SSDs \(OPTIONAL\), page 62\*\*](#)
- [\*\*STEP 19 ORDER INTERNAL MICRO-SD CARD MODULE \(OPTIONAL\), page 64\*\*](#)
- [\*\*STEP 20 ORDER OPTIONAL USB 3.0 DRIVE, page 65\*\*](#)
- [\*\*STEP 21 SELECT OPERATING SYSTEM AND VALUE-ADDED SOFTWARE, page 66\*\*](#)
- [\*\*STEP 22 SELECT OPERATING SYSTEM MEDIA KIT, page 70\*\*](#)
- [\*\*STEP 23 SELECT SERVICE and SUPPORT LEVEL, page 71\*\*](#)

## STEP 1 VERIFY SERVER SKU

Select one server product ID (PID) from [Table 2](#).

Table 2 PID of the C240 M5 LFF Rack Base Server

Product ID (PID)	Description
UCSC-C240-M5L	<p>Large form-factor (LFF) drives, with 12-drive backplane.</p> <ul style="list-style-type: none"><li>■ Front-loading drive bays 1–12 support 3.5-inch SAS/SATA drives.</li><li>■ Optionally, front-loading drive bays 1 and 2 support 3.5-inch NVMe SSDs.</li><li>■ Optionally, the two rear-loading drive bays support up to two 2.5-inch SAS/SATA drives; or up to two 2.5-inch NVMe SSDs.</li></ul>

The Cisco UCS C240 M5 server:

- Does not include power supply, CPU, memory (DIMMs or PMem), hard disk drives (HDDs), solid-state drives (SSDs), boot drives, SD cards, riser 1, riser 2, tool-less rail kit, or PCIe cards.



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

## STEP 2 SELECT RISER CARDS (REQUIRED)

There are two optional riser cards, riser card 1 and 2. There are two options for riser card 1 (1 and 1B) and three options for riser card 2 (2A, 2B, 2C). Order one riser card 1 and/or one riser 2 card from [Table 3](#). Riser card 1 is the one on the left when viewed from the back of the server and riser card 2 is on the right.

**Table 3 Riser 1 required**

Product ID (PID)	Description
<b>PCIe Riser 1 required</b>	
UCSC-PCI-1-C240M5	Riser 1. Includes 3 PCIe slots (x8, x16, x8). Slots 1 and 2 controlled with CPU1; slot 3 controlled with CPU2.
UCSC-PCI-1B-240M5	Riser 1B. Includes 3 PCIe slots (x8, x8, x8). All slots controlled with CPU1.
UCSC-RIS-1-240M5	Riser 1 3PCIe slots (x8, x16, x8); slot 3 req CPU2, For T4
UCSC-RIS-1B-240M5	Riser 1B 3PCIe slots (x8, x8, x8); all from CPU1, For T4
<b>PCIe Riser 2 options (all slots controlled with CPU2)</b>	
UCSC-PCI-2A-240M5	Riser 2A. Includes 3 PCIe slots (x16, x16, x8) and supports a GPU.
UCSC-PCI-2B-240M5	Riser 2B. Includes 3PCIe slots (x8, x16, x8) + 1 NVMe connector (controls two rear NVMe drives) and supports a GPU.
UCSC-PCI-2C-240M5	Riser 2C. Includes 3 PCIe slots (x8, x8, x8) + 2 NVMe connectors (one connector for two front NVMe drives and one connector for two rear NVMe drives).
UCSC-RIS-2A-240M5	Riser 2A 3PCIe slots (x8, x16, x16) supports GPU, For T4
UCSC-RIS-2B-240M5	Riser 2B 3PCIe slot(x8,x16,x8) supports GPU+rear NVMe, For T4
UCSC-RIS-2C-240M5	Riser 2C 3PCIe slots (x8) supports front+rear NVMe, For T4



**NOTE:** Riser 1 is required to be ordered

If no riser 2 option is selected, a riser blanking panel will be installed that covers PCIe slots 4, 5, and 6. You will not be able to install any PCIe cards in PCIe slots 4, 5, or 6 if the riser 2 option is not selected. You can order a spare riser 2 blanking panel (UCSC-PCIF-240M5=)

If there is any PCIe slot that does not have a card installed, you must order a blanking panel for that slot (UCSC-PCIF-01F=).

For additional details, see [Riser Card Configuration and Options, page 83](#).

## STEP 3 SELECT CPU(s)

The standard CPU features are:

- 2<sup>nd</sup> Generation Intel® Xeon® scalable family CPUs
- Intel® C621 series chipset
- Cache size of up to 38.5 MB

### Select CPUs

The available CPUs are listed in *Table 4*.

**Table 4 Available CPUs**

Product ID (PID)	Clock Freq (GHz)	Power (W)	Cache Size (MB)	Cores	UPI <sup>1</sup> Links (GT/s)	Highest DDR4 DIMM Clock Support (MHz) <sup>2</sup>	Workload/Processor type
<b>Cisco Recommended CPUs<sup>3</sup> (2<sup>nd</sup> Generation Intel® Xeon® Processors)</b>							
UCS-CPU-I8276	2.2	165	38.50	28	3 x 10.4	2933	Oracle, SAP
UCS-CPU-I8260	2.4	165	35.75	24	3 x 10.4	2933	Microsoft Azure Stack
UCS-CPU-I6262V	1.9	135	33.00	24	3 x 10.4	2400	Virtual Server infrastructure or VSI
UCS-CPU-I6248R	3.0	205	35.75	24	2 x 10.4	2933	
UCS-CPU-I6248	2.5	150	27.50	20	3 x 10.4	2933	VDI, Oracle, SQL, Microsoft Azure Stack
UCS-CPU-I6238R	2.2	165	38.50	28	2 x 10.4	2933	Oracle, SAP (2-Socket TDI only), Microsoft AzureStack
UCS-CPU-I6238	2.1	140	30.25	22	3 x 10.4	2933	SAP
UCS-CPU-I6230R	2.1	150	35.75	26	2 x 10.4	2933	Virtual Server Infrastructure, Data Protection, Big Data, Splunk, Microsoft AzureStack
UCS-CPU-I6230	2.1	125	27.50	20	3 x 10.4	2933	Big Data, Virtualization
UCS-CPU-I5220R	2.2	125	35.75	24	2 x 10.4	2666	Virtual Server Infrastructure, Splunk, Microsoft Azure Stack
UCS-CPU-I5220	2.2	125	24.75	18	2 x 10.4	2666	HCI
UCS-CPU-I5218R	2.1	125	27.50	20	2 x 10.4	2666	Virtual Server Infrastructure, Data Protection, Big Data, Splunk, Scale-out Object Storage, Microsoft AzureStack
UCS-CPU-I5218	2.3	125	22.00	16	2 x 10.4	2666	Virtualization, Microsoft Azure Stack, Splunk, Data Protection
UCS-CPU-I4216	2.1	100	22.00	16	2 x 9.6	2400	Data Protection, Scale Out Storage

**Table 4 Available CPUs**

Product ID (PID)	Clock Freq (GHz)	Power (W)	Cache Size (MB)	Cores	UPI <sup>1</sup> Links (GT/s)	Highest DDR4 DIMM Clock Support (MHz) <sup>2</sup>	Workload/Processor type
UCS-CPU-I4214R	2.4	100	16.50	12	2 x 9.6	2400	Data Protection, Splunk, Scale-out Object Storage, Microsoft AzureStack
UCS-CPU-I4214	2.2	85	16.50	12	2 x 9.6	2400	Data Protection, Scale Out Storage
UCS-CPU-I4210R	2.4	100	13.75	10	2 x 9.6	2400	Virtual Server Infrastructure, Data Protection, Big Data, Splunk
UCS-CPU-I4210	2.2	85	13.75	10	2 x 9.6	2400	Virtualization, Big Data, Splunk
<b>8000 Series Processor</b>							
UCS-CPU-I8280L	2.7	205	38.50	28	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I8280	2.7	205	38.50	28	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I8276L	2.2	165	38.50	28	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I8276	2.2	165	38.50	28	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I8270	2.7	205	35.75	26	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I8268	2.9	205	35.75	24	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I8260Y	2.4	165	35.75	24/20/16	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I8260L	2.4	165	35.75	24	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I8260	2.4	165	35.75	24	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I8253	2.2	125	22.00	16	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
<b>6000 Series Processor</b>							
UCS-CPU-I6262V	1.9	135	33.00	24	3 x 10.4	2400	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6258R	2.7	205	38.50	28	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6256	3.6	205	33.00	12	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6254	3.1	200	24.75	18	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6252N	2.3	150	35.75	24	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6252	2.1	150	35.75	24	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6250	3.9	185	35.75	8	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6248R	3.0	205	35.75	24	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6248	2.5	150	27.50	20	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6246R	3.4	205	35.75	16	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6246	3.3	165	24.75	12	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6244	3.6	150	24.75	8	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6242R	3.1	205	35.75	20	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®

**Table 4 Available CPUs**

Product ID (PID)	Clock Freq (GHz)	Power (W)	Cache Size (MB)	Cores	UPI <sup>1</sup> Links (GT/s)	Highest DDR4 DIMM Clock Support (MHz) <sup>2</sup>	Workload/Processor type
UCS-CPU-I6242	2.8	150	22.00	16	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6240R	2.4	165	35.75	24	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6240Y	2.6	150	24.75	18/14/8	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6240L	2.6	150	24.75	18	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6240	2.6	150	24.75	18	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6238R	2.2	165	38.50	28	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6238L	2.1	140	30.25	22	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6238	2.1	140	30.25	22	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6234	3.3	130	24.75	8	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6230R	2.1	150	35.75	26	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6230N	2.3	125	27.50	20	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6230	2.1	125	27.50	20	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6226R	2.9	150	22.00	16	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6226	2.7	125	19.25	12	3 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I6222V	1.8	115	27.50	20	3 x 10.4	2400	2 <sup>nd</sup> Gen Intel® Xeon®
<b>5000 Series Processor</b>							
UCS-CPU-I5222	3.8	105	16.50	4	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5220S	2.6	125	19.25	18	2 x 10.4	2666	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5220R	2.2	150	35.75	24	2 x 10.4	2666	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5220	2.2	125	24.75	18	2 x 10.4	2666	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5218R	2.1	125	27.50	20	2 x 10.4	2666	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5218B	2.3	125	22.00	16	2 x 10.4	2933	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5218N	2.3	105	22.00	16	2 x 10.4	2666	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5218	2.3	125	22.00	16	2 x 10.4	2666	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5217	3.0	115	11.00	8	2 x 10.4	2666	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5215L	2.5	85	13.75	10	2 x 10.4	2666	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I5215	2.5	85	13.75	10	2 x 10.4	2666	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-5122	3.6	105	16.50	4	2 x 10.4	2666	Intel® Xeon®
UCS-CPU-5120	2.2	105	19.25	14	2 x 10.4	2400	Intel® Xeon®
UCS-CPU-5118	2.3	105	16.50	12	2 x 10.4	2400	Intel® Xeon®
UCS-CPU-5117	2.0	105	19.25	14	2 x 10.4	2400	Intel® Xeon®
UCS-CPU-5115	2.4	85	13.75	10	2 x 10.4	2400	Intel® Xeon®
<b>4000 Series Processor</b>							

**Table 4 Available CPUs**

Product ID (PID)	Clock Freq (GHz)	Power (W)	Cache Size (MB)	Cores	UPI <sup>1</sup> Links (GT/s)	Highest DDR4 DIMM Clock Support (MHz) <sup>2</sup>	Workload/Processor type
UCS-CPU-I4216	2.1	100	22.00	16	2 x 9.6	2400	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I4215R	3.2	130	11.00	8	2 x 9.6	2400	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I4215	2.5	85	11.00	8	2 x 9.6	2400	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I4214R	2.4	100	16.50	12	2 x 9.6	2400	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I4214Y	2.2	85	16.50	12/10/8	2 x 9.6	2400	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I4214	2.2	85	16.50	12	2 x 9.6	2400	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I4210R	2.4	100	13.75	10	2 x 9.6	2400	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I4210	2.2	85	13.75	10	2 x 9.6	2400	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I4208	2.1	85	11.00	8	2 x 9.6	2400	2 <sup>nd</sup> Gen Intel® Xeon®
<b>3000 Series Processor</b>							
UCS-CPU-I3206R	1.9	85	11.00	8	2 x 9.6	2133	2 <sup>nd</sup> Gen Intel® Xeon®
UCS-CPU-I3204	1.9	85	8.25	6	2 x 9.6	2133	2 <sup>nd</sup> Gen Intel® Xeon®

**Notes:**

1. UPI = Ultra Path Interconnect. 2-socket servers support only 2 UPI performance, even if the CPU supports 3 UPI.
2. If higher or lower speed DIMMs are selected than what is shown in [Table 5 on page 21](#) for a given CPU speed, the DIMMs will be clocked at the lowest common denominator of CPU clock and DIMM clock.
3. For details on memory support for processor classes and CPU modes, see [SPARE PARTS, page 86](#)

The following table lists ambient temperature limitation and displayed respective temperature (last column) and configuration restrictions to ensure proper cooling and avoid excessive processor throttling, which may impact system performance.

Table 4a Ambient Temperature and Configuration Restrictions

Processor Thermal Design Power (TDP)	CPU PID/Description	Ambient Temperature Limitation
205W	UCS-CPU-I6256 - 3.6GHz/205W 12C/33MB PMM DDR4 1TB 2933MHz	30°C [86°F]
185W	UCS-CPU-I6250 - 3.9GHz/185W 8C/35.75MB PMM DDR4 1TB 2933MHz	25°C [77°F]
205W R SKUs	UCS-CPU-I6258R - 2.7GHz/205W 28C/35.75MB DDR4 2933MHz UCS-CPU-I6248R - 3.0GHz/205W 24C/35.75MB DDR4 2933MHz UCS-CPU-I6246R - 3.4GHz/205W 16C/35.75MB DDR4 2933MHz UCS-CPU-I6242R - 3.1GHz/205W 20C/35.75MB DDR4 2933MHz	32°C [90°F]
 CAUTION:	Systems configured with above processors need to adhere by the below ambient inlet temperature threshold, if not, a fan fault or executing workloads with extensive use of heavy instruction sets like 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

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### (1) DIMM only configurations:

- Select one or two identical CPUs listed in [Table 4 on page 14](#)

### (2) DIMM/PMem Mixed Configurations:

- You must select two identical CPUs listed in [Table 4 on page 14](#)

## Caveats

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- The selection of 1 or 2 CPUs depends on the desired server functionality. See the following sections:
  - [STEP 4 SELECT MEMORY, page 20](#)
  - [STEP 5 SELECT RAID CONTROLLERS, page 28](#)
  - [STEP 6 SELECT DRIVES, page 31](#)
  - [ORDER OPTIONAL PCIE OPTION CARD ACCESSORIES, page 44](#)



**NOTE:**

- Due to EU Regulation 2019/424, you can select only min qty to two (2) for below CPUs:  
UCS-CPU-I4210, UCS-CPU-I4215
  - See [\*\*SELECT MEMORY, page 20\*\*](#) for details on the compatibility of CPUs and DIMM speeds.
-

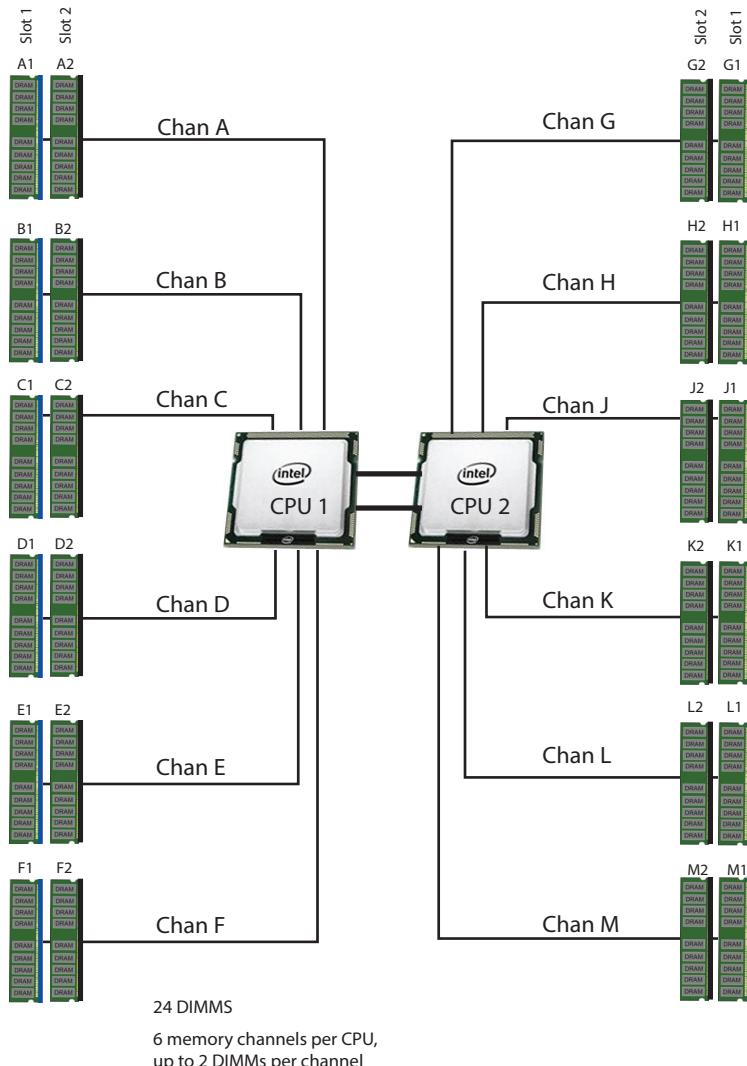
## STEP 4 SELECT MEMORY

The available memory for the C240 M5 LFF is as follows:

- Clock speed: Up to 2933 MHz; See available CPUs and their associated DDR4 DIMM maximum clock support in [Table 4](#).
- Rank 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 six memory channels per CPU, with up to two DIMMs per channel, as shown in [Figure 4](#).

**Figure 4** C240 M5 LFF Memory Organization



## Select DIMMs and Memory Mirroring

Select the memory configuration and whether or not you want the memory mirroring option. The available memory DIMMs and mirroring option are listed in [Table 5](#).



**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 5 Available DDR4 DIMMs**

Product ID (PID)	PID Description	Voltage	Ranks /DIMM
UCS-ML-256G8RT-H	256 GB DDR4-2933MHz LRDIMM/8Rx4/1.2v	1.2 V	8
UCS-ML-128G4RT-H <sup>1</sup>	128 GB DDR4-2933MHz LRDIMM/4Rx4 (16Gb)	1.2 V	4
UCS-ML-X64G4RT-H <sup>1</sup>	64 GB DDR4-2933MHz LRDIMM/4Rx4 (8Gb)	1.2 V	4
UCS-MR-X64G2RT-H <sup>1</sup>	64 GB DDR4-2933MHz RDIMM/2Rx4 (16Gb)	1.2 V	2
UCS-MR-X32G2RT-H <sup>1</sup>	32GB DDR4-2933MHz RDIMM/2Rx4 (8Gb)	1.2 V	2
UCS-MR-X16G1RT-H <sup>1</sup>	16 GB DDR4-2933MHz RDIMM/1Rx4 (8Gb)	1.2 V	1
UCS-ML-128G4RW <sup>2</sup>	128GB DDR4-3200MHz LRDIMM 4Rx4 (16Gb)	1.2 V	1
UCS-MR-X64G2RW <sup>2</sup>	64GB DDR4-3200MHz RDIMM 2Rx4 (16Gb)	1.2 V	1
UCS-MR-X32G2RW <sup>2</sup>	32GB DDR4-3200MHz RDIMM 2Rx4 (8Gb)	1.2 V	1
UCS-MR-X16G1RW <sup>2</sup>	16GB DDR4-3200MHz RDIMM 1Rx4 (8Gb)	1.2 V	1
<b>Intel® Optane™ Persistent Memory Product</b>			
UCS-MP-128GS-A0	Intel® Optane™ Persistent Memory, 128GB, 2666 MHz		
UCS-MP-256GS-A0	Intel® Optane™ Persistent Memory, 256GB, 2666 MHz		
UCS-MP-512GS-A0	Intel® Optane™ Persistent Memory, 512GB, 2666 MHz		
<b>Intel® Optane™ Persistent Memory Product Operational Modes</b>			
UCS-DCPMM-AD	App Direct Mode		
UCS-DCPMM-MM	Memory Mode		
<b>Memory Mirroring Option</b>			
N01-MMIRROR	Memory mirroring option		

**Notes:**

1. Cisco announced the End-of-sale of the DDR4-2933 Memory DIMM products: [EOL14611](#) lists the product part numbers affected by this announcement. [Table 6](#) describes the replacement Memory DIMM product Part Numbers.
2. DDR4-3200MHz replacement part numbers will operate at the maximum speed of the Intel 2nd generation Xeon Scalable processor memory interface, ranging from 2133 MHz to 2933 MHz.

[Table 6](#) lists the EOL Memory DIMM product part numbers and their replacement PIDs.

**Table 6 EOL14611 Memory DIMM Product Part Numbers and their replacement PIDs**

EOS Product Part Number (PID)	PID Description	Replacement Product PID	Replacement Product Description
UCS-MR-X16G1RT-H	16GB DDR4-2933MHz RDIMM 1Rx4 (8Gb)/1.2v	UCS-MR-X16G1RW	16GB DDR4-3200MHz RDIMM 1Rx4 (8Gb)/1.2v
UCS-MR-X32G2RT-H	32GB DDR4-2933MHz RDIMM 2Rx4 (8Gb)/1.2v	UCS-MR-X32G2RW	32GB DDR4-3200MHz RDIMM 2Rx4 (8Gb)/1.2v
UCS-MR-X64G2RT-H	64GB DDR4-2933MHz RDIMM 2Rx4 (16Gb)/1.2v	UCS-MR-X64G2RW	64GB DDR4-3200MHz RDIMM 2Rx4 (16Gb)/1.2v
UCS-ML-X64G4RT-H	64GB DDR4-2933MHz LRDIMM 4Rx4 (8Gb)/1.2v	UCS-MR-X64G2RW <sup>1</sup>	64GB DDR4-3200MHz RDIMM 2Rx4 (16Gb)/1.2v
UCS-ML-128G4RT-H	128GB DDR4-2933MHz LRDIMM 4Rx4 (16Gb)/1.2v	UCS-ML-128G4RW	128GB DDR4-3200MHz LRDIMM 4Rx4 (16Gb)/1.2v



**NOTE:** (1) Cisco doesn't support a Load Reduce DIMM (LRDIMM) 64GB Memory PID as a replacement PID of existing UCS-ML-x64G4RT-H and recommends migrating to the Registered DIMM (RDIMM) instead, delivering the best balance in performance and price.

## Approved Configurations

### (1) 1-CPU configuration without memory mirroring:

- Select from 1 to 12 DIMMs.

CPU 1 DIMM Placement in Channels (for identically ranked DIMMs)	
1	(A1)
2	(A1, B1)
3	(A1, B1, C1)
4	(A1, B1); (D1, E1)
6	(A1, B1); (C1, D1); (E1, F1)
8	(A1, B1); (D1, E1); (A2, B2); (D2, E2)
12	(A1, B1); (C1, D1); (E1, F1); (A2, B2); (C2, D2); (E2, F2)

### (2) 1-CPU configuration with memory mirroring:

- Select 4, 6, 8, or 12 identical DIMMs. The DIMMs will be placed by the factory as shown in the following table.

CPU 1 DIMM Placement in Channels (for identical ranked DIMMs)	
4	(A1, B1); (D1, E1)
6	(A1, B1, C1); (D1, E1, F1)
8	(A1, A2, B1, B2); (D1, D2, E1, E2)
12	(A1, A2, B1, B2, C1, C2); (D1, D2, E1, E2, F1, F2)

- Select the memory mirroring option (N01-MMIRROR) as shown in [Table 5 on page 21](#).

**(3) 2-CPU configuration without memory mirroring:**

- Select from 1 to 12 DIMMs per CPU.

CPU 1 DIMM Placement in Channels (for identical ranked DIMMs)		CPU 2 DIMM Placement in Channels (for identical ranked DIMMs)
CPU 1		CPU 2
1	(A1)	(G1)
2	(A1, B1)	(G1, H1)
3	(A1, B1, C1)	(G1, H1, J1)
4	(A1, B1); (D1, E1)	(G1, H1); (K1, L1)
6	(A1, B1); (C1, D1); (E1, F1)	(G1, H1); (J1, K1); (L1, M1)
8	(A1, B1); (D1, E1); (A2, B2); (D2, E2)	(G1, H1); (K1, L1); (G2, H2); (K2, L2)
1	(A1, B1); (C1, D1); (E1, F1); (A2, B2); (C2, D2); (E2, F2)	(G1, H1); (J1, K1); (L1, M1); (G2, H2); (J2, K2); (L2, M2)
2		

**(4) 2-CPU configuration with memory mirroring:**

- Select 8, 12, 16, or 24 identical DIMMs per CPU. The DIMMs will be placed by the factory as shown in the following table.

CPU 1 DIMM Placement in Channels (for identical ranked DIMMs)		CPU 2 DIMM Placement in Channels (for identical ranked DIMMs)
CPU 1		CPU 2
8	(A1,B1); (D1,E1)	(G1, H1); (K1, L1)
12	(A1, B1, C1); (D1, E1, F1)	(G1, H1, J1); (K1, L1, M1)
16	(A1, A2, B1, B2); (D1, D2, E1, E2)	(G1, G2, H1, H2); (K1, K2, L1, L2)
24	(A1, A2, B1, B2, C1, C2); (D1, D2, E1, E2, F1, F2)	(G1, G2, H1, H2, J1, J2); (K1, K2, L1, L2, M1, M2)

- Select the memory mirroring option (N01-MMIRROR) as shown in [Table 5 on page 21](#).

**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.
- DIMM mixing is not allowed when PMem are installed; in these cases, all DIMMs must be the same type and size.

## System Speed

Memory will operate at the maximum speed of the Intel Xeon Scalable processor memory controller, ranging from 2133 MHz to 2933 MHz for M5 servers. Check CPU specifications for supported speeds



**NOTE:** Detailed mixing DIMM configurations are described in Cisco UCS [Cisco UCS C220/C240/B200 M5 Memory Guide](#)

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## System Speed

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See [Table 7](#) for PMem memory modes.

**Table 7 Intel® Optane™ Persistent Memory Modes**

Intel® Optane™ Persistent Memory	
App Direct Mode:	PMem operates as a solid-state disk storage device. Data is saved and is non-volatile. Both PMem and DIMM capacity counts towards CPU tiering (both PMem and DIMM capacities count towards the CPU capacity limit)
Memory Mode: <sup>1</sup>	PMem operates as a 100% memory module. Data is volatile and DRAM acts as a cache for PMem. Only PMem capacity counts towards CPU tiering (only the PMem capacity counts towards the CPU capacity limit). This is the factory default mode.
Mix Mode:	DRAM as cache. Only PMem capacity counts towards CPU tiering (only the PMem capacity counts towards the CPU capacity limit)

**Notes:**

1. For Memory Mode, the Intel-recommended DIMM to PMem capacity ratio in the same CPU channel is from 1:2 to 1:16. So if you use a 128 GB DIMM in a channel, you could use a 512 GB PMem for a 1:6 capacity ratio. If you use a 32 GB DIMM in a channel, you could use a 512 GB PMem for a 1:16 capacity ratio. There are several other combinations possible.

**Table 8 2<sup>nd</sup> Generation Intel® Xeon® Scalable Processor DIMM and PMem<sup>1</sup> Physical Configuration**

DIMM to PMem Count	CPU 1											
	iMC1						iMC0					
	Channel 2		Channel 1		Channel 0		Channel 2		Channel 1		Channel 0	
	F2	F1	E2	E1	D2	D1	C2	C1	B2	B1	A2	A1
6 - 2		DIMM		DIMM	PMem	DIMM		DIMM		DIMM	PMem	DIMM
6 - 4		DIMM	PMem	DIMM	PMem	DIMM		DIMM	PMem	DIMM	PMem	DIMM
6 - 6	PMem	DIMM										
DIMM to PMem Count	CPU 2											
	iMC1						iMC0					
	Channel 2		Channel 1		Channel 0		Channel 2		Channel 1		Channel 0	
	M2	M1	L2	L1	K2	K1	J2	J1	H2	H1	G2	G1
6 - 2		DIMM		DIMM	PMem	DIMM		DIMM		DIMM	PMem	DIMM
6 - 4		DIMM	PMem	DIMM	PMem	DIMM		DIMM	PMem	DIMM	PMem	DIMM
6 - 6	PMem	DIMM										

**Notes:**

1. All systems must be fully populated with CPUs when using PMem at this time.



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**NOTE:** There are three possible memory configurations for each CPU when combining DIMMs and PMem, and the configurations must be the same for each CPU:

- 6 DIMMs and 2 PMem, or
  - 6 DIMMs and 4 PMem, or
  - 6 DIMMs and 6 PMem
- 

For detailed Intel PMem configurations, refer to

[Cisco UCS C240 M5 Server Installation and Service Guide](#)

For detailed DIMM/PMem informations, refer to

[Cisco UCS C220/C240/B200 M5 Memory Guide](#)

## STEP 5 SELECT RAID CONTROLLERS

### RAID Controller Options (internal HDD/SSD support)

#### Cisco 12G SAS RAID Controller

You can choose a Cisco 12G SAS RAID controller, which supports up to 14 drives and plugs into the dedicated RAID controller card slot. This RAID controller supports RAID 0, 1, 5, 6, 10, 50, 60 and JBOD mode.



**NOTE:** The number of RAID groups (virtual drives) supported per RAID controller is as follows:

- Embedded RAID = 8
- Cisco 12G SAS RAID controller = 64

#### SAS HBA (internal HDD/SSD/JBOD support)

You can choose a SAS HBA for JBOD or pass-through mode support:

- Cisco 12G SAS HBA plugs into the dedicated RAID controller slot.

#### SAS HBA (external JBOD support)

In addition to a RAID controller or JBOD controller for internal drives, you can choose up to two of the following SAS HBAs for external JBOD drive connectivity (non-RAID):

- Cisco 9400-8e 12G SAS HBA for external JBOD attach (choose up to two)

#### 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 upgrade:
  - Use either all SAS/SATA HDDs, or all SAS SSDs, or all SATA SSDs in each RAID volume
  - Do not mix HDDs and SSDs

#### Select Controller Options

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Select as follows:

- For the 12-drive backplane system, select one of the following:
  - Cisco 12G SAS RAID controller with 2 GB FBWC, or
  - Cisco 12G SAS HBA

**Table 9 Hardware Controller Options**

Product ID (PID)	PID Description
<b>Controllers for Internal Drives</b>	
<b>Note that if the following Cisco 12G SAS RAID controller or Cisco 12G SAS HBA controller is selected, it is factory-installed in the dedicated internal slot.</b>	
UCSC-RAID-M5	<p>Cisco 12G SAS RAID Controller with 2 GB FBWC</p> <ul style="list-style-type: none"> <li>■ Supports up to 14 internal SAS/SATA HDDs and SAS/SATA SSDs</li> <li>■ Supports RAID 0, 1, 5, 6, 10, 50, 60, and JBOD mode. Supports running mixed RAID and JBOD mode.</li> <li>■ 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).</li> </ul>
UCSC-SAS-M5	<p>Cisco 12G Modular SAS HBA</p> <ul style="list-style-type: none"> <li>■ Supports up to 14 internal SAS HDDs and SAS/SATA SSDs</li> <li>■ Supports JBOD mode only (no RAID functionality). Ideal for SDS (Software Defined Storage) applications. It is also ideal for environments demanding the highest IOPs (for external SSD attach), where a RAID controller can be an I/O bottleneck.</li> </ul>
<b>Controllers for External Drives</b>	
UCSC-9400-8E	Cisco 12G 9400-8e 12G SAS HBA for external JBOD attach (select up to two)
<b>RAID Configuration Options (not available for Cisco 12G SAS HBA or embedded software RAID)</b>	
R2XX-SRAID0	Enable Single Disk Raid 0 Setting
R2XX-RAID0	Factory preconfigured RAID striping option Enable RAID 0 Setting. Requires a minimum of one hard drive.
R2XX-RAID1	Factory preconfigured RAID mirroring option Enable RAID 1 Setting. Requires exactly two 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 minimum of four drives of the same size, speed, capacity.

**NOTE:**

■ Although RAID levels 50 and 60 are not orderable from the factory, they are supported for selected controllers as shown in [Table 9](#)

■ For Cisco SAS 9400-8e 12G SAS HBA external drive enclosure support, see the enclosure section of the compatibility list at the following link:

<https://www.broadcom.com/support/storage/interop-compatibility/>

Customers should contact their storage vendor for technical support related to external JBOD enclosures.

**Approved Configurations**

- The Cisco 12G SAS RAID controller upgrade option supports up to 14 internal drives with RAID 0, 1, 5, 6, 10, 50, 60, and JBOD mode support.
- The Cisco 12G SAS HBA supports up to 14 internal drives with JBOD support.
- The external drive PCIe controller card is the Cisco 12G 9400-8e SAS HBA. Up to two of these can be installed simultaneously with the Cisco 12G SAS Modular RAID controller card (UCSC-RAID-M5) or Cisco 12 Gbps Modular SAS HBA (UCSC-SAS-M5).

See [Table 10](#) for a summary of the supported controller configuration option

**Table 10      Supported Controller Configurations**

# of CPUs	Embedded RAID	Cisco 12G SAS RAID Controller or Cisco 12G SAS HBA (only one can be installed at a time)		Cisco 12G 9400-8e 12G SAS HBA	MAX# Drives Supported	RAID Support	Internal Drive Types Allowed
		UCSC-RAID-M5	UCSC-SAS-M5				
1	Not allowed	Installed in a dedicated slot	Installed in a dedicated slot	Up to two installed in rear PCIe slots	14 internal, 8 or 16 external	0,1,10,5,6,50 , 60 JBOD (12G SAS RAID), JBOD (SAS HBA)	SAS/SATA HDDs, SAS/SATA SSDs (NVMe requires 2 CPUs)
		Only one of the above can be installed at a time					
2	Not allowed	Installed in a dedicated slot	Installed in a dedicated slot	Up to two installed in rear PCIe slots	14 internal, 8 or 16 external	0,1,10,5,6,50 , 60 JBOD (12G SAS RAID), JBOD (SAS HBA)	SAS/SATA HDDs, SAS/SATA SSDs, LFF NVMe
		Only one of the above can be installed at a time					

## STEP 6 SELECT DRIVES

The standard disk drive features are:

- 3.5-inch large form factor
- Hot-pluggable
- Drives come mounted in sleds

### Select Front-Facing Drives for UCSC-C240-M5L

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

**Table 11 Available Hot-Pluggable Sled-Mounted Front Facing Drives**

Product ID (PID)	PID Description	Drive Type	Capacity
<b>HDDs</b>			
<b>HDDs (10K RPM)</b>			
UCS-HY18TB10K4KN <sup>1</sup>	1.8 TB 12G SAS 10K RPM LFF HDD (4K)	SAS	1.8 TB
UCS-HY12TB10K12N	1.2 TB 12G SAS 10K RPM LFF HDD	SAS	1.2 TB
<b>HDDs (7.2K RPM)</b>			
UCS-HD2T7KL12N	2 TB 12G SAS 7.2K RPM LFF HDD	SAS	2 TB
UCS-HD4T7KL12N	4 TB 12G SAS 7.2K RPM LFF HDD	SAS	4 TB
UCS-HD6T7KL4KN	6 TB 12G SAS 7.2K RPM LFF HDD (4K)	SAS	6 TB
UCS-HD8T7K4KAN	8 TB 12G SAS 7.2K RPM LFF HDD (4K)	SAS	8 TB
UCS-HD10T7K4KAN	10 TB 12G SAS 7.2K RPM LFF HDD (4K)	SAS	10 TB
UCS-HD10T7KLEM	10 TB 12G SAS 7.2K RPM LFF HDD (512e)	SAS	10 TB
UCS-HD12T7KL4KN	12TB-12G SAS 7.2K RPM LFF HDD(4K)	SAS	12 TB
UCS-HD14T7KL4KN	14TB 12G SAS 7.2K RPM LFF HDD(4K)	SAS	14 TB
UCS-HD16TW7KL4KN	16TB 12G SAS 7.2K RPM LFF HDD(4K)	SAS	16 TB
UCS-HD18TW7KL4KN	18TB 12G SAS 7.2K RPM LFF HDD(4K)	SAS	18 TB
UCS-HD14TT7KL4KN	14TB 12G SAS 7.2K RPM LFF HDD(4K)	SAS	14 TB
UCS-HD16T7KL4KN	16TB 12G SAS 7.2K RPM LFF HDD(4K)	SAS	16 TB
UCS-HD8T7K6GAN	8 TB 6G SATA 7.2K RPM LFF HDD (512e)	SATA	8 TB
UCS-HD10T7K6GAN	10TB 6G SATA 7.2K RPM LFF HDD (512e)	SATA	10 TB
UCS-HD12T7KL6GN	12 TB 6G SATA 7.2K RPM LFF HDD (512e)	SATA	12 TB
<b>Enterprise Performance SSDs (High endurance, supports up to 10X or 3X DWPD (drive writes per day))<sup>2</sup></b>			
<b>SAS SSDs</b>			
UCS-HY800GK3X-EP	800GB 3.5in Enterprise Performance 12G SAS SSD(3X endurance)	SAS	800 GB

**Table 11 Available Hot-Pluggable Sled-Mounted Front Facing Drives**

Product ID (PID)	PID Description	Drive Type	Capacity
UCS-HY16TK3X-EP	1.6TB 3.5in Enterprise Performance 12G SAS SSD(3X endurance)	SAS	1.6 TB
<b>SATA SSDs</b>			
UCS-HY480G63X-EP	480GB 3.5in Enterprise performance 6GSATA SSD(3X endurance S4600/S4610)	SATA	480 GB
UCS-HY960G63X-EP	960GB 3.5in Enterprise performance 6GSATA SSD(3X endurance S4600/S4610)	SATA	960 GB
UCS-HY19T63X-EP	1.9TB 3.5in Enterprise performance 6GSATA SSD(3X endurance S4600/S4610)	SATA	1.9 TB
<b>Enterprise Value SSDs (Low endurance, supports up to 1X DWPD (drive writes per day))<sup>3</sup></b>			
<b>SATA SSDs</b>			
UCS-HY240G61X-EV	240 GB 3.5 inch Enterprise Value 6G SATA SSD (Samsung PM863A/PM883)	SATA	240 GB
UCS-HY480G61X-EV	480 GB 3.5 inch Enterprise Value 6G SATA SSD (Intel 3520)	SATA	480 GB
UCS-HY960G61X-EV	960 GB 3.5 inch Enterprise Value 6G SATA SSD (Samsung PM863A/PM883)	SATA	960 GB
UCS-HY19TM1X-EV	1.9TB 3.5 inch Enterprise Value 6G SATA SSD	SATA	1.9 TB
<b>Self-Encrypted Drives (SED)<sup>4</sup></b>			
UCS-HD4T12GNK9	4 TB 7.2K rpm LFF HDD (SED) <b>FIPS140-2</b>	SAS	4 TB
UCS-HD6T12GANK9	6 TB 7.2K rpm LFF HDD (4K format, SED) <b>FIPS140-2</b>	SAS	6 TB
UCS-HD12T7KL4NK9	12TB 7.2k rpm LFF HDD 4K format SED <b>FIPS140-2</b>	SAS	12 TB
UCS-HY600G15NK9	600 GB 12G SAS 15K RPM LFF HDD (SED) <b>FIPS140-2</b>	SAS	600 GB
<b>PCIe/NVMe SFF 2.5" drives<sup>5,6</sup></b>			
UCSC-NVMEHY-H800	800 GB HGST SN200 NVMe High Perf. High Endurance (HGST)	NVMe	800 GB
UCS-NVMEHY-W1600	1.6TB 3.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance	NVMe	1.6 TB
UCS-NVMEHY-W3200	3.2TB 3.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance	NVMe	3.2 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.			

**Notes:**

- Operating Systems supported on 4k sector size drives is as follows:
  - Windows: Minimum release Win2012 and later
  - Linux: Minimum release RHEL 6.5 and later
  - VMware supports 4k native drives starting from ESXi 6.7; All earlier versions of ESXi support 512e format drives only
  - 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.
- 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 write centric IO applications. Supports endurance of 10 or 3 DWPD (drive writes per day). Target applications are boot, streaming media, and collaboration.
4. For all self-encrypting drives (SED), standalone Management (CIMC) and UCSM is supported for configuring and managing local keys. SED drives can be managed with local and remote key management (third-party key management). Also, 4K sector format drives are now supported with Vmware 6.7
5. If you choose one or two SFF NVMe drives, drive slots 1 and 2 at the front of the chassis are reserved for these drives (see [Figure 2 on page 4](#) for drive slot numbering).
6. Except HGST, Intel and Western Digital (WD) NVMe drives can be mixed anywhere in a C240 M5.



**NOTE:** When retrofitting front facing drives with spare NVMe drives, you must order the following along with the spare drives:

- UCSC-PCI-2C-240M5 (Riser 2C)
- CBL-NVME-C240LFF= (C240 M5 Front NVMe cable (1) LFF)

### Caveats

- 2.5-inch SFF NVMe drives are connected directly to the CPU, not managed by the RAID 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 SAS RAID Controller or Cisco 12G SAS HBA.
- If you order any SFF NVMe drives, you must also order two CPUs.
- Except HGST, Intel and Western Digital (WD) NVMe drives can be mixed anywhere in a C240 M5.
- SED drives can be mixed with the non-SED drives in [Table 11 on page 31](#)

### Select Rear-Facing Drives for UCSC-C240-M5L

The available rear-facing drives for the UCSC-C240-M5L are listed in [Table 12](#).

**Table 12 Available Hot-Pluggable Sled-Mounted Rear-Facing Drive**

Product ID (PID)	PID Description	Drive Type	Capacity
<b>HDDs</b>			
<b>HDDs (15K RPM)</b>			
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
UCS-HD900G15K12N	900 GB 12G SAS 15K RPM SFF HDD	SAS	900 GB
<b>HDDs (10K RPM)</b>			
UCS-HD300G10K12N	300 GB 12G SAS 10K RPM SFF HDD	SAS	300 GB

**Table 12 Available Hot-Pluggable Sled-Mounted Rear-Facing Drive**

<b>Product ID (PID)</b>	<b>PID Description</b>	<b>Drive Type</b>	<b>Capacity</b>
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	1.8 TB 12G SAS 10K RPM SFF HDD (4K)	SAS	1.8 TB
UCS-HD24TB10K4KN	2.4 TB 12G SAS 10K RPM SFF HDD (4K)	SAS	2.4 TB
<b>HDDs (7.2K RPM)</b>			
UCS-HD1T7K12N	1 TB 12G SAS 7.2K RPM SFF HDD	SAS	1 TB
UCS-HD2T7K12N	2 TB 12G SAS 7.2K RPM SFF HDD	SAS	2 TB
UCS-HD1T7K6GAN	1 TB 6G SATA 7.2K RPM SFF HDD	SAS	1 TB
<b>Enterprise Performance SSDs (High endurance, supports up to 10X or 3X DWPD (drive writes per day))</b>			
<b>SAS SSDs</b>			
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
UCS-SD800GS3X-EP	800GB 2.5in Enterprise Performance 12G SAS SSD(3X endurance)	SAS	800 GB
UCS-SD16TS3X-EP	1.6TB 2.5in Enterprise Performance 12G SAS SSD(3X endurance)	SAS	1.6 TB
UCS-SD32TS3X-EP	3.2TB 2.5in Enterprise Performance 12G SAS SSD(3X endurance)	SAS	3.2 TB
<b>SATA SSDs</b>			
UCS-SD960G63X-EP	960GB 2.5in Enterprise performance 6GSATA SSD(3X endurance)	SATA	960 GB
UCS-SD19T63X-EP	1.9TB 2.5in Enterprise performance 6GSATA SSD(3X endurance)	SATA	1.9 TB
UCS-SD480G63X-EP	480GB 2.5 inch Enterprise performance 6GSATA SSD(3X endurance)	SATA	480 GB
UCS-SD19TM3X-EP	1.9TB 2.5in Enterprise performance 6GSATA SSD(3X endurance)	SATA	1.9 TB
UCS-SD480GM3X-EP	480GB 2.5in Enterprise Performance 6GSATA SSD(3X endurance)	SATA	480 GB
UCS-SD960GM3X-EP	960GB 2.5in Enterprise performance 6GSATA SSD(3X endurance)	SATA	960 GB
<b>Enterprise Value SSDs (Low endurance, supports up to 1X DWPD (drive writes per day))</b>			
<b>SAS SSDs</b>			
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
UCS-SD19TS1X-EV	1.9TB 2.5 inch Enterprise Value 12G SAS SSD	SAS	1.9 TB
UCS-SD38TS1X-EV	3.8TB 2.5 inch Enterprise Value 12G SAS SSD	SAS	3.8 TB
<b>SATA SSDs</b>			
UCS-SD480G6I1X-EV	480GB 2.5 inch Enterprise Value 6G SATA SSD (Intel S4500/S4150)	SATA	480 GB

Table 12 Available Hot-Pluggable Sled-Mounted Rear-Facing Drive

Product ID (PID)	PID Description	Drive Type	Capacity
UCS-SD960G6I1X-EV	960GB 2.5 inch Enterprise Value 6G SATA SSD (Intel S4500/S4150)	SATA	960 GB
UCS-SD38T6I1X-EV	3.8TB 2.5 inch Enterprise Value 6G SATA SSD (Intel S4500/S4150)	SATA	3.8 TB
UCS-SD120GM1X-EV	120 GB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)	SATA	120 GB
UCS-SD240GM1X-EV	240 GB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)	SATA	240 GB
UCS-SD480GM1X-EV	480 GB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)	SATA	480 GB
UCS-SD960G61X-EV	960 GB 2.5 inch Enterprise Value 6G SATA SSD (Samsung PM863A/PM883)	SATA	960 GB
UCS-SD960GM1X-EV	960 GB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)	SATA	960 GB
UCS-SD16TM1X-EV	1.6 TB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)	SATA	1.6 TB
UCS-SD19T61X-EV	1.9 TB 2.5 inch Enterprise Value 6G SATA SSD (Samsung PM863A/PM883)	SATA	1.9 TB
UCS-SD19TM1X-EV	1.9 TB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)	SATA	1.9 TB
UCS-SD38T61X-EV	3.8 TB 2.5 inch Enterprise Value 6G SATA SSD (Samsung PM863A/PM883)	SATA	3.8 TB
UCS-SD38TM1X-EV	3.8 TB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)	SATA	3.8 TB
UCS-SD76T61X-EV	7.6 TB 2.5 inch Enterprise Value 6G SATA SSD	SATA	7.6 TB
UCS-SD76TM1X-EV	7.6 TB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)	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
<b>Self-Encrypted Drives (SED)<sup>1</sup></b>			
<b>SAS</b>			
UCS-HD600G15NK9	600 GB 12G SAS 15K RPM SFF HDD (SED) <b>FIPS140-2</b>	SAS	600 GB
UCS-HD24T10NK9	2.4 TB 12G SAS 10K RPM SFF HDD (4K) (SED) <b>FIPS140-2</b>	SAS	2.4 TB
UCS-HD18T10NK9	1.8 TB 12G SAS 10K RPM SFF HDD (4K format, SED) <b>FIPS140-2</b>	SAS	1.8 TB
UCS-HD12T10NK9	1.2 TB 12G SAS 10K RPM SFF HDD (SED) <b>FIPS140-2</b>	SAS	1.2 TB
UCS-SD800GBKNK9	800GB Enterprise Performance SAS SSD (3X DWPD, SED) <b>FIPS140-2</b>	SAS	800 GB
UCS-SD960GBKNK9	960GB Enterprise Value SAS SSD (1X DWPD, SED) <b>FIPS140-2</b>	SAS	960 GB
UCS-SD38TBKNK9	3.8TB Enterprise Value SAS SSD (1X DWPD, SED) <b>FIPS140-2</b>	SAS	3.8 TB
UCS-SD16TBKNK9	1.6TB Enterprise performance SAS SSD (3X DWPD, SED) <b>FIPS140-2</b>	SAS	1.6 TB
UCS-SD76TBKNK9	7.6TB Enterprise value SAS SSD (1X DWPD, SED-FIPS) <b>FIPS140-2</b>	SAS	7.6 TB
<b>SATA</b>			
UCS-SD960GBM2NK9	960GB Enterprise value SATA SSD (1X, SED) <b>Non FIPS</b>	SATA	960 GB
UCS-SD38TBEM2NK9	3.8TB Enterprise value SATA SSD (1X, SED) <b>Non FIPS</b>	SATA	3.8 TB

Table 12 Available Hot-Pluggable Sled-Mounted Rear-Facing Drive

Product ID (PID)	PID Description	Drive Type	Capacity
UCS-SD76TBEM2NK9	7.6 TB Enterprise value SATA SSD (1X, SED) Non FIPS	SATA	7.6 TB
UCS-SD19TBEM2NK9	1.9TB Enterprise value SATA SSD (1X, SED) Non FIPS	SATA	1.9 TB
<b>PCIe/NVMe LFF (2.5-inch) drives<sup>2,3</sup></b>			
UCSC-NVME2H-I2TBV	Cisco 2.5in U.2 2.0TB Intel P4510 NVMe High Perf. Value Endurance	NVMe	2.0 TB
UCSC-NVMEHW-I8000	Cisco 2.5in U.2 8TB Intel P4510 NVMe High Perf. Value Endurance	NVMe	8.0 TB
UCSC-NVMEXPB-I375	Cisco 2.5in 375 GB Intel Optane NVMe Extreme Performance SSD	NVMe	375 GB
UCSC-NVMEXP-I750	Cisco 2.5in 750 GB Intel Optane NVMe Extreme Performance	NVMe	750 GB
UCSC-NVME2H-I1000	Cisco 2.5in U.2 1.0 TB Intel P4510 NVMe High Perf. Value Endurance	NVMe	1.0 TB
UCSC-NVME2H-I1600	Cisco 2.5in U.2 1.6TB Intel P4610 NVMe High Perf. High Endurance	NVMe	1.6 TB
UCSC-NVME2H-I3200	Cisco 2.5in U.2 3.2TB Intel P4610 NVMe High Perf. High Endurance	NVMe	3.2 TB
UCSC-NVME2H-I4000	Cisco 2.5in U.2 4.0TB Intel P4510 NVMe High Perf. Value Endurance	NVMe	4.0 TB
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
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-NVMM6-W1600	1.6TB 2.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance	NVMe	1.6 TB
UCS-NVMM6-W3200	3.2TB 2.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance	NVMe	3.2 TB
UCS-NVMM6-W6400	6.4TB 2.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance	NVMe	6.4 TB
UCS-NVMM6-W7680	7.6TB 2.5in U.2 WD SN840 NVMe Extreme Perf. Value Endurance	NVMe	7.6 TB
UCS-NVMM6-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.			

## Notes:

- For all self-encrypting drives (SED), standalone Management (CIMC) and UCSM is supported for configuring and managing local keys. SED drives can be managed with local and remote key management (third-party key management).
- If you choose one or two front-facing PCIe SSD or NVMe drives, drive slots 1 and 2 at the front of the chassis are reserved for these drives (see [Figure 2 on page 4](#) for drive slot numbering).
- Except HGST, Intel and Western Digital (WD) NVMe drives can be mixed anywhere in a C240 M5.



**NOTE:** When retrofitting rear facing drives with spare NVMe drives, you must order the following along with the spare drives:

- UCSC-PCI-2C-240M5 (Riser 2C) or UCSC-PCI-2B-240M5 (Riser 2B)
- UCSC-RNVME-240M5= (C240 M5 Rear NVMe CBL(1) kit, Rear NVMe CBL, backplane SFF&LFF)

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### Caveats

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- 2.5-inch SFF NVMe drives are connected directly to the CPU, not managed by the RAID 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 SAS RAID Controller or Cisco 12G SAS HBA.
- If you order any SFF NVMe drives, you must also order two CPUs.
- Except HGST, Intel and Western Digital (WD) NVMe drives can be mixed anywhere in a C240 M5.
- SED drives can be mixed with the non-SED drives in [\*Table 12 on page 33\*](#)

## 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 12](#) 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 PCIe OPTION CARD(s)

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

The standard PCIe card offerings are:

- Modular LAN on Motherboard (mLOM)
- Virtual Interface Cards (VICs)
- Network Interface Cards (NICs)
- PCIe - Accelerators/Smart NICs
- Host Bus Adapters (HBAs)
- UCS NVMe/PCIe Add-in Storage Cards

### Select PCIe Option Cards

The available PCIe option cards are listed in **Table 13**.

**Table 13 Available PCIe Option Cards**

Product ID (PID)	PID Description	Location	Electrical slot	Card Height <sup>1</sup>
<b>Modular LAN on Motherboard (mLOM)</b>				
UCSC-MLOM-C100-04	Cisco UCS VIC 1497 Dual Port 40/100G QSFP28 CNA mLOM	mLOM	x16	N/A
UCSC-MLOM-C25Q-04	Cisco UCS VIC 1457 Quad Port 10/25G SFP28 mLOM	mLOM	x16	N/A
UCSC-MLOM-C40Q-03	Cisco UCS VIC 1387 Dual Port 40Gb QSFP+ CNA	mLOM	x8	N/A
UCSC-MLOM-IRJ45	Intel i350 Quad Port 1GBase-T NIC	mLOM	x8	N/A
<b>Virtual Interface Card (VICs)</b>				
UCSC-PCIE-C100-04	Cisco UCS VIC 1495 Dual Port 40/100G QSFP28 CNA PCIe	Riser 1 or 2	x16	HHHL
UCSC-PCIE-C40Q-03	Cisco VIC 1385 Dual Port 40Gb QSFP+ CNA w/RDMA	Riser 1 or 2	x16	HHHL
UCSC-PCIE-C25Q-04	Cisco VIC 1455 VIC PCIE - Quad Port 10/25G SFP28	Riser 1 or 2	x16	HHHL
<b>Network Interface Cards (NICs)</b>				
<b>1 Gb NICs</b>				
UCSC-PCIE-IRJ45	Intel i350 Quad Port 1GBase-T NIC	Riser 1 or 2	x8	HHHL
<b>10 Gb NICs</b>				
N2XX-AIPCI01	Intel X520 Dual Port 10Gb SFP+ NIC	Riser 1 or 2	x8	HHHL
UCSC-PCIE-ID10GC	Intel X550-T2 Dual Port 10GbBase-T NIC	Riser 1 or 2	x8	HHHL
UCSC-PCIE-ID10GF	Intel X710-DA2 Dual Port 10Gb SFP+ NIC	Riser 1 or 2	x8	HHHL

Table 13 Available PCIe Option Cards (*continued*)

Product ID (PID)	PID Description	Location	Electrical slot	Card Height <sup>1</sup>
UCSC-PCIE-IQ10GF	Intel X710 Quad Port 10Gb SFP+ NIC	Riser 1 or 2	x8	HHHL
UCSC-PCIE-IQ10GC	Intel X710 Quad Port 10GBase-T NIC	Riser 1 or 2	x8	HHHL
<b>25 Gb NICs</b>				
UCSC-PCIE-QD25GF	Qlogic QL41212H Dual Port 25Gb NIC	Riser 1 or 2	x8	HHHL
UCSC-PCIE-ID25GF	Intel XXV710 Dual Port 25Gb SFP28 NIC	Riser 1 or 2	x8	HHHL
UCSC-P-M4D25GF	Mellanox MCX4121A-ACAT dual port 10/25G SFP28 NIC	Riser 1 or 2	x8	HHHL
UCSC-P-M5D25GF	Mellanox CX-5 EN MCX512A-ACAT 2x25/10GbE SFP PCIe NIC	Riser 1 or 2	x8	HHHL
<b>40 Gb NICs</b>				
UCSC-PCIE-QD40GF	Qlogic QL45412H Dual Port 40Gb NIC	Riser 1 or 2	x16	HHHL
UCSC-PCIE-ID40GF	Intel XL710 Dual Port 40Gb QSFP+ NIC	Riser 1 or 2	x8	HHHL
<b>100 Gb NICs</b>				
UCSC-PCIE-QS100GF	Qlogic QLE45611HLCU single port 100G NIC	Riser 1 or 2	x16	HHHL
UCSC-P-M5D100GF	Mellanox CX-5 MCX516A-CDAT 2x100GbE QSFP PCIe NIC	Riser 1 or 2	x16	HHHL
UCSC-P-M5S100GF	Mellanox CX-5 MCX515A-CCAT 1x100GbE QSFP PCIe NIC	Riser 1 or 2	x16	HHHL
<b>PCIe - Accelerators/Smart NICs</b>				
UCSC-P-IQAT8970	Cisco-Intel 8970 QAT Offload PCIe Adapter	Riser 1 or 2	x 16	HHHL
<b>Host Bus Adapters (HBAs)</b>				
UCSC-PCIE-QD16GF	Qlogic QLE2692 Dual Port 16G Fibre Channel HBA	Riser 1 or 2	x8	HHHL
UCSC-PCIE-BD16GF	Emulex LPe31002 Dual Port 16G Fibre Channel HBA	Riser 1 or 2	x8	HHHL
UCSC-PCIE-QD32GF	Qlogic QLE2742 Dual Port 32G Fibre Channel HBA	Riser 1 or 2	x8	HHHL
UCSC-PCIE-BS32GF	Emulex LPe32000-M2 Single Port 32G Fibre Channel HBA	Riser 1 or 2	x8	HHHL
UCSC-PCIE-BD32GF	Emulex LPe32002-M2 Dual Port 32G Fibre Channel HBA	Riser 1 or 2	x8	HHHL
<b>UCS NVMe/PCIe Add in Cards<sup>2</sup></b>				
UCSC-NVME-H76801	Cisco AIC 7.7TB HGST SN260 NVMe Extreme Performance Value Endurance <sup>3</sup>	Riser 1 or 2	x8	HHHL

**Notes:**

1. HHHL= Half Height Half Length
2. HHHL PCIe NVMe cards are not bootable.
3. Qlogic/Emulex HBAs ship with FC optics installed in the HBA.

## Caveats

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■ For 1-CPU systems:

- Only PCIe slots 1 and 2 on PCIe riser 1A are available for a 1-CPU system. All three slots (1, 2, and 3) on PCIe riser 1B are available for a 1-CPU system. Slots 1, 2, and 3 are to the left when looking at the rear of the server. Slot 1 is the bottom slot.
- The PCIe slots on riser 2 are not supported on 1-CPU systems. The riser 2 slots are full-height PCIe slots 4, 5, and 6 (see [Figure 3 on page 5](#)). These are the slots on the right when looking at the rear of the server. Slot 4 is the bottom slot.
- Only a single plug-in PCIe VIC card may be installed on a 1-CPU system, and it must be installed in slot 2 or 1 of riser 1 or 1B.
- You can order an mLOM VIC card to be installed in the mLOM slot internal to the chassis and thus have two VIC cards in operation at the same time. If you order a GPU, it must be installed in slot 2. See [Table 13 on page 39](#) for the selection of plug-in and mLOM VIC cards. See also [Table 1 on page 7](#) and [Riser Card Configuration and Options, page 83](#) for the PCIe slot physical descriptions.

■ For 2-CPU systems:

- Six PCIe slots are available, three on PCIe riser 1 or riser 1B (PCIe slots 1, 2, and 3) and three on PCIe riser 2A, 2B or 2C (PCIe slots 4, 5, and 6).
- Two plug-in PCIe VIC cards can be installed in dual CPU systems, using slots 2 and 5. In addition, you can order an mLOM VIC card, which is installed in the mLOM slot inside the chassis and thus have three VIC cards in operation at the same time. See [Table 13 on page 39](#) for the selection of plug-in and mLOM VIC cards. See also [Table 1 on page 7](#) and [Riser Card Configuration and Options, page 83](#) for the PCIe slot physical descriptions.
- If GPUs are installed in slots 2 (Riser 1 or 1B) and 5 (Riser 2A or 2B), the NCSI capability automatically switches over to slots 1 (Riser 1 or 1B) and 4 (Riser 2A or 2B). Therefore, Cisco PCIe VICs can be installed in slots 1 and 4 if GPUs are installed in slots 2 and 5. If you order two GPUs, they must be installed in slots 2 and 5 and thus you will not be able to install VIC cards in those slots.



**NOTE:** UCSM managed servers are discoverable only if a VIC is installed in slot 2 or a VIC is installed in the MLOM slot. If you install two GPUs, they must be located in slots 2 and 5. Therefore, if two GPUs are installed, UCSM managed servers are discoverable only if you install a VIC in the MLOM slot.

- The server supports up to two PCIe Cisco VICs plus an MLOM VIC

However, single wire management is supported on only one VIC at a time. If multiple VICs are installed on a server, only one slot has NCSI enabled at a time and for single wire management, priority goes to the MLOM slot, then slot 2, then slot 5 for NCSI management traffic. When multiple cards are installed, connect the single wire management cables in the priority order mentioned above.

## **System Speed**

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- 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 C240 M5 server, but are not sold on the Cisco price list, check the Hardware Compatibility List at this

URL: [http://www.cisco.com/en/US/products/ps10477/prod\\_technical\\_reference\\_list.html](http://www.cisco.com/en/US/products/ps10477/prod_technical_reference_list.html)

## PCIe Card Configuration with 2 CPU

Below table helps in finding the right slot for the selected PCIe cards.

**Table 14 PCIe Card configuration with 2 CPU**

PCIe Card Type	Primary Slot	Secondary Slot	Alternate Slot
Laguna Beach Plus RAID card	Midplane Slot	None	
Talledega RAID card	10	None	
PCIe Switch card	10	None	
Cisco x16 VIC (Clearlake)	1	2	8, 5
Nvidia and AMD GPUs	2	8	10, 1
Other 16x PCIe I/O card	8	10	2, 1
Other 8x PCIe I/O card	9	5	8, 2, 10, 1
Cisco x16 VIC (Bodaga)	1	2	8



**NOTE:**

- Primary Slots are first priorities
- Slot 1 only if no VIC present
- When no VIC presents in the configuration, GPU primary slot could be 1
- First VIC has the highest priority, then GPUs, then others.
- Secondary slots are for additional card of the same type, follow the order listed
- Alternate slots can be used but may be with reduced functionality

## STEP 8 ORDER OPTIONAL PCIE OPTION CARD ACCESSORIES

- These optics and cables have been tested for compatibility and are approved for use with Intel® 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 VIC1385, VIC 1387, VIC 1440, VIC 1455, VIC 1457, VIC 1495 and VIC 1497 refer to VIC 1300 and VIC 1400 series data sheet at the following links:
  - <https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/unified-computing-system-adapters/datasheet-c78-741130.html>
  - <https://www.cisco.com/c/en/us/products/interfaces-modules/ucs-virtual-interface-card-1387/index.html>
  - <https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/unified-computing-system-adapters/datasheet-c78-734727.html>

### Select

- NIC Interoperability with Cisco Cables/Optics. ([Table 16 to Table 19](#))
- NIC Interoperability with Intel Cables/Optics. ([Table 20](#))

**Table 15 10G NIC Interoperability with Cables/Optics**

Cisco Product ID (PID)	UCSC- PCIE-ID10GF	UCSC- PCIE-IQ10GF	UCSC-PCIE-ID10GC	UCSC-PCIE-IQ10GC	N2XX-AIPCI01
<b>Cisco Direct Attach Cables (DAC)</b>					
SFP-H10GB-CU1M	✓	✓			
SFP-H10GB-CU3M	✓	✓			
SFP-H10GB-CU5M	✓	✓			
SFP-H10GB-ACU7M	✓	✓			
SFP-H10GB-ACU10M	✓	✓			
SFP-10G-AOC1M	✓	✓			
SFP-10G-AOC2M	✓	✓			
SFP-10G-AOC3M	✓	✓			
SFP-10G-AOC5M	✓	✓			
SFP-10G-AOC7M	✓	✓			
SFP-10G-AOC10M	✓	✓			
UTP/RJ45				✓	
<b>Cisco Optical Transceivers</b>					
SFP-10G-SR	✓	✓			
SFP-10G-SR-S	✓	✓			

**Table 15 10G NIC Interoperability with Cables/Optics**

Cisco Product ID (PID)	UCSC- PCIE-ID10GF	UCSC- PCIE-IQ10GF	UCSC-PCIE-ID10GC	UCSC-PCIE-IQ10GC	N2XX-AIPCI01
SFP-10G-LR	✓	✓			
SFP-10G-LR-S	✓	✓			
UCS-SFP-1WSR					✓
UCS-SFP-1WLR					✓
GLC-LH-SMD		✓			
GLC-SX-MMD	✓	✓			

**Table 16 25G NIC Interoperability with Cables/Optics**

Cisco Product ID (PID)	UCSC-PCIE-ID25GF	UCSC-P-M5D25GF	UCSC-PCIE-QD25GF	UCSC-P-M4D25GF
<b>Cisco Direct Attach Cables (DAC)</b>				
SFP-H10GB-CU1M	✓	✓	✓	✓
SFP-H10GB-CU3M	✓	✓	✓	
SFP-H10GB-CU4M		✓		
SFP-H10GB-CU5M	✓	✓	✓	✓
SFP-H10GB-ACU7M	✓	✓	✓	
SFP-H10GB-ACU10M	✓	✓	✓	✓
SFP-10G-AOC1M	✓		✓	
SFP-10G-AOC2M	✓		✓	
SFP-10G-AOC3M	✓		✓	
SFP-10G-AOC5M	✓		✓	
SFP-10G-AOC7M	✓		✓	
SFP-10G-AOC10M	✓	✓	✓	
SFP-H25G-AOC10M		✓		
SFP-25G-AOC1M	✓		✓	
SFP-25G-AOC2M	✓		✓	
SFP-25G-AOC3M	✓		✓	
SFP-25G-AOC4M	✓		✓	
SFP-25G-AOC5M	✓	✓	✓	
SFP-25G-AOC7M	✓	✓	✓	

## System Speed

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**Table 16 25G NIC Interoperability with Cables/Optics**

Cisco Product ID (PID)	UCSC-PCIE-ID25GF	UCSC-P-M5D25GF	UCSC-PCIE-QD25GF	UCSC-P-M4D25GF
SFP-25G-AOC10M	✓		✓	✓
QSFP-4SFP25G-CU3M	✓			
SFP-H25G-CU1M	✓	✓	✓	✓
SFP-H25G-CU2M	✓	✓	✓	
SFP-H25G-CU2.5M		✓		
SFP-H25G-CU3M	✓	✓	✓	✓
SFP-H25G-CU4M		✓		
SFP-H25G-CU5M	✓	✓		✓
<b>Cisco Optical Transceivers</b>				
SFP-10G-SR	✓	✓	✓	✓
SFP-10G-SR-S	✓		✓	✓
SFP-10G-LR	✓	✓	✓	✓
SFP-10G-LR-S	✓		✓	✓
SFP-25G-SR-S	✓	✓		✓
SFP-10/25G-LR-S		✓		
SFP-10/25G-CSR-S				✓

**Table 17 40G NIC Interoperability with Cables/Optics**

Cisco Product ID (PID)	UCSC-PCIE-QD40GF	UCSC-PCIE-ID40GF
<b>Cisco Direct Attach Cables (DAC)</b>		
QSFP-H40G-CU5M	✓	✓
QSFP-H40G-CU3M	✓	✓
QSFP-H40G-CU1M	✓	✓
QSFP-H40G-ACU7M	✓	✓
QSFP-H40G-AOC1M	✓	✓
QSFP-H40G-AOC2M	✓	✓
QSFP-H40G-AOC3M	✓	✓
QSFP-H40G-AOC5M	✓	✓
QSFP-H40G-AOC7M	✓	✓

**Table 17 40G NIC Interoperability with Cables/Optics**

QSFP-H40G-AOC10M	✓	✓
<b>Cisco Optical Transceivers</b>		
QSFP-40G-SR4	✓	
QSFP-40G-SR4-S	✓	✓
QSFP-40G-SR-BD		✓

**Table 18 100G NIC Interoperability with Cables/Optics**

Cisco Product ID (PID)	UCSC-PCIE-QS100GF	UCSC-P-M5S100GF	UCSC-P-M5D100GF
<b>Cisco Direct Attach Cables (DAC)</b>			
QSFP-100G-AOC5M		✓	✓
QSFP-100G-AOC7M		✓	✓
QSFP-100G-AOC10M		✓	✓
QSFP-100G-CU3M		✓	✓
QSFP-100G-CU5M		✓	✓
<b>Cisco Optical Transceivers</b>			
QSFP-100G-LR4-S		✓	✓
QSFP-100G-SR4-S		✓	✓
QSFP-40/100-SRBD		✓	✓

**Table 19 NIC Interoperability with Intel Cables/Optics**

Intel Product ID (PID)	N2XX-AIPCI01	UCSC-PCIE-ID10GF	UCSC-PCIE-IQ10GF
<b>Intel DACs</b>			
XDACBL1M	✓	✓	✓
XDACBL3M	✓	✓	✓
XDACBL5M	✓	✓	✓
<b>Intel Optical Transceivers</b>			
E10GSFPSR	✓	✓	✓
E10GSFPLR	✓	✓	✓

a. \*: Compiled from testing conducted by Cisco TMG and Vendors.

## System Speed

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b. Refer to the these links for additional Connectivity Options.

Intel:	Marvell/Qlogic:	Mellanox:
<a href="#">Product Guide</a>	<a href="#">41000 series Interoperability Matrix</a>	<a href="#">Firmware Release Notes</a>
<a href="#">Speed White Paper</a>	<a href="#">45000 series Interoperability Matrix</a>	

## STEP 9 ORDER GPU CARDS (OPTIONAL)

### Select GPU Options

The available GPU PCIe options are listed in **Table 20**.

**Table 20 Available PCIe GPU Cards**

Product ID (PID)	PID Description	Card Size	Maximum cards Per node
<b>GPU PCIe Cards<sup>1</sup></b>			
UCSC-GPU-T4-16	NVIDIA T4 16GB	Low Profile Single-Width	6
UCSC-GPU-M10	NVIDIA M10	Full-Height Dual Width	2

**Notes:**

1. Refer to [C240 M5 GPU Card Installation](#) for more details and for the additional information related to GPU card slots, refer to [PCIe Card Configuration with 2 CPU, page 43](#)



**CAUTION:**

- When using the GPU cards, The maximum allowable operating temperature for M10 GPU is 35° C (95.0° F).
- For the complete operating temperature requirement of double-wide GPUs Please refer to **table 2** of the below url:  
[https://www.cisco.com/c/en/us/td/docs/unified\\_computing/ucs/c/hw/C240M5/install/C240M5/C240M5\\_appendix\\_0101.html](https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M5/install/C240M5/C240M5_appendix_0101.html)



**NOTE:**

- All GPU cards must be procured from Cisco as there is a unique SBIOS ID required by CIMC and UCSM
- All GPU cards require two CPUs and a minimum of two power supplies in the server. 1600W power supplies are recommended. 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>

**Caveats**

- NVIDIA M10 and M60 can support only less than 1TB of total memory in the server.
- GPUs cannot be mixed.
- Slot 5 on riser card 2 is the required slot for the first GPU
- Slot 2 on riser card 1 is the secondary slot for a second GPU
- For the GPU Required Power Cables info please refer to the **table 3** of the below url:  
[https://www.cisco.com/c/en/us/td/docs/unified\\_computing/ucs/c/hw/C240M5/install/C240M5/C240M5\\_appendix\\_0101.html](https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M5/install/C240M5/C240M5_appendix_0101.html)

Refer to **Table 21** for the PCIe slot usage for the following PCIe cards installed in riser 1 and riser 2:

- External RAID
- VIC
- NIC
- HBA
- GPU
- NVMe HHHL

**Table 21 PCIe Slot Usage in Riser 1 (slots 1, 2, 3) and Riser 2 (slots 4, 5, 6)**

Riser Combinations	Total Riser Slots Available		Riser Slots Available for GPUs	
	1-CPU System	2-CPU System	1-CPU System	2-CPU System
1A only	Slots 1 and 2	Slots 1, 2, and 3	Slot 2	Slot 2
1B only	Slots 1, 2, and 3	Slots 1, 2, and 3	None	None
1A and 2A	Slots 1 and 2	Slots 1, 2, 3, 4, 5, and 6	Slot 2	Slots 2 and 5
1A and 2B	Slots 1 and 2	Slots 1, 2, 3, 4, 5, and 6	Slot 2	Slots 2 and 5
1A and 2C	Slots 1 and 2	Slots 1, 2, 3, 4, 5, and 6	Slot 2	Slot 2
1A and 2D	Slots 1 and 2	Slots 1, 2, 3, 4, 5, and 6	Slot 2	Slot 2
1B and 2A	Slots 1 and 2	Slots 1, 2, 3, 4, 5, and 6	None	Slot 5
1B and 2B	Slots 1 and 2	Slots 1, 2, 3, 4, 5, and 6	None	Slot 5
1B and 2C	Slots 1 and 2	Slots 1, 2, 3, 4, 5, and 6	None	None
1B and 2D	Slots 1 and 2	Slots 1, 2, 3, 4, 5, and 6	None	None

**NOTE:**

- UCSM managed servers are discoverable only if a PCIe VIC card is installed in slot 2 or an mLOM VIC card is installed in the mLOM slot. If you install two GPUs, they must be located in slots 2 and 5. Therefore, if two GPUs are installed, UCSM managed servers are discoverable only if you install a VIC in the MLOM slot.
- For more information on the riser card options, see [Riser Card Configuration and Options, page 83](#).

## STEP 10 ORDER POWER SUPPLY

Power supplies share a common electrical and physical design that allows for hot-plug and tool-less installation into M5 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 helps avoid 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 22 Power Supply

Product ID (PID)	PID Description
UCSC-PSU1-770W	770W AC power supply for C-Series Servers Platinum
UCSC-PSU1-1050W	1050W AC power supply for C-Series servers Platinum
UCSC-PSUV2-1050DC	1050W DC power supply for C-Series servers Platinum
UCSC-PSU1-1600W	1600W AC power supply for C-Series servers Platinum
UCSC-PSU1-1050ELV	1050W AC Power Supply C-Series Enhanced Low Line Platinum



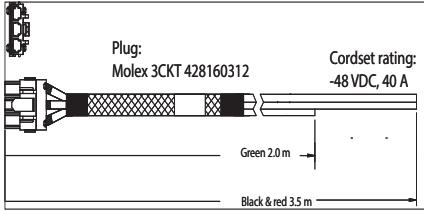
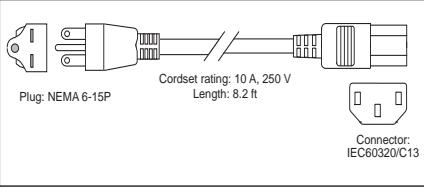
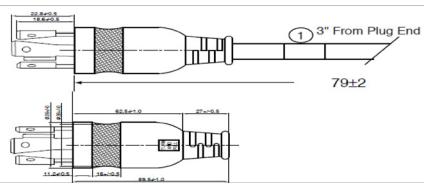
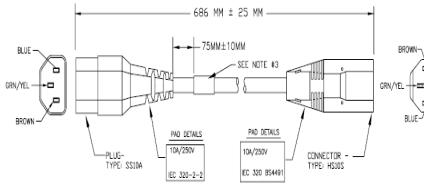
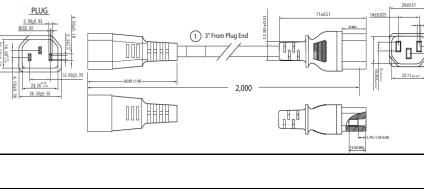
NOTE: In a server with two power supplies, both power supplies must be identical.

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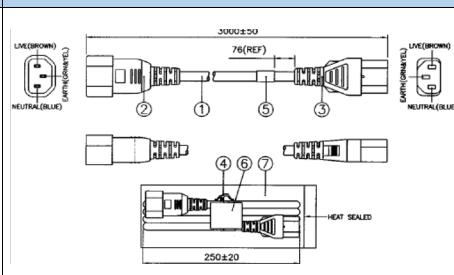
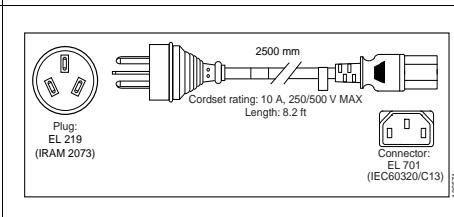
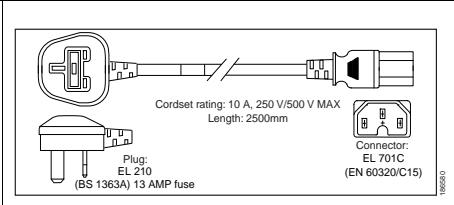
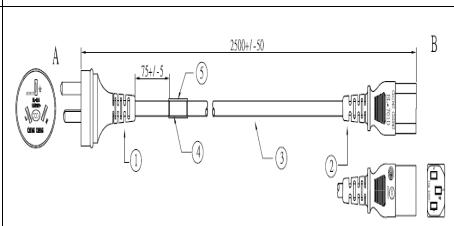
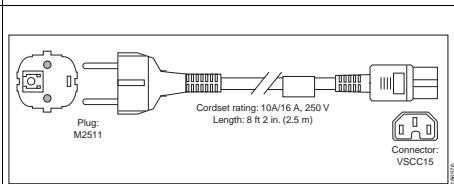
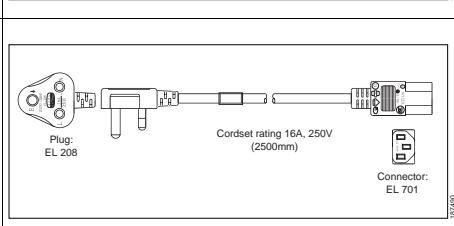
## STEP 11 SELECT INPUT POWER CORD(s)

Using [Table 23](#), 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-DMYMPWRCORD, no power cord is shipped with the server.

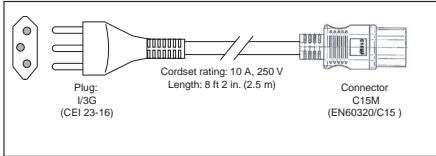
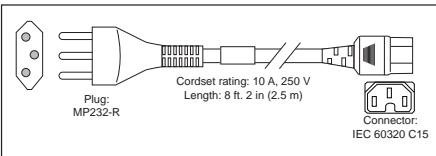
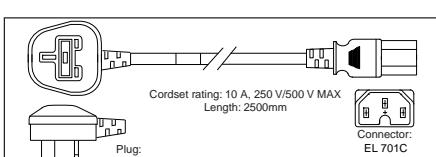
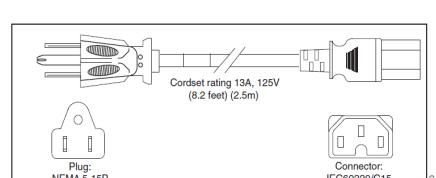
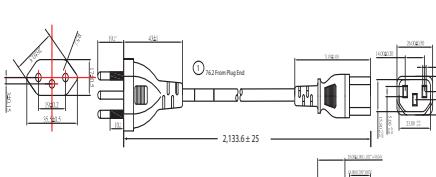
**Table 23 Available Power Cords**

Product ID (PID)	PID Description	Images
R2XX-DMYMPWRCORD	No power cord (dummy PID to allow for a no power cord option)	Not applicable
NO-POWER-CORD	ECO friendly green option, no power cable will be shipped	Not applicable
CAB-48DC-40A-8AWG	C-Series -48VDC PSU Power Cord, 3.5M, 3 Wire, 8AWG, 40A	
CAB-N5K6A-NA	N5000 AC Power Cable, 6A, 250V, North America, 2.5m	
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 23 Available Power Cords**

Product ID (PID)	PID Description	Images
CAB-C13-C14-AC	CORD,PWR,JMP,IEC60320/C14,IEC60320/C13, 3.0M	 <p>The diagram shows a power cord assembly with two connectors. The left connector is labeled 'CORD,PWR,JMP,IEC60320/C14,IEC60320/C13, 3.0M'. The right connector is labeled 'CORD(PWR)'. The cord itself has a heat-sealed section. Various numbered callouts point to specific parts of the connector and cord.</p>
CAB-250V-10A-AR	Power Cord, 250V, 10A, Argentina	 <p>The diagram shows a power cord assembly with a 3112 plug and a connector. The plug is labeled 'Plug: EL 219 (IRAM 2073)'. The connector is labeled 'Connector: EL 701 (IEC60320/C13)'. The cord length is 2500 mm, and the rating is 10 A, 250/500 V MAX.</p>
CAB-9K10A-AU	Power Cord, 250VAC 10A 3112 Plug, Australia	 <p>The diagram shows a power cord assembly with a 3112 plug and a connector. The plug is labeled 'Plug: EL 210 (BS 1363A) 13 AMP fuse'. The connector is labeled 'Connector: EL 701C (EN 60320/C15)'. The cord length is 2500mm, and the rating is 10 A, 250 V/500 V MAX.</p>
CAB-250V-10A-CN	AC Power Cord - 250V, 10A - PRC	 <p>The diagram shows a power cord assembly with a 3112 plug and a connector. The plug is labeled 'Plug: M2511'. The connector is labeled 'Connector: VS CC15'. The cord length is 2500 mm, and the rating is 10A/16A, 250 V.</p>
CAB-9K10A-EU	Power Cord, 250VAC 10A CEE 7/7 Plug, EU	 <p>The diagram shows a power cord assembly with a CEE 7/7 plug and a connector. The plug is labeled 'Plug: EL 208'. The connector is labeled 'Connector: EL 701'. The cord length is 2500 mm, and the rating is 16A, 250V (2500mm).</p>
CAB-250V-10A-ID	Power Cord, SFS, 250V, 10A, India	 <p>The diagram shows a power cord assembly with a CEE 7/7 plug and a connector. The plug is labeled 'Plug: EL 212 (SI-32)'. The connector is labeled 'Connector: EL 701B (IEC60320/C13)'. The cord length is 2500 mm, and the rating is 10A, 250V/500V MAX.</p>

**Table 23 Available Power Cords**

Product ID (PID)	PID Description	Images
CAB-9K10A-IT	Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy	 <p>Plug: I/3G (CEI 23-16) Cordset rating: 10 A, 250 V Length: 8 ft 2 in. (2.5 m) Connector: C15M (EN60320/C15)</p>
CAB-9K10A-SW	Power Cord, 250VAC 10A MP232 Plug, Switzerland	 <p>Plug: MP232-R Cordset rating: 10 A, 250 V Length: 8 ft. 2 in (2.5 m) 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 Cordset rating: 10 A, 250 V/500 V MAX Length: 2500mm Connector: EL 701C (EN 60320/C15)</p>
CAB-9K12A-NA <sup>1</sup>	Power Cord, 125VAC 13A NEMA 5-15 Plug, North America	 <p>Plug: NEMA 5-15P Cordset rating 13A, 125V (8.2 feet) (2.5m) Connector: IEC60320/C15</p>
CAB-250V-10A-BR	Power Cord - 250V, 10A - Brazil	 <p>Front Plug End Dimensions: 2.133.6 ± 25 mm</p>
CAB-C13-C14-2M-JP	Power Cord C13-C14, 2M/6.5ft Japan PSE mark	Image not available
CAB-9K10A-KOR <sup>1</sup>	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	-48VDC PSU PWR Cord, 3.5M, 3 Wire, 8AWG, 40A (INT)	Image Not available

**Table 23 Available Power Cords**

<b>Product ID (PID)</b>	<b>PID Description</b>	<b>Images</b>
CAB-48DC-40A-AS	-48VDC PSU PWR Cord, 3.5M, 3Wire, 8AWG, 40A (AS/NZ)	Image Not available
CAB-C13-C14-IN	Power Cord Jumper,C13-C14 Connectors,1.4 Meter Length, India	Image Not available
CAB-C13-C14-3M-IN	Power Cord Jumper, C13-C14 Connectors, 3 Meter Length, India	Image Not available

**Notes:**

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

## STEP 12 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 24](#).

**Table 24** Tool-less Rail Kit Options

Product ID (PID)	PID Description
UCSC-RAILB-M4	Ball Bearing Rail Kit for C240 M5 Rack Servers
UCSC-RAIL-NONE	No rail kit option

### 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 25](#) to order a cable management arm.

**Table 25** Cable Management Arm

Product ID (PID)	PID Description
UCSC-CMA-M4	Reversible CMA for ball bearing rail kit

For more information about the tool-less rail kit and cable management arm, see the Cisco UCS C240 M5 Installation and Service Guide at this URL:

[https://www.cisco.com/c/en/us/td/docs/unified\\_computing/ucs/c/hw/C240M5/install/C240M5.html](https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M5/install/C240M5.html)



**NOTE:** If you plan to rackmount your UCS C240 M5 server, you must order a tool-less rail kit. The same rail kits and CMAs are used for C240 M4 and C240 M5 servers.

## STEP 13 MANAGEMENT CONFIGURATION (OPTIONAL)

By default, the C240 M5 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 26](#). In Dedicated NIC mode, the CIMC can be accessed only through the dedicated management port. See [Chassis Rear View, page 5](#) 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 26](#). 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/C240M5/install/C240M5\\_C240M5\\_chapter\\_01.html#concept\\_rqj\\_vsr\\_fz](https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M5/install/C240M5_C240M5_chapter_01.html#concept_rqj_vsr_fz)

**Table 26 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

In addition, the optional software PIDS listed in [Table 35 on page 66](#) can be ordered for setting the server to operate in various modes.

## STEP 14 SELECT SERVER BOOT MODE (OPTIONAL)

By default, the C240 M5 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 27](#).

**Table 27 Server Boot Mode Ordering Information**

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

## STEP 15 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 28](#)

**Table 28 Security Devices**

Product ID (PID)	PID Description
UCSX-TPM2-001	Trusted Platform Module 1.2 SPI-based for UCS Servers
UCSX-TPM2-002	Trusted Platform Module 2.0 for UCS servers
UCSX-TPM2-002B	Trusted Platform Module2.0 M5 UCS svr (FIPS 140-2 Compliant)
UCSC-INT-SW01	C220 M5 and C240 M5 Chassis Intrusion Switch

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**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 16 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 29](#).

**Table 29 Locking Bezel Option**

Product ID (PID)	Description
UCSC-BZL-C240M5	C240 M5 Security Bezel

## STEP 17 ORDER CISCO SD CARD MODULE (OPTIONAL)

Order one or two matching SD cards. See [Figure 5 on page 78](#) for the location of the mini storage module connector, which accommodates an SD module. Each SD module accommodates two SD cards.

Table 30 Secure Digital (SD) Card (blank)

Product ID (PID)	PID Description
UCS-SD-128G	128 GB SD Card for UCS Servers
UCS-SD-64G-S	64 GB SD Card for UCS Servers
UCS-SD-32G-S	32 GB SD Card for UCS Servers



**NOTE:** Starting from vSphere 8.0, SD cards/USB media as a standalone boot device will not be supported by VMware. For more information please refer to the VMware KB article: <https://kb.vmware.com/s/article/85685>

### Caveats

- Install either one or two SD cards
- Do not mix SD card sizes
- You cannot mix SD cards with an internal M.2 SATA SSD (see [ORDER M.2 SATA SSDs \(OPTIONAL\), page 62](#)).

## STEP 18 ORDER M.2 SATA SSDs (OPTIONAL)

Order one or two matching M.2 SATA SSDs (see [Table 31](#)) along with a mini storage carrier or a boot-optimized RAID controller (see [Table 32](#)).



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

Each mini storage carrier or boot-optimized RAID controller can accommodate up to two SATA M.2 SSDs shown in [Table 31](#).

**Table 31 M.2 SATA SSDs**

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

**Table 32 Mini Storage Carrier/Boot-Optimized RAID Controller**

Product ID (PID)	PID Description
UCS-MSTOR-M2	Mini Storage Carrier for M.2 SATA (holds up to 2 M.2 SATA SSDs)
UCS-M2-HWRAID	Cisco Boot optimized M.2 RAID controller (holds up to 2 M.2 SATA SSDs)



**NOTE:**

- The UCS-M2-HWRAID boot-optimized RAID controller supports RAID 1 and JBOD mode
- The UCS-M2-HWRAID controller is available only with 240 GB, 960 GB or 480 GB M.2 SSDs.
- (CIMC/UCSM) 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 support this controller is 4.0(4b) 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.
- The boot-optimized RAID controller is not supported when the server is used as a compute node in HyperFlex configurations

- 
- Order either the Mini Storage carrier or the Boot-Optimized RAID controller from [Table 32](#).
    - Choose the UCS-MSTOR-M2 mini storage carrier for controlling the M.2 SATA drives with no RAID control.
    - Choose the UCS-M2-HWRAID Boot-Optimized RAID controller for hardware RAID across the two internal SATA M.2 drives. The Boot-Optimized RAID controller holds up to 2 matching M.2 SATA drives.
  - Order up to two matching M.2 SATA SSDs from [Table 31](#).
- 



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

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### Caveats

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- You cannot mix M.2 SATA SSDs with SD cards.
- Order either one or two identical M.2 SATA SSDs for the mini-storage carrier or boot-optimized RAID controller. You cannot mix M.2 SATA SSD capacities.
- When ordering two M.2 SATA drives with embedded software RAID, the maximum number of internal SATA drives supported is six. To support greater than six internal drives, a Cisco 12G Raid Controller or a Cisco 12G SAS HBA must be ordered

## STEP 19 ORDER INTERNAL MICRO-SD CARD MODULE (OPTIONAL)

Order a 32 GB micro-SD card. The micro-SD card serves as a dedicated local resource for utilities such as a Host Upgrade Utility (HUU). Images can be pulled from a file share (NFS/CIFS) and uploaded to the card for future use.

**Table 33 32 GB Secure Digital (SD) Card**

Product ID (PID)	PID Description
UCS-MSD-32G	32GB Micro-SD Card for UCS servers

**NOTE:**

- The microSD card mounts internally on riser 1 or riser 1B, so you must order either UCSC-PCI-1-C240M5 or UCSC-PCI-1B-C240M5 when you order a micro-SD card.
- Flexutil user partition does not support OS installation. The user partition must be used for storage only.

## STEP 20 ORDER OPTIONAL USB 3.0 DRIVE

You can order one optional USB 3.0 drive. The USB drive ordering information is listed in [Table 34](#).

**Table 34** USB 3.0 Drive

Product ID (PID)	PID Description
UCS-USBFLSHB-16GB	UCS Servers 16 GB Flash USB Drive

See [Figure 5 on page 78](#) for the location of the USB connector

## STEP 21 SELECT OPERATING SYSTEM AND VALUE-ADDED SOFTWARE

For more details on supported operating systems and software for this server, see the Hardware and Software Compatibility List (HCL).

**Note:** PIDs tagged with an asterisk (\*) are Resell of an OEM Vendor's Support. They are required to be added to the associated Product License PID.

### Select

- Cisco Software ([Table 35](#))
- OEM Software ([Table 36](#))
- Operating System ([Table 37](#))

**Table 35 Cisco Software**

Product ID (PID)	PID Description
<b>IMC Supervisor</b>	
CIMC-SUP-BASE-K9	IMC Supervisor One-time Site Installation License
CIMC-SUP-B01	IMC Supervisor-Branch Mgt SW for C-Series & E-Series up to 100 Svrs
CIMC-SUP-B02	IMC Supervisor- Branch Mgt SW for C and E-Series up to 250 Svrs
CIMC-SUP-B10	IMC Supervisor- Branch Mgt SW for C and E-Series up to 1K Svrs
CIMC-SUP-B25	IMC Supervisor Branch Mgt SW for C and E-Series 25 Svrs
CIMC-SUP-A01	IMC Supervisor Adv-Branch Mgt SW for C and E-Series 100 Svrs
CIMC-SUP-A02	IMC Supervisor Adv-Branch Mgt SW for C and E-Series 250 Svrs
CIMC-SUP-A10	IMC Supervisor Adv-Branch Mgt SW for C and E-Series 1000 Svrs
CIMC-SUP-A25	IMC Supervisor Adv-Branch Mgt SW for C and E-Series 25 Svrs
EVAL-CIMC-SUP-BAS	EVAL: IMC Supervisor One-time Site Installation License
EVAL-CIMC-SUP	EVAL: IMC Supervisor-Branch Mgt SW for C/E-Series - 50 Svrs
<b>UCS Multi-Domain Manager</b>	
UCS-MDMGR-1S	UCS Central Per Server License

**NOTE:** IF you must order quantity greater than 1 of UCS-MDMGR-1S, you need to reference the UCS Central Per Server Data Sheet to order the standalone PIDs: UCS-MDMGR-LIC= or UCS-MDMGR-1DMN=

**Table 36 OEM Software**

Product ID (PID)	PID Description
VMware vCenter	
VMW-VCS-STD-1A	VMware vCenter 7 Server Standard, 1 yr support require
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-FND-1A	VMware vCenter 7 Server Foundation (4 Host), 1 yr supp reqd
VMW-VCS-FND-3A	VMware vCenter 7 Server Foundation (4 Host), 3 yr supp reqd
VMW-VCS-FND-5A	VMware vCenter 7 Server Foundation (4 Host), 5 yr supp reqd

**Table 37 Operating System**

Product ID (PID)	PID Description
<b>Microsoft Windows Server</b>	
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-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-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
<b>Red Hat</b>	
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
<b>Red Hat Ent Linux/ High Avail/ Res Strg/ Scal</b>	

**Table 37 (continued)Operating System**

<b>Product ID (PID)</b>	<b>PID Description</b>
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
<b>Red Hat SAP</b>	
RHEL-SAP-2S2V-1S	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 1-Yr SnS Reqd
RHEL-SAP-2S2V-3S	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 3-Yr SnS Reqd
RHEL-SAPSP-3S	RHEL SAP Solutions Premium - License with 3 Years of SnS
RHEL-SAPSS-3S	RHEL SAP Solutions Standard - License with 3 Years of SnS
<b>VMware</b>	
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
<b>SUSE</b>	
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-2SUV-3S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); Prio 3-Yr SnS
SLES-2SUV-5S	SUSE Linux Enterprise Svr (1-2 CPU,Unl 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

**Table 37 (continued)Operating System**

<b>Product ID (PID)</b>	<b>PID Description</b>
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
<b>SLES and SAP</b>	
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

## STEP 22 SELECT OPERATING SYSTEM MEDIA KIT

Select the optional operating system media listed in [\*\*Table 38\*\*](#).

**Table 38 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

## STEP 23 SELECT SERVICE and SUPPORT LEVEL

A variety of service options are available, as described in this section.

### Unified Computing Warranty, No Contract

If you have noncritical implementations and choose to have no service contract, the following coverage is supplied:

- Three-year parts coverage.
- Next business day (NBD) parts replacement eight hours a day, five days a week.
- 90-day software warranty on media.
- Downloads of BIOS, drivers, and firmware updates.
- UCSM updates for systems with Unified Computing System Manager. These updates include minor enhancements and bug fixes that are designed to maintain the compliance of UCSM with published specifications, release notes, and industry standards.

### Smart Net Total Care (SNTC) for UCS

For support of the entire Unified Computing System, Cisco offers the Cisco Smart Net Total Care for UCS Service. This service provides expert software and hardware support to help sustain performance and high availability of the unified computing environment. Access to Cisco Technical Assistance Center (TAC) is provided around the clock, from anywhere in the world.

For systems that include Unified Computing System Manager, the support service includes downloads of UCSM upgrades. The Cisco Smart Net Total Care for UCS Service includes flexible hardware replacement options, including replacement in as little as two hours. There is also access to Cisco's extensive online technical resources to help maintain optimal efficiency and uptime of the unified computing environment. For more information please refer to the following url: <http://www.cisco.com/c/en/us/services/technical/smart-net-total-care.html?stickynav=1>

You can choose a desired service listed in *Table 39*.

**Table 39 Cisco SNTC for UCS Service (PID UCSC-C240-M5L)**

Service SKU	Service Level GSP	On Site?	Description
CON-PREM-CC240M5L	C2P	Yes	SNTC 24X7X2OS
CON-UCSD8-CC240M5L	UCSD8	Yes	UC SUPP DR 24X7X2OS*
CON-C2PL-CC240M5L	C2PL	Yes	LL 24X7X2OS**
CON-OSP-CC240M5L	C4P	Yes	SNTC 24X7X4OS
CON-UCSD7-CC240M5L	UCSD7	Yes	UCS DR 24X7X4OS*
CON-C4PL-CC240M5L	C4PL	Yes	LL 24X7X4OS**
CON-USD7L-CC240M5L	USD7L	Yes	LLUCS HW DR 24X7X4OS***
CON-OSE-CC240M5L	C4S	Yes	SNTC 8X5X4OS

**Table 39 Cisco SNTC for UCS Service (PID UCSC-C240-M5L)**

Service SKU	Service Level GSP	On Site?	Description
CON-UCSD6-CC240M5L	UCSD6	Yes	UC SUPP DR 8X5X4OS*
CON-SNCO-CC240M5L	SNCO	Yes	SNTC 8x7xNCDOS****
CON-OS-CC240M5L	CS	Yes	SNTC 8X5XNBDOS
CON-UCSD5-CC240M5L	UCSD5	Yes	UCS DR 8X5XNBDOS*
CON-S2P-CC240M5L	S2P	No	SNTC 24X7X2
CON-S2PL-CC240M5L	S2PL	No	LL 24X7X2**
CON-SNTP-CC240M5L	SNTP	No	SNTC 24X7X4
CON-SNTPL-CC240M5L	SNTPL	No	LL 24X7X4**
CON-SNTE-CC240M5L	SNTE	No	SNTC 8X5X4
CON-SNC-CC240M5L	SNC	No	SNTC 8x7xNCD****
CON-SNT-CC240M5L	SNT	No	SNTC 8X5XNBD
CON-SW-CC240M5L	SW	No	SNTC NO RMA

\*Includes Drive Retention (see [UCS Drive Retention Service, page 76](#))

\*\*Includes Local Language Support (see [Local Language Technical Support for UCS, page 77](#)) - Only available in China and Japan

\*\*\*Includes Local Language Support and Drive Retention - Only available in China and Japan

\*\*\*\*Available in China Only

## Smart Net Total Care for Cisco UCS Onsite Troubleshooting Service

An enhanced offer over traditional Smart Net Total Care which provides onsite-troubleshooting expertise to aid in the diagnostics and isolation of hardware issue within our customers' Cisco Unified Computing System (UCS) environment. It is delivered by a Cisco Certified field engineer (FE) in collaboration with remote TAC engineer and Virtual Internet working Support Engineer (VISE). You can choose a desired service listed in [Table 40](#)

**Table 40 SNTC for Cisco UCS Onsite Troubleshooting Service (PID UCSC-C240-M5L)**

Service SKU	Service Level GSP	On Site?	Description
CON-OSPT-CC240M5L	OSPT	Yes	24X7X4OS Trblshtg
CON-OSPTD-CC240M5L	OSPTD	Yes	24X7X4OS TrblshtgDR*
CON-OSPTL-CC240M5L	OSPTL	Yes	24X7X4OS TrblshtgLL**

**Table 40 (continued)SNTC for Cisco UCS Onsite Troubleshooting Service (PID UCSC-C240-M5L)**

CON-OPTLD-CC240M5L	OPTLD	Yes	24X7X4OS TrblshtgLLD***
*Includes Drive Retention (see <a href="#">UCS Drive Retention Service, page 76</a> )			
**Includes Local Language Support (see <a href="#">Local Language Technical Support for UCS, page 77</a> ) - Only available in China and Japan			
***Includes Local Language Support and Drive Retention – Only available in China and Japan			

## Solution Support for UCS

Solution Support includes both Cisco product support and solution-level support, resolving complex issues in multivendor environments, on average, 43% more quickly than product support alone. Solution Support is a critical element in data center administration, to help rapidly resolve any issue encountered, while maintaining performance, reliability, and return on investment.

This service centralizes support across your multivendor Cisco environment for both our products and solution partner products you've deployed in your ecosystem. Whether there is an issue with a Cisco or solution partner product, just call us. Our experts are the primary point of contact and own the case from first call to resolution. For more information please refer to the following url:

<http://www.cisco.com/c/en/us/services/technical/solution-support.html?stickynav=1>

You can choose a desired service listed in **Table 41**.

**Table 41 Solution Support for UCS Service (PID UCSC-C240-M5L)**

Service SKU	Service Level GSP	On Site?	Description
CON-SSC2P-CC240M5L	SSC2P	Yes	SOLN SUPP 24X7X2OS
CON-SSC4P-CC240M5L	SSC4P	Yes	SOLN SUPP 24X7X4OS
CON-SSC4S-CC240M5L	SSC4S	Yes	SOLN SUPP 8X5X4OS
CON-SSCS-CC240M5L	SSCS	Yes	SOLN SUPP 8X5XNB DOS
CON-SSDR7-CC240M5L	SSDR7	Yes	SSPT DR 24X7X4OS*
CON-SSDR5-CC240M5L	SSDR5	Yes	SSPT DR 8X5XNB DOS*
CON-SSS2P-CC240M5L	SSS2P	No	SOLN SUPP 24X7X2
CON-SSSNP-CC240M5L	SSSNP	No	SOLN SUPP 24X7X4
CON-SSSNE-CC240M5L	SSSNE	No	SOLN SUPP 8X5X4
CON-SSSNC-CC240M5L	SSSNC	No	SOLN SUPP NCD**
CON-SSSNT-CC240M5L	SSSNT	No	SOLN SUPP 8X5XNB DOS

\*Includes Drive Retention (see [UCS Drive Retention Service, page 76](#))

\*\*Available in China only

## Smart Net Total Care for UCS Hardware Only Service

For faster parts replacement than is provided with the standard Cisco Unified Computing System warranty, Cisco offers the Cisco Smart Net Total Care for UCS Hardware Only Service. You can choose from two levels of advanced onsite parts replacement coverage in as little as four hours. Smart Net Total Care for UCS Hardware Only Service provides remote access any time to Cisco support professionals who can determine if a return materials authorization (RMA) is required. You can choose a desired service listed in [Table 42](#)

**Table 42 SNTC for UCS Hardware Only Service (PID UCSC-C240-M5L)**

Service SKU	Service Level GSP	On Site?	Description
CON-UCW7-CC240M5L	UCW7	Yes	UCS HW 24X7X4OS
CON-UCWD7-CC240M5L	UCWD7	Yes	UCS HW+DR 24X7X4OS*
CON-UCW7L-CC240M5L	UCW7L	Yes	LL UCS 24X7X4OS**
CON-UWD7L-CC240M5L	UWD7L	Yes	LL UCS DR 24X7X4OS***
CON-UCW5-CC240M5L	UCW5	Yes	UCS HW 8X5XNBDOS
CON-UCWD5-CC240M5L	UCWD5	Yes	UCS HW+DR 8X5XNBDOS*

\*Includes Drive Retention (see [UCS Drive Retention Service, page 76](#))

\*\*Includes Local Language Support (see [Local Language Technical Support for UCS, page 77](#)) - Only available in China and Japan

\*\*\*Includes Local Language Support and Drive Retention - Only available in China and Japan

## Partner Support Service for UCS

Cisco Partner Support Service (PSS) is a Cisco Collaborative Services service offering that is designed for partners to deliver their own branded support and managed services to enterprise customers. Cisco PSS provides partners with access to Cisco's support infrastructure and assets to help them:

- Expand their service portfolios to support the most complex network environments
- Lower delivery costs
- Deliver services that increase customer loyalty

PSS options enable eligible Cisco partners to develop and consistently deliver high-value technical support that capitalizes on Cisco intellectual assets. This helps partners to realize higher margins and expand their practice.

PSS is available to all Cisco PSS partners.

The two Partner Unified Computing Support Options include:

- Partner Support Service for UCS
- Partner Support Service for UCS Hardware Only

PSS for UCS provides hardware and software support, including triage support for third party software, backed by Cisco technical resources and level three support. You can choose a desired service listed in [Table 43](#).

**Table 43 PSS for UCS (PID UCSC-C240-M5L)**

Service SKU	Service Level GSP	On Site?	Description
CON-PSJ8-CC240M5L	PSJ8	Yes	UCS PSS 24X7X2 OS
CON-PSJ7-CC240M5L	PSJ7	Yes	UCS PSS 24X7X4 OS
CON-PSJD7-CC240M5L	PSJD7	Yes	UCS PSS 24X7X4 DR*
CON-PSJ6-CC240M5L	PSJ6	Yes	UCS PSS 8X5X4 OS
CON-PSJD6-CC240M5L	PSJD6	Yes	UCS PSS 8X5X4 DR*
CON-PSJ4-CC240M5L	PSJ4	No	UCS SUPP PSS 24X7X2
CON-PSJ3-CC240M5L	PSJ3	No	UCS SUPP PSS 24X7X4
CON-PSJ2-CC240M5L	PSJ2	No	UCS SUPP PSS 8X5X4
CON-PSJ1-CC240M5L	PSJ1	No	UCS SUPP PSS 8X5XNBD

\*Includes Drive Retention (see [UCS Drive Retention Service, page 76](#))

## PSS for UCS Hardware Only

PSS for UCS Hardware Only provides customers with replacement parts in as little as two hours and provides remote access any time to Partner Support professionals who can determine if a return materials authorization (RMA) is required. You can choose a desired service listed in [Table 44](#)

**Table 44 PSS for UCS Hardware Only (PID UCSC-C240-M5L)**

Service SKU	Service Level GSP	On Site?	Description
CON-PSW7-CC240M5L	PSW7	Yes	UCS W PSS 24X7X4 OS
CON-PSWD7-CC240M5L	PSWD7	Yes	UCS W PSS 24X7X4 DR*
CON-PSW6-CC240M5L	PSW6	Yes	UCS W PSS 8X5X4 OS
CON-PSWD6-CC240M5L	PSWD6	Yes	UCS W PSS 8X5X4 DR*
CON-PSW4-CC240M5L	PSW4	No	UCS W PL PSS 24X7X2
CON-PSW3-CC240M5L	PSW3	No	UCS W PL PSS 24X7X4
CON-PSW2-CC240M5L	PSW2	No	UCS W PL PSS 8X5X4

\*Includes Drive Retention (see [UCS Drive Retention Service, page 76](#))

## Unified Computing Combined Support Service

Combined Services makes it easier to purchase and manage required services under one contract. SNTC services for UCS help increase the availability of your vital data center infrastructure and realize the most value from your unified computing investment. The more benefits you realize from the Cisco Unified Computing System (Cisco UCS), the more important the technology becomes to your business. These services allow you to:

- Optimize the uptime, performance, and efficiency of your UCS
- Protect your vital business applications by rapidly identifying and addressing issues
- Strengthen in-house expertise through knowledge transfer and mentoring
- Improve operational efficiency by allowing UCS experts to augment your internal staff resources
- Enhance business agility by diagnosing potential issues before they affect your operations,

You can choose a desired service listed in **Table 45**

**Table 45** Combined Support Service for UCS (PID UCSC-C240-M5L)

Service SKU	Service Level GSP	On Site?	Description
CON-NCF2P-CC240M5L	NCF2P	Yes	CMB SVC 24X7X2OS
CON-NCF4P-CC240M5L	NCF4P	Yes	CMB SVC 24X7X4OS
CON-NCF4S-CC240M5L	NCF4S	Yes	CMB SVC 8X5X4OS
CON-NCFCS-CC240M5L	NCFCS	Yes	CMB SVC 8X5XNBDOS
CON-NCF2-CC240M5L	NCF2	No	CMB SVC 24X7X2
CON-NCFP-CC240M5L	NCFP	No	CMB SVC 24X7X4
CON-NCFE-CC240M5L	NCFE	No	CMB SVC 8X5X4
CON-NCFT-CC240M5L	NCFT	No	CMB SVC 8X5XNBD
CON-NCFW-CC240M5L	NCFW	No	CMB SVC SW

## UCS Drive Retention Service

With the Cisco Unified Computing Drive Retention Service, you can obtain a new disk drive in exchange for a faulty drive without returning the faulty drive.

Sophisticated data recovery techniques have made classified, proprietary, and confidential information vulnerable, even on malfunctioning disk drives. The Drive Retention service enables you to retain your drives and ensures that the sensitive data on those drives is not compromised, which reduces the risk of any potential liabilities. This service also enables you to comply with regulatory, local, and federal requirements.

If your company has a need to control confidential, classified, sensitive, or proprietary data, you might want to consider one of the Drive Retention Services listed in the above tables (where available)



**NOTE:** Cisco does not offer a certified drive destruction service as part of this service.

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## Local Language Technical Support for UCS

Where available, and subject to an additional fee, local language support for calls on all assigned severity levels may be available for specific product(s) - see tables above.

For a complete listing of available services for Cisco Unified Computing System, see the following

[http://www.cisco.com/en/US/products/ps10312/serv\\_group\\_home.html](http://www.cisco.com/en/US/products/ps10312/serv_group_home.html)

**Table 46** Drive Retention Service Options

Service Description	Service Program Name	Service Level GSP	Service Level	Product ID (PID)
SMARTnet for UCS Service with Drive Retention	UCS DR	UCSD7	24x7x4 Onsite	CON-UCSD7-C240M5LF
SMARTnet for UCS HW ONLY+Drive Retention	UCS HW+DR	UCSD5 UCSD7	8x5xNBD Onsite 24x7x4 Onsite	CON-UCWD5-C240M5LF CON-UCWD7-C240M5LF

For more service and support information, see the following URL:

[http://www.cisco.com/en/US/services/ps2961/ps10312/Unified\\_Computing\\_Services\\_Overview.pdf](http://www.cisco.com/en/US/services/ps2961/ps10312/Unified_Computing_Services_Overview.pdf)

For a complete listing of available services for Cisco Unified Computing System, see this URL:

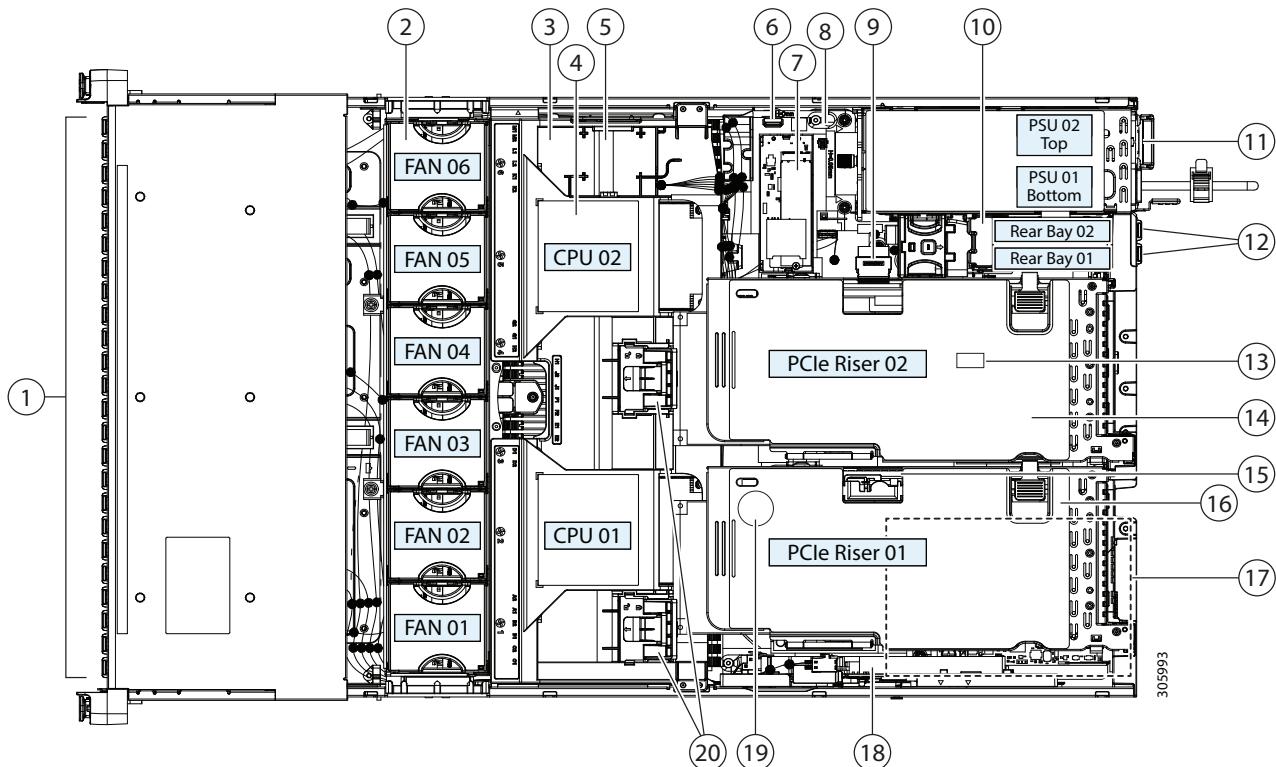
[http://www.cisco.com/en/US/products/ps10312/serv\\_group\\_home.html](http://www.cisco.com/en/US/products/ps10312/serv_group_home.html)

# SUPPLEMENTAL MATERIAL

## Chassis

An internal view of the C240 M5 chassis with the top cover removed is shown in [Figure 5](#).

**Figure 5** C240 M5 LFF With Top Cover Off

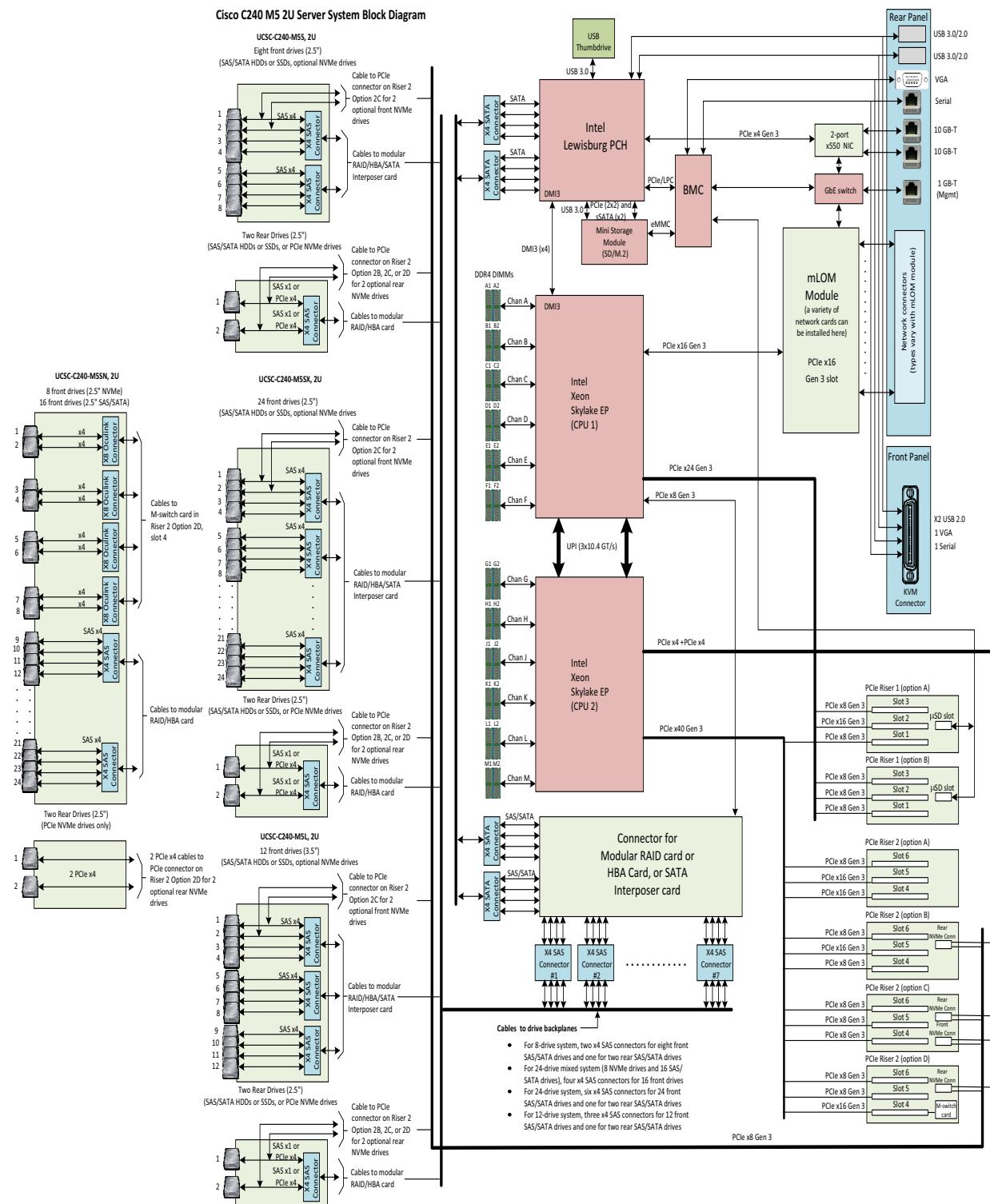


1	Front-facing drive bays.	11	Power supplies (hot-swappable, redundant as 1+1).
2	Cooling Fan modules (six, hot-swappable)	12	Rear 2.5-inch drive bays
3	DIMM sockets on motherboard (up to 12 per CPU; total 24).  Not visible under air baffle in this view.	13	Trusted platform module (TPM) socket on motherboard (not visible in this view)

4	CPUs and heatsinks (one or two). Not visible under air baffle in this view	14	PCIe riser 2 (PCIe slots 4, 5, 6), with the following options: <ul style="list-style-type: none"><li>■ 2A—Slots 4 (x8), 5 (x16), and 6 (x16).</li><li>■ 2B—With slots 4 (x8), 5 (x16), and 6 (x8); includes one PCIe cable connector for rear NVMe SSDs.</li><li>■ 2C—With slots 4 (x8), 5 (x8), and 6 (x8); includes one PCIe cable connector for rear-facing NVMe SSDs, plus one PCIe cable connector for front-facing NVMe SSDs.</li><li>■ 2D - With slots 4 (x16), 5 (x8), and 6 (x8); includes one PCIe cable connector for rear NVMe SSDs.</li></ul>
5	Supercap power module (RAID backup battery) mounting location on air baffle	15	Micro-SD card socket on PCIe riser 1
6	Internal, vertical USB 3.0 port on motherboard	16	PCIe riser 1 (PCIe slot 1, 2, 3), with the following options: <ul style="list-style-type: none"><li>■ 1A—Slots 1 (x8), 2 (x16), 3 (x8); slot 2 requires CPU2.</li><li>■ 1B—Slots 1 (x8), 2 (x8), 3 (x8); all slots supported by CPU1.</li></ul>
7	Mini storage module socket Supports either an SD card carrier with two SD card slots; or an M.2 SSD carrier with two slots for either two M.2 SATA or two M.2 NVMe SSDs.	17	Modular LOM (mLOM) card bay on chassis floor (x16 PCIe lane), not visible in this view
8	Chassis intrusion switch (optional)	18	Cisco modular RAID controller PCIe slot (dedicated slot)
9	PCIe cable connectors for NVMe SSDs, only on these PCIe riser 2 options: <ul style="list-style-type: none"><li>■ 2B: One connector for two rear NVMe SSDs</li><li>■ 2C: One connector for two rear NVMe SSDs plus one connector for two front-facing NVMe SSDs</li><li>■ 2D: One connector for rear NVMe SSDs. (This riser version is available only in the NVMe-optimized server UCSC-C240-M5SN).</li></ul>	19	RTC battery on motherboard (not visible in this view)
10	Rear-drive backplane assembly	20	Securing clips for GPU cards on air baffle

## Block Diagram

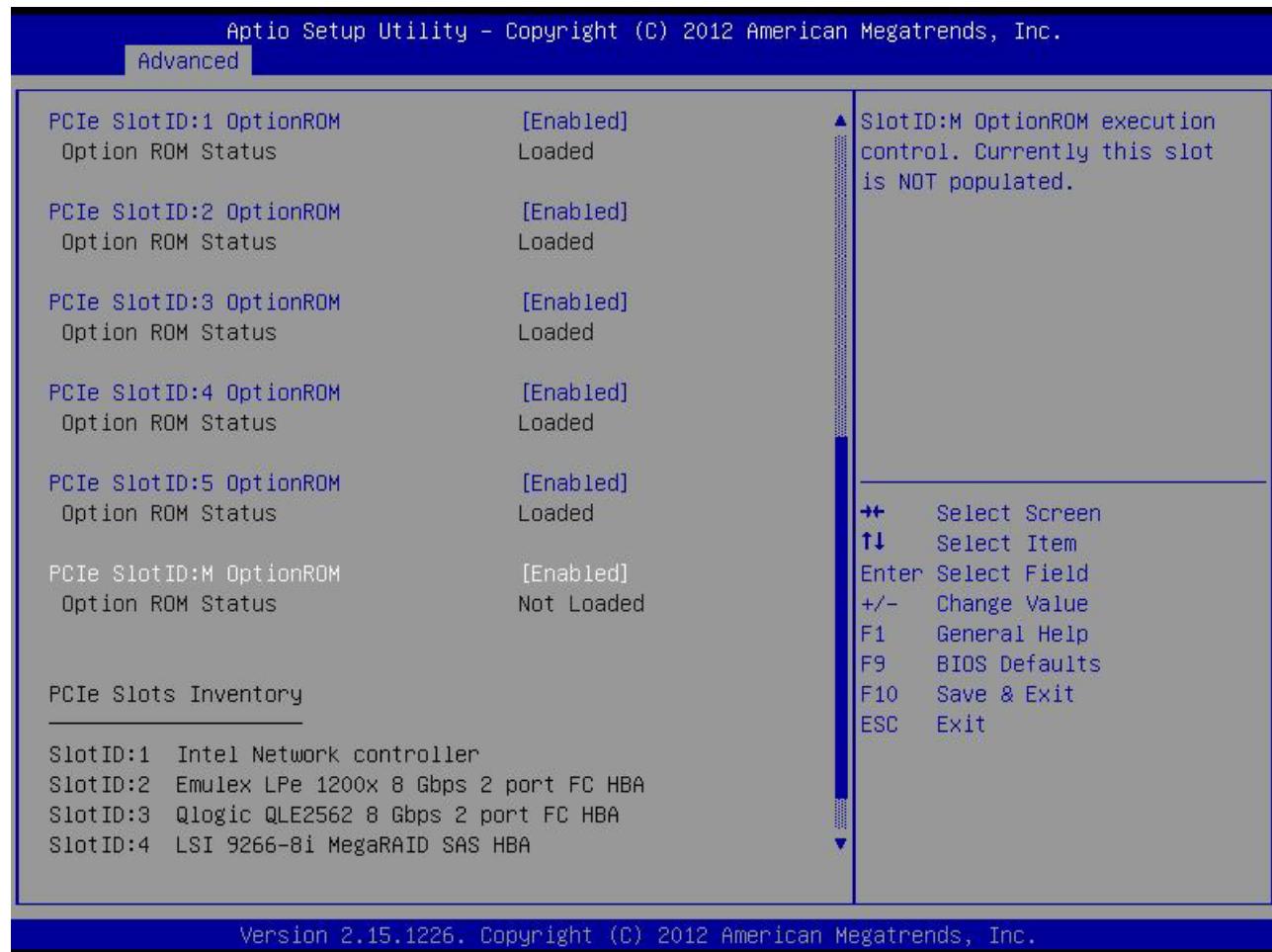
**Figure 6 C240 M5 Block Diagram**



## RAID Option ROM (OPROM) Settings

The server contains an Option ROM (OPROM) for the PCIe slots. The server has a finite amount of option ROM with which it can boot up devices. Go into the BIOS and disable the OPROM on the PCIe slots not used for booting so that resources are available for the slots that are used for booting. An example OPROM BIOS screen is shown in *Figure 7*.

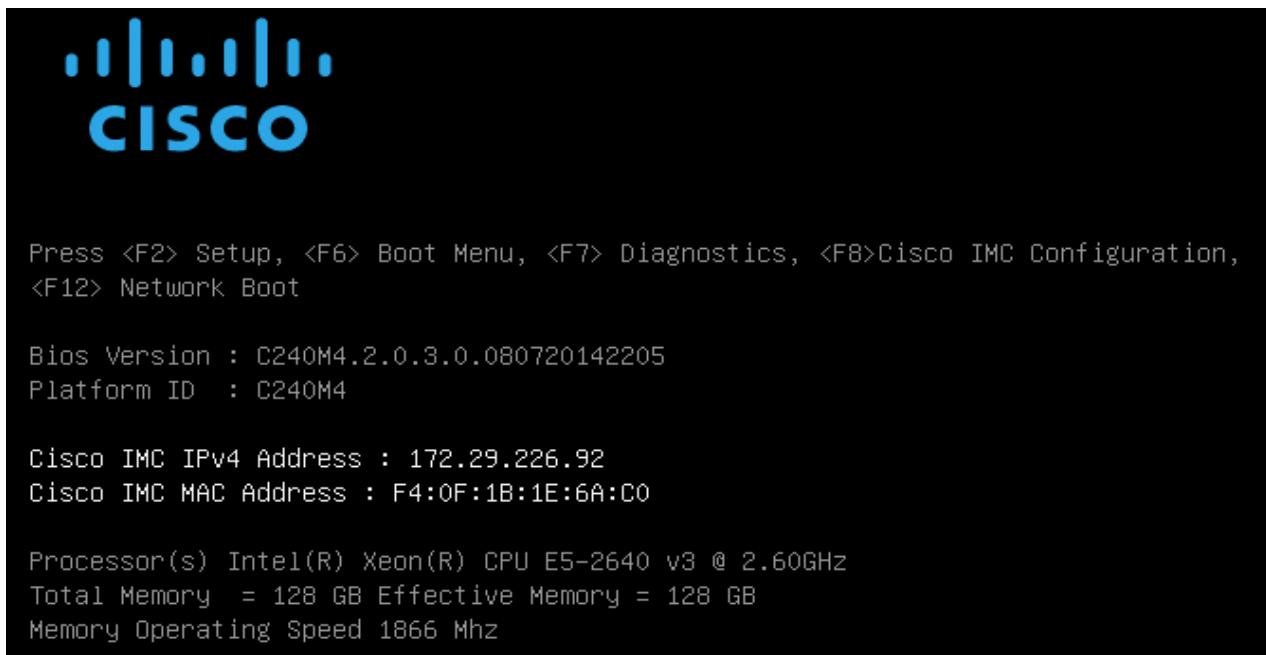
**Figure 7** Example BIOS Screen for OPROM



## To Create a RAID Group

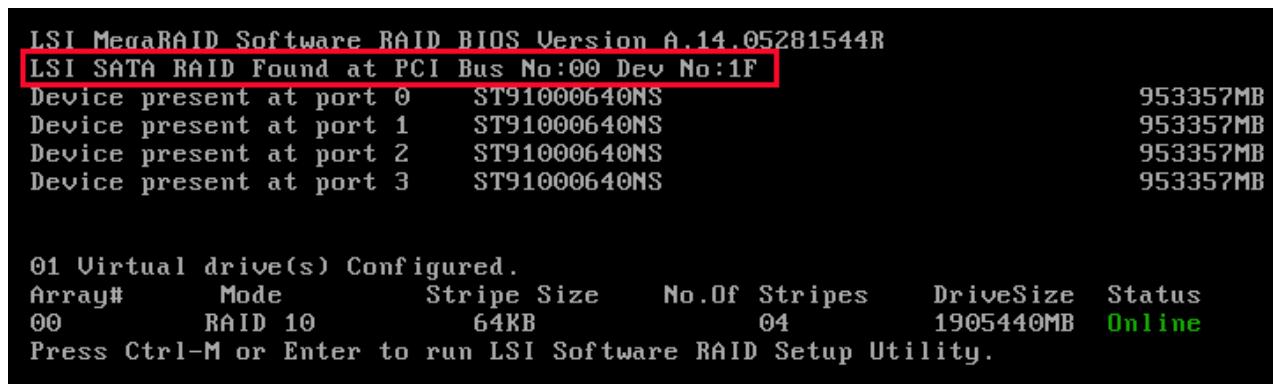
- (1) While the server is booting, wait for the prompt and press function key F2 as shown in [Figure 8](#).

**Figure 8** Function Key F2 Prompt



In a few seconds, you will see the screen that allows you to set up a RAID group for the primary SATA controller (see [Figure 9](#)).

**Figure 9** Screen to Configure Primary SATA RAID Group



- (2) Press Ctrl+M to start the RAID group creation process for the primary SATA controller (for drives 1-4, as shown in [Figure 10 on page 83](#)). Or, do nothing and wait for the next screen, which allows you to create a RAID group for the secondary SATA (sSATA) controller see [Figure 10](#))

Figure 10 Screen to Configure Secondary SATA (sSATA) RAID Group

```

Device present at port 3      ST91000640NS          953357MB

01 Virtual drive(s) Configured.
Array#    Mode      Stripe Size   No.Of Stripes   DriveSize  Status
00        RAID 10    64KB           04            1905440MB  Online
Press Ctrl-M or Enter to run LSI Software RAID Setup Utility.

LSI MegaRAID Software RAID BIOS Version A.14.05281544R
LSI sSATA RAID Found at PCI Bus No:00 Dev No:11
Device present at port 0      INTEL SSDSC2BA200G3      190270MB
Device present at port 1      INTEL SSDSC2BA200G3      190270MB
Device present at port 2      INTEL SSDSC2BB120G4      113961MB
Device present at port 3      Micron_P400e-MTFDDAK100MAR  94884MB

04 Virtual drive(s) Configured.
Array#    Mode      Stripe Size   No.Of Stripes   DriveSize  Status
00        RAID 0     64KB           01            189781MB  Online
01        RAID 0     64KB           01            189781MB  Online
02        RAID 0     64KB           01            113487MB  Online
03        RAID 0     64KB           01            94413MB   Online
Press Ctrl-M or Enter to run LSI Software RAID Setup Utility.

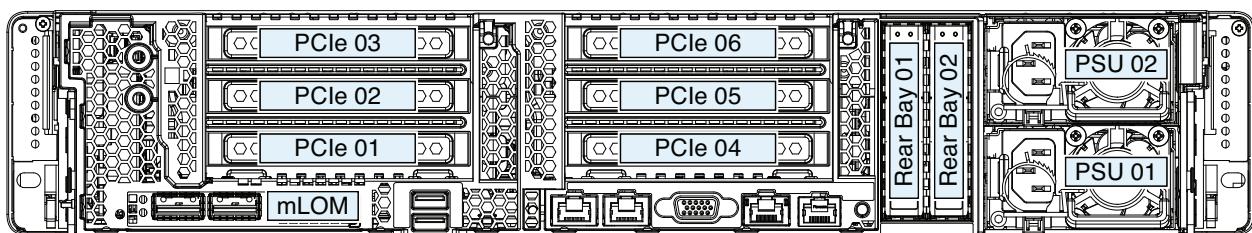
```

- (3) Press Ctrl+M to start the RAID group creation process for the secondary SATA (sSATA) controller (for drives 5-8, as shown in [Figure 10 on page 83](#)).

## Riser Card Configuration and Options

The two riser cards are shown in [Figure 11](#).

Figure 11 Riser Card 1 (slots 1, 2, and 3) and Riser Card 2 (slots 4, 5, and 6)

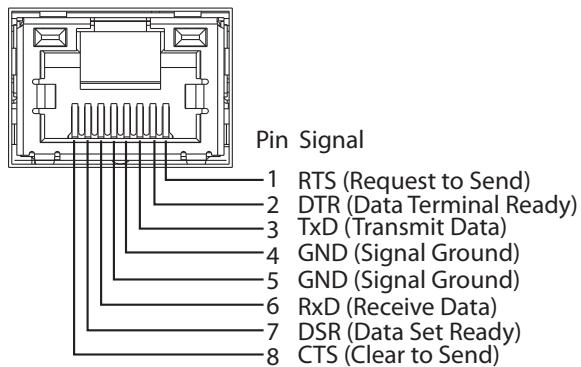


## Serial Port Details

The pinout details of the rear RJ-45 serial port connector are shown in [Figure 12](#).

**Figure 12** Serial Port (Female RJ-45 Connector) Pinout

### Serial Port (RJ-45 Female Connector)



## KVM CABLE

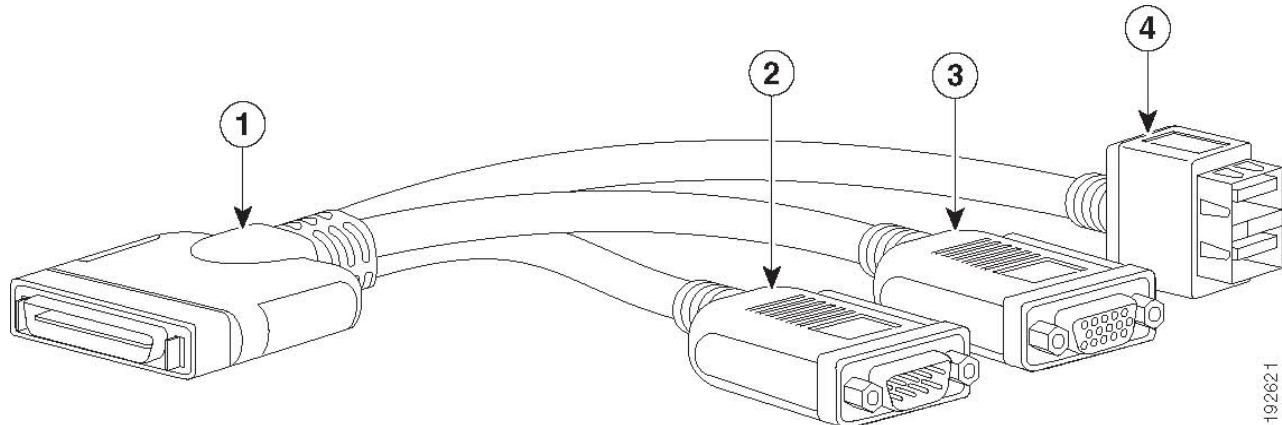
The KVM cable provides a connection into the server, providing a DB9 serial connector, a VGA connector for a monitor, and dual USB 2.0 ports for a keyboard and mouse. With this cable, you can create a direct connection to the operating system and the BIOS running on the server.

The KVM cable ordering information is listed in [Table 47](#).

**Table 47 KVM Cable**

Product ID (PID)	PID Description
N20-BKVM=	KVM cable for server console port

**Figure 13 KVM Cable**



192621

1	Connector (to server front panel)	3	VGA connector (for a monitor)
2	DB-9 serial connector	4	Two-port USB 2.0 connector (for a mouse and keyboard)

## SPARE PARTS

This section lists the upgrade and service-related parts for the UCS C240 M5 server. Some of these parts are configured with every server.

**Table 48 Spare Parts**

Product ID (PID)	PID Description
<b>KVM Cable</b>	
N20-BKVM=	KVM local IO cable for UCS servers console port
<b>CPU Accessories</b>	
UCSC-HS-C240M5=	Heat sink for UCS C240 M5 rack servers 150W CPUs & below
UCSC-HS2-C240M5=	Heat sink for UCS C240 M5 rack servers CPUs above 150W
UCS-CPU-TIM=	Single CPU thermal interface material syringe for M5 server HS seal <sup>1</sup>
UCSX-HSCK=	UCS Processor Heat Sink Cleaning Kit (when replacing a CPU) <sup>2</sup>
UCS-CPUAT=	CPU Assembly Tool for M5 Servers
UCS-M5-CPU-CAR=	UCS M5 CPU Carrier
<b>M.2 SATA SSD and Raid controller</b>	
UCS-MSTOR-M2=	M.2 module (holds up to 2 M.2 SATA drives)
UCS-M2-HWRAID =	Cisco Boot optimized M.2 RAID controller (holds up to 2 M.2 SATA SSDs)
UCS-M2-240GB=	240 GB M.2 SATA SSD
UCS-M2-960GB=	960 GB M.2 SATA SSD
UCS-M2-I240GB=	240 GB M.2 SATA SSD
UCS-M2-I480GB=	480 GB M.2 SATA SSD
<b>Memory</b>	
UCS-ML-X64G4RT-H=	64 GB DDR4-2933-MHz LRDIMM/4Rx4 (8Gb) 1.2v
UCS-MR-X64G2RT-H=	64 GB DDR4-2933-MHz RDIMM/2Rx4 (16Gb) 1.2v
<b>Drives (Front facing)</b>	
<b>HDDs</b>	
HDDs (10K RPM)	
UCS-HY18TB10K4KN=	1.8 TB 12G SAS 10K RPM LFF HDD (4K)
UCS-HY12TB10K12N=	1.2 TB 12G SAS 10K RPM LFF HDD
<b>HDDs (7.2K RPM)</b>	

**Table 48 Spare Parts**

<b>Product ID (PID)</b>	<b>PID Description</b>
UCS-HD2T7KL12N=	2 TB 12G SAS 7.2K RPM LFF HDD
UCS-HD4T7KL12N=	4 TB 12G SAS 7.2K RPM LFF HDD
UCS-HD6T7KL4KN=	6 TB 12G SAS 7.2K RPM LFF HDD (4K)
UCS-HD8T7K4KAN=	8 TB 12G SAS 7.2K RPM LFF HDD (4K)
UCS-HD12T7KL4KN=	12 TB 12G SAS 7.2K RPM LFF HDD (4K)
UCS-HD14T7KL4KN=	14 TB 12G SAS 7.2K RPM LFF HDD(4K)
UCS-HD10T7KLEM	10 TB 12G SAS 7.2K RPM LFF HDD (512e)
UCS-HD8T7K6GAN=	8 TB 6G SATA 7.2K RPM LFF HDD (512e)
UCS-HD10T7K6GAN=	10TB 6G SATA 7.2K RPM LFF HDD (512e)
UCS-HD12T7KL6GN=	12 TB 6G SATA 7.2K RPM LFF HDD (512e)
<b>SAS/SATA SSDs</b>	
<b>Enterprise Performance SSDs (High endurance, supports up to 10X or 3X DWPD (drive writes per day))</b>	
<b>SAS SSDs</b>	
UCS-HY800GK3X-EP=	800GB 3.5in Enterprise Performance 12G SAS SSD(3X endurance)
UCS-HY16TK3X-EP=	1.6TB 3.5in Enterprise Performance 12G SAS SSD(3X endurance)
<b>SATA SSDs</b>	
UCS-HY480G63X-EP=	480GB 3.5in Enterprise performance 6G SATA SSD(3X endurance) (Intel S4600/S4610)
UCS-HY960G63X-EP=	960GB 3.5in Enterprise performance 6G SATA SSD(3X endurance) (Intel S4600/S4610)
UCS-HY19T63X-EP=	1.9TB 3.5in Enterprise performance 6G SATA SSD(3X endurance) (Intel S4600/S4610)
<b>Enterprise Value SATA SSDs (Low endurance, supports up to 1X DWPD (drive writes per day))</b>	
UCS-HY240G61X-EV=	240 GB 2.5 inch Enterprise Value 6G SATA SSD (Samsung PM863a/PM883)
UCS-HY480G61X-EV=	480 GB 2.5 inch Enterprise Value 6G SATA SSD (Intel 3520)
UCS-HY960G61X-EV=	960 GB 2.5 inch Enterprise Value 6G SATA SSD (Samsung PM863a/PM883)
UCS-HY19TM1X-EV=	1.9TB 3.5 inch Enterprise Value 6G SATA SSD
<b>Self-Encrypted Drives (SED)</b>	

**Table 48 Spare Parts**

Product ID (PID)	PID Description
<b>HDDs</b>	
UCS-HY600G15NK9=	600 GB 12G SAS 15K RPM LFF HDD (SED)
UCS-HD4T12GNK9=	4 TB 7.2k RPM LFF HDD (SED)
UCS-HD6T12GANK9=	6 TB 7.2k RPM LFF HDD (4K format, SED)
UCS-HD12T7KL4NK9=	12 TB 7.2 K RPM LFF HDD (4K format SED)
<b>PCIe/NVMe LFF 2.5" drives</b>	
UCSC-NVMEHY-H800=	800 GB HGST SN200 NVMe High Perf. High Endurance (HGST)
UCS-NVMEHY-W1600=	1.6TB 3.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance
UCS-NVMEHY-W3200 =	3.2TB 3.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance
<b>Drives (Rear Facing)</b>	
<b>HDDs</b>	
<b>HDDs (15K RPM)</b>	
UCS-HD300G15K12N=	300 GB 12G SAS 15K RPM SFF HDD
UCS-HD600G15K12N=	600 GB 12G SAS 15K RPM SFF HDD
UCS-HD900G15K12N=	900 GB 12G SAS 15K RPM SFF HDD
<b>HDDs (10K RPM)</b>	
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)
<b>HDDs (7.2K RPM)</b>	
UCS-HD1T7K12N=	1 TB 12G SAS 7.2K RPM SFF HDD
UCS-HD2T7K12N=	2 TB 12G SAS 7.2K RPM SFF HDD
UCS-HD1T7K6GAN=	1 TB 6G SATA 7.2K RPM SFF HDD
<b>SAS/SATA SSDs</b>	
<b>Enterprise Performance SSDs (High endurance, supports up to 10X or 3X DWPD (drive writes per day))</b>	
UCS-SD960G63X-EP=	960GB 2.5in Enterprise performance 6GSATA SSD(3X endurance)

**Table 48 Spare Parts**

<b>Product ID (PID)</b>	<b>PID Description</b>
UCS-SD19T63X-EP=	1.9TB 2.5in Enterprise performance 6GSATA SSD(3X endurance)
UCS-SD480G63X-EP=	480GB 2.5 inch Enterprise performance 6GSATA SSD(3X endurance)
UCS-SD19TM3X-EP=	1.9TB 2.5in Enterprise performance 6GSATA SSD(3X endurance)
UCS-SD480GM3X-EP=	480GB 2.5in Enterprise Performance 6GSATA SSD(3X endurance)
UCS-SD960GM3X-EP=	960GB 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)
UCS-SD800GS3X-EP=	800GB 2.5in Enterprise Performance 12G SAS SSD(3X endurance)
UCS-SD16TS3X-EP=	1.6TB 2.5in Enterprise Performance 12G SAS SSD(3X endurance)
UCS-SD32TS3X-EP=	3.2TB 2.5in Enterprise Performance 12G SAS SSD(3X endurance)
<b>Enterprise Value SSDs (Low endurance, supports up to 1X DWPD (drive writes per day))</b>	
UCS-SD480G6I1X-EV=	480GB 2.5 inch Enterprise Value 6G SATA SSD (Intel S4500/S4150)
UCS-SD960G6I1X-EV=	960GB 2.5 inch Enterprise Value 6G SATA SSD (Intel S4500/S4150)
UCS-SD38T6I1X-EV=	3.8TB 2.5 inch Enterprise Value 6G SATA SSD (Intel S4500/S4150)
UCS-SD120GM1X-EV=	120 GB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)
UCS-SD240GM1X-EV=	240 GB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)
UCS-SD480GM1X-EV=	480 GB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)
UCS-SD960G61X-EV=	960 GB 2.5 inch Enterprise Value 6G SATA SSD (Samsung PM863A/PM883)
UCS-SD960GM1X-EV=	960 GB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)
UCS-SD16TM1X-EV=	1.6 TB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)
UCS-SD19T61X-EV=	1.9 TB 2.5 inch Enterprise Value 6G SATA SSD (Samsung PM863A/PM883)
UCS-SD19TM1X-EV=	1.9 TB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)
UCS-SD38T61X-EV =	3.8 TB 2.5 inch Enterprise Value 6G SATA SSD (Samsung PM863A/PM883)
UCS-SD38TM1X-EV =	3.8 TB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)
UCS-SD76T61X-EV=	7.6 TB 2.5 inch Enterprise Value 6G SATA SSD
UCS-SD76TM1X-EV=	7.6 TB 2.5 inch Enterprise Value 6G SATA SSD (Micron 5100/5200)

**Table 48 Spare Parts**

Product ID (PID)	PID Description
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-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
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-SD19TS1X-EV=	1.9TB 2.5 inch Enterprise Value 12G SAS SSD
UCS-SD38TS1X-EV=	3.8TB 2.5 inch Enterprise Value 12G SAS SSD
<b>Self-Encrypted Drives (SED)</b>	
<b>SAS</b>	
UCS-HD600G15NK9=	600 GB 12G SAS 15K RPM SFF HDD (SED) <b>FIPS140-2</b>
UCS-HD24T10NK9=	2.4 TB 12G SAS 10K RPM SFF HDD (4K) (SED) <b>FIPS140-2</b>
UCS-HD18T10NK9=	1.8 TB 12G SAS 10K RPM SFF HDD (4K format, SED) <b>FIPS140-2</b>
UCS-HD12T10NK9=	1.2 TB 12G SAS 10K RPM SFF HDD (SED) <b>FIPS140-2</b>
UCS-SD800GBKNK9=	800GB Enterprise Performance SAS SSD (3X DWPD, SED) <b>FIPS140-2</b>
UCS-SD960GBKNK9=	960GB Enterprise Value SAS SSD (1X DWPD, SED) <b>FIPS140-2</b>
UCS-SD38TBKNK9=	3.8TB Enterprise Value SAS SSD (1X DWPD, SED) <b>FIPS140-2</b>
UCS-SD16TBKNK9=	1.6TB Enterprise performance SAS SSD (3X DWPD, SED) <b>FIPS140-2</b>
UCS-SD76TBKNK9=	7.6TB Enterprise value SAS SSD (1 DWPD, SED-FIPS) <b>FIPS140-2</b>
<b>SATA</b>	
UCS-SD960GBM2NK9=	960GB Enterprise value SATA SSD (1X, SED) <b>Non FIPS</b>
UCS-SD38TBEM2NK9=	3.8TB Enterprise value SATA SSD (1X, SED) <b>Non FIPS</b>
UCS-SD76TBEM2NK9=	7.6 TB Enterprise value SATA SSD (1X, SED) <b>Non FIPS</b>
UCS-SD19TBEM2NK9=	1.9TB Enterprise value SATA SSD (1X, SED) <b>Non FIPS</b>
<b>PCIe/NVMe LFF (2.5-inch) drives<sup>2</sup></b>	
UCSC-NVMEHW-I8000=	Cisco 2.5" U.2 8TB Intel P4510 NVMe High Perf. Value Endurance

**Table 48 Spare Parts**

<b>Product ID (PID)</b>	<b>PID Description</b>
UCSC-NVMEXPB-I375=	375GB 2.5in Intel Optane NVMe Extreme Performance SSD
UCSC-NVMEXP-I750=	750GB 2.5in Intel Optane NVMe Extreme Perf
UCSC-NVME2H-I1000=	Cisco 2.5" U.2 1.0 TB Intel P4510 NVMe High Perf. Value Endu
UCSC-NVME2H-I1600=	Cisco 2.5in U.2 1.6TB Intel P4610 NVMe High Perf. High Endurance
UCSC-NVME2H-I3200=	Cisco 2.5in U.2 3.2TB Intel P4610 NVMe High Perf. High Endurance
UCSC-NVME2H-I4000=	Cisco 2.5in U.2 4.0TB Intel P4510 NVMe High Perf. Value Endurance
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-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
UCSC-NVME2H-I2TBV=	Cisco 2.5" U.2 2.0TB Intel P4510 NVMe High Perf. Value Endu
UCS-NVMM6-W1600=	1.6TB 2.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance
UCS-NVMM6-W3200=	3.2TB 2.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance
UCS-NVMM6-W6400=	6.4TB 2.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance
UCS-NVMM6-W7680 =	7.6TB 2.5in U.2 WD SN840 NVMe Extreme Perf. Value Endurance
UCS-NVMM6-W15300=	15.3TB 2.5in U.2 WD SN840 NVMe Extreme Perf. Value Endurance
<b>NVME cable</b>	
CBL-NVME-C240LFF=	C240 M5 Front NVMe cable (1) LFF
UCSC-RNVME-240M5=	C240 M5 Rear NVMe CBL(1) kit, Rear NVMe CBL, backplane SFF&LFF
<b>RAID Controllers</b>	
UCSC-9400-8E=	Cisco 9400-8E 12G SAS HBA for external JBOD attach
UCSC-RSAS-240M5X=	C240 Rear UCS-RAID-M5HD SAS缆(1)kitinclfan,bkpln
<b>Modular LAN on Motherboard (mLOM)</b>	

**Table 48 Spare Parts**

<b>Product ID (PID)</b>	<b>PID Description</b>
UCSC-MLOM-C100-04=	Cisco UCS VIC 1497 Dual Port 40/100G QSFP28 CNA mLOM
UCSC-MLOM-C25Q-04=	Cisco UCS VIC 1457 Quad Port 10/25G SFP28 mLOM
UCSC-MLOM-C40Q-03=	Cisco UCS VIC 1387 Dual Port 40Gb QSFP+ CNA
UCSC-MLOM-IRJ45=	Intel i350 Quad Port 1GBase-T NIC
<b>Converged Network Adapters (CNAs)</b>	
UCSC-PCIE-C100-04=	Cisco UCS VIC 1495 Dual Port 40/100G QSFP28 CNA PCIe
UCSC-PCIE-C40Q-03=	Cisco UCS VIC 1385 Dual Port 40Gb QSFP+ CNA w/RDMA
UCSC-PCIE-C25Q-04=	Cisco UCS VIC 1455 Quad Port 10/25G SFP28 CNA PCIe
<b>Network Interface Cards (NICs)</b>	
<b>1 Gb NICs</b>	
UCSC-PCIE-IRJ45=	Intel i350 Quad Port 1GBase-T NIC
<b>10 Gb NICs</b>	
N2XX-AIPCI01=	Intel X520 Dual Port 10Gb SFP+ NIC
UCSC-PCIE-ID10GC=	Intel X550-T2 Dual Port 10GBase-T NIC
UCSC-PCIE-ID10GF=	Intel X710-DA2 Dual Port 10Gb SFP+ NIC
UCSC-PCIE-IQ10GF=	Intel X710 Quad Port 10Gb SFP+ NIC
UCSC-PCIE-IQ10GC=	Intel X710 Quad Port 10GBase-T NIC
<b>25 Gb NICs</b>	
UCSC-PCIE-QD25GF=	Qlogic QL41212H Dual Port 25Gb NIC
UCSC-PCIE-ID25GF=	Intel XXV710 Dual Port 25Gb SFP28 NIC
UCSC-P-M4D25GF=	Mellanox MCX4121A-ACAT dual port 10/25G SFP28 NIC
<b>40 Gb NICs</b>	
UCSC-PCIE-QD40GF=	Qlogic QL45412H Dual Port 40Gb NIC
UCSC-PCIE-ID40GF=	Intel XL710 Dual Port 40Gb QSFP+ NIC
<b>100 Gb NICs</b>	
UCSC-PCIE-QS100GF=	Qlogic QLE45611HLCU single port 100G NIC
<b>Host Bus Adapters (HBAs)</b>	
UCSC-PCIE-QD16GF=	Qlogic QLE2692 Dual Port 16G Fibre Channel HBA
UCSC-PCIE-BD16GF=	Emulex LPe31002 Dual Port 16G Fibre Channel HBA

**Table 48 Spare Parts**

<b>Product ID (PID)</b>	<b>PID Description</b>
UCSC-PCIE-QD32GF=	Qlogic QLE2742 Dual Port 32G Fibre Channel HBA
UCSC-PCIE-BS32GF=	Emulex LPe32000-M2 Single Port 32G Fibre Channel HBA
UCSC-PCIE-BD32GF=	Emulex LPe32002-M2 Dual Port 32G Fibre Channel HBA
<b>UCS NVMe/PCIe Add in Cards</b>	
UCSC-NVME-H76801=	Cisco HHHL AIC 7.7TB HGST SN260 NVMeExtreme Performance Value Endurance
<b>Other</b>	
UCS-P40CBL-C240M5=	C240 M5 NVIDIA P40 Cable / M60
UCS-P100CBL-240M5=	C240 M5 NVIDIA P100 / V100 / Cable
UCS-M10CBL-C240M5=	C240 M5 NVIDIA M10 Cable
CBL-SC-MR12GM52=	Super Cap cable for UCSC-RAID-M5 on C240 M5 Servers
UCSC-SCAP-M5=	Super Cap for Cisco 12G Modular RAID controller
PACK-QSFP-SFP=	Packaging for QSFP 40G and SFP 10G
<b>SD Cards</b>	
UCS-SD-32G-S=	32 GB SD Card for UCS servers
UCS-SD-64G-S=	64 GB SD Card for UCS servers
UCS-SD-128G=	128GB SD Card for UCS servers
<b>GPU PCIe Cards</b>	
UCSC-GPU-P4 =	NVIDIA P4 8GB
UCSC-GPU-T4-16 =	NVIDIA T4 16GB
UCSC-GPU-M10 =	NVIDIA M10
UCSC-GPU-M60 =	NVIDIA M60
<b>Power Supply</b>	
UCSC-PSU1-770W=	770W AC power supply for C-Series Servers Platinum
UCSC-PSU1-1050W=	1050W AC power supply for C-Series servers Platinum
UCSC-PSUV2-1050DC=	1050W DC power supply for C-Series servers Platinum
UCSC-PSU1-1600W=	1600W AC power supply for C-Series servers Platinum
UCSC-PSU1-1050ELV =	1050W AC Power Supply C-Series Enhanced Low Line Platinum
UCSC-PSU-M5BLK=	Power Supply Blanking Panel for M5 servers Platinum

**Table 48 Spare Parts**

<b>Product ID (PID)</b>	<b>PID Description</b>
UCSC-BBLKD-L2=	C-Series M5 LFF drive blanking panel Platinum
<b>Power Cables</b>	
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
CAB-C13-C14-IN=	Power Cord Jumper,C13-C14 Connectors,1.4 Meter Length, India
CAB-C13-C14-3M-IN=	Power Cord Jumper, C13-C14 Connectors, 3 Meter Length, India
<b>CMA</b>	
UCSC-CMA-M5=	Reversible CMA for C240 M5 rack servers
<b>USB Drive</b>	
UCS-USBFLSHB-16GB=	UCS Servers 16 GB Flash USB Drive (optional)

**Table 48 Spare Parts**

Product ID (PID)	PID Description
<b>TPM</b>	
UCSX-TPM2-001=	Trusted Platform Module 1.2 for UCS Servers
UCSX-TPM2-002=	Trusted Platform Module 2.0 for UCS servers
UCSC-INT-SW01=	C220 M5 and C240 M5 Chassis Intrusion Switch
<b>Bezel</b>	
UCSC-BZL-C240M5=	C240 M5 Security Bezel
<b>Software/Firmware</b>	
<b>IMC Supervisor</b>	
CIMC-SUP-BASE-K9=	IMC Supervisor One-time Site Installation License
CIMC-SUP-B01=	IMC Supervisor-Branch Mgt SW for C-Series & E-Series up to 100 Svrs
CIMC-SUP-B02=	IMC Supervisor- Branch Mgt SW for C & E-Series up to 250 Svrs
CIMC-SUP-B10=	IMC Supervisor- Branch Mgt SW for C & E-Series up to 1K Svrs
CIMC-SUP-B25=	IMC Supervisor Branch Mgt SW for C & E-Series 25 Svrs
CIMC-SUP-A01=	IMC Supervisor Adv-Branch Mgt SW for C & E-Series 100 Svrs
CIMC-SUP-A02=	IMC Supervisor Adv-Branch Mgt SW for C & E-Series 250 Svrs
CIMC-SUP-A10=	IMC Supervisor Adv-Branch Mgt SW for C & E-Series 1000 Svrs
CIMC-SUP-A25=	IMC Supervisor Adv-Branch Mgt SW for C & E-Series 250 Svrs
EVAL-CIMC-SUP=	EVAL: IMC Supervisor-Branch Mgt SW for C/E-Series - 50 Svrs
EVAL-CIMC-SUP-BAS=	EVAL: IMC Supervisor One-time Site Installation License
<b>UCS Multi-Domain Manager</b>	
UCS-MDMGR-1S=	UCS Central Per Server License  NOTE: IF you must order quantity greater than 1 of UCS-MDMGR-1S, you need to reference the UCS Central Per Server Data Sheet to order the standalone PIDs: UCS-MDMGR-LIC= or UCS-MDMGR-1DMN=
<b>VMware vCenter</b>	
VMW-VCS-STD-1A=	VMware vCenter 7 Server Standard, 1 yr support require
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-FND-1A=	VMware vCenter 7 Server Foundation (4 Host), 1 yr supp reqd
VMW-VCS-FND-3A=	VMware vCenter 7 Server Foundation (4 Host), 3 yr supp reqd

**Table 48 Spare Parts**

<b>Product ID (PID)</b>	<b>PID Description</b>
VMW-VCS-FND-5A=	VMware vCenter 7 Server Foundation (4 Host), 5 yr supp reqd
<b>Red Hat</b>	
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-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-2S-SFS-1S=	RHEL Scalable File System (1-2 CPU); Premium 1-yr SnS
RHEL-2S2V-5A=	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 5-Yr Support Req
RHEL-2S-HA-1A=	RHEL High Availability (1-2 CPU); 1-Yr Support Reqd
RHEL-2S-HA-3A=	RHEL High Availability (1-2 CPU); 3-Yr Support Reqd
RHEL-2S-HA-5A=	RHEL High Availability (1-2 CPU); 5-Yr Support Reqd
RHEL-2S-RS-1A=	RHEL Resilent Storage (1-2 CPU); Premium 1-yr SnS Reqd
RHEL-2S-RS-3A=	RHEL Resilient Storage (1-2 CPU); Premium 3-yr SnS Reqd
RHEL-2S-RS-5A=	RHEL Resilient Storage (1-2 CPU); Premium 5-yr SnS Reqd
<b>Red Hat SAP</b>	
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
RHEL-SAPH-2S2V-1S=	RHEL for SAP Hana (1-2 CPU, 1-2 VN); Prem 1-Yr SnS
RHEL-SAPH-2S2V-3S=	RHEL for SAP Hana (1-2 CPU, 1-2 VN); Prem 3-Yr SnS
RHEL-SAPHAP2S-1S=	RHEL for SAP Hana,HA,SmartM (1-2 CPU &VN); Prem 1Yr SnS Reqd
RHEL-SAPHAP2S-3S=	RHEL for SAP Hana,HA,SmartM (1-2 CPU &VN); Prem 3Yr SnS Reqd
<b>VMware</b>	
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

**Table 48 Spare Parts**

<b>Product ID (PID)</b>	<b>PID Description</b>
VMW-VSP-EPL-1A=	VMware vSphere 7 Ent Plus (1 CPU, 32 Core) 1Yr, Support Rreqd
VMW-VSP-EPL-3A=	VMware vSphere 7 Ent Plus (1 CPU, 32 Core) 3Yr, Support Rreqd
VMW-VSP-EPL-5A=	VMware vSphere 7 Ent Plus (1 CPU, 32 Core) 5Yr, Support Rreqd
<b>SLES and SAP</b>	
RHEL-SAP-2S2V-1S=	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 1-Yr SnS Rreqd
RHEL-SAP-2S2V-3S=	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 3-Yr SnS Rreqd
RHEL-SAPSP-3S=	RHEL SAP Solutions Premium - License with 3 Years of SnS
RHEL-SAPSS-3S=	RHEL SAP Solutions Standard - License with 3 Years of SnS
<b>SUSE</b>	
SLES-2S2V-1A=	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 1-Yr Support Req
SLES-2SUV-1A=	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); 1-Yr Support Req
SLES-2S2V-3A=	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 3-Yr Support Req
SLES-2SUV-3A=	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); 3-Yr Support Req
SLES-2S2V-5A=	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 5-Yr Support Req
SLES-2SUV-5A=	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); 5-Yr Support Req
SLES-2S2V-1S=	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 1-Yr SnS
SLES-2SUV-1S=	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); Prio 1-Yr SnS
SLES-2S2V-3S=	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 3-Yr SnS
SLES-2SUV-3S=	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM); Prio 3-Yr SnS
SLES-2S2V-5S=	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 5-Yr SnS
SLES-2SUV-5S=	SUSE Linux Enterprise Svr (1-2 CPU,Unl 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

**Table 48 Spare Parts**

Product ID (PID)	PID Description
<b>Microsoft</b>	
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-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-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

**Notes:**

1. This part is included with the purchase of option or spare CPU or CPU processor kits.
2. If you choose one or two front-facing PCIe SSD or NVMe drives, drive slots 1 and 2 at the front of the chassis are reserved for these drives (see [Figure 2 on page 4](#) for drive slot numbering).

Please refer to “[Cisco UCS C240 M5 Server Installation and Service Guide](#)” for installation procedures.

## Memory Support for CPU Classes and CPU Modes

### For 2<sup>nd</sup> Generation Intel® Xeon® Scalable Processors:

- DIMMs and PMem are supported
- CPU PIDs ending in “M” support up to a limit of 2048 GB per CPU
- CPU PIDs ending in “L” support up to a limit of 4608 GB per CPU
- All other CPU PIDs support up to a limit of 1024 GB per CPU
- For the App Direct Mode, both PMem and DIMM capacities count towards the CPU capacity limit
- For the Memory Mode and Mixed Mode only the PMem capacity counts towards the CPU capacity limit

### For Configurations Using Only DIMMs

- CPU PIDs ending in “M” support DIMM capacities up to 1536 GB per CPU (using 12 x 128 GB DIMMs) and DIMM capacities up to 2048 GB per CPU (using 8 x 256 GB DIMMs).
- CPU PIDs ending in “L” support DIMM capacities up to 1536 GB per CPU (using 12 x 128 GB DIMMs) and DIMM capacities up to 3072 GB per CPU (using 12 x 256 GB DIMMs). The 4608 GB limit cannot be reached with these capacity DIMMs.
- CPU PIDs not ending in “L” or “M” support DIMM capacities up to 1024 GB per CPU (using 8 x 128 GB DIMMs or 4 x 256 GB DIMMs).

### For Configurations Using DIMMs and PMem in App Direct Mode

- CPU PIDs ending in “M” support capacities up to 1792 GB per CPU (using 6 x 128 GB DIMMs and 2 x 512 GB PMem or 4 x 256 GB PMem) or up to 2048 GB per CPU (using 6 x 256 GB DIMMs and 2 x 256 GB PMem or 6 x 256 GB DIMMs and 4 x 128 GB PMem)
- CPU PIDs ending in “L” support capacities up to 3840 GB per CPU (using 6 x 128 GB DIMMs and 6 x 512 GB PMem) or up to 4608 GB per CPU (using 6 x 256 GB DIMMs and 6 x 512 GB PMem)
- CPU PIDs not ending in “L” or “M” support capacities up to 1024 GB per CPU (using 6 x 128 GB DIMMs and 2 x 128 GB PMem).

### For Configurations Using DIMMs and PMem in Memory or Mixed Mode



**NOTE:** For Memory and Mixed Modes, DIMMs are used as cache and do not factor into CPU capacity.

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- CPU PIDs ending in “M” support capacities up to 2048 GB per CPU using:
  - 6 x 128 GB DIMMs as cache and 4 x 512 GB PMem as memory, or
  - 6x 256 GB DIMMs as cache and 4 x 512 GB PMem as memory
- CPU PIDs ending in “L” support capacities up to 3072 GB using:
  - 6 x 128 GB DIMMs as cache and 6 x 512 GB PMem as memory, or

- 6 x 256 GB DIMMs as cache and 6 x 512 GB PMem as memory

The allowable 4608 limit for PMem capacity is not reached in this case.

- CPU PIDs not ending in “L” or “M” support capacities up to 1024 GB per CPU using:
  - 6 x 128 GB DIMMs as cache and 2 x 512 GB PMem as memory, or
  - 6 x 256 GB DIMMs as cache and 2 x 512 GB PMem as memory

#### For Intel® Xeon® Scalable Processors:

- DIMMs are supported; PMem are not supported
- CPU PIDs ending in “M” support DIMM capacities up to 1536 GB per CPU (using 12 x 128 GB DIMMs).
- All other CPU PIDs support DIMM capacities up to 768 GB per CPU (using 6 x 128 GB DIMMs or 12 x 64 GB DIMMs)

# UPGRADING or REPLACING CPUs



**NOTE:** Before servicing any CPU, do the following:

- Decommission and power off the server.
  - Slide the C240 M5 LFF 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 14*

(3) Carefully remove and replace the CPU and heatsink in accordance with the instructions found in “Cisco UCS C240 M5 Server Installation and Service Guide,” found at:

[https://www.cisco.com/c/en/us/td/docs/unified\\_computing/ucs/c/hw/C240M5/install/C240M5/C240M5\\_chapter\\_010.html#concept\\_bfk\\_kwp\\_hz](https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M5/install/C240M5/C240M5_chapter_010.html#concept_bfk_kwp_hz).

To add a new CPU, follow these steps:

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(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 14*

(3) Order one heat sink for each new CPU. Order PID UCSC-HS-C240M5= for CPUs that dissipate 150 W or less. Order PID UCSC-HS2-C240M5= for CPUs that dissipate more than 150 W.

(4) Carefully install the CPU and heatsink in accordance with the instructions found in “Cisco UCS C240 M5 Server Installation and Service Guide,” found at:

[https://www.cisco.com/c/en/us/td/docs/unified\\_computing/ucs/c/hw/C240M5/install/C240M5/C240M5\\_chapter\\_010.html#concept\\_bfk\\_kwp\\_hz](https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M5/install/C240M5/C240M5_chapter_010.html#concept_bfk_kwp_hz).

## UPGRADING or REPLACING MEMORY



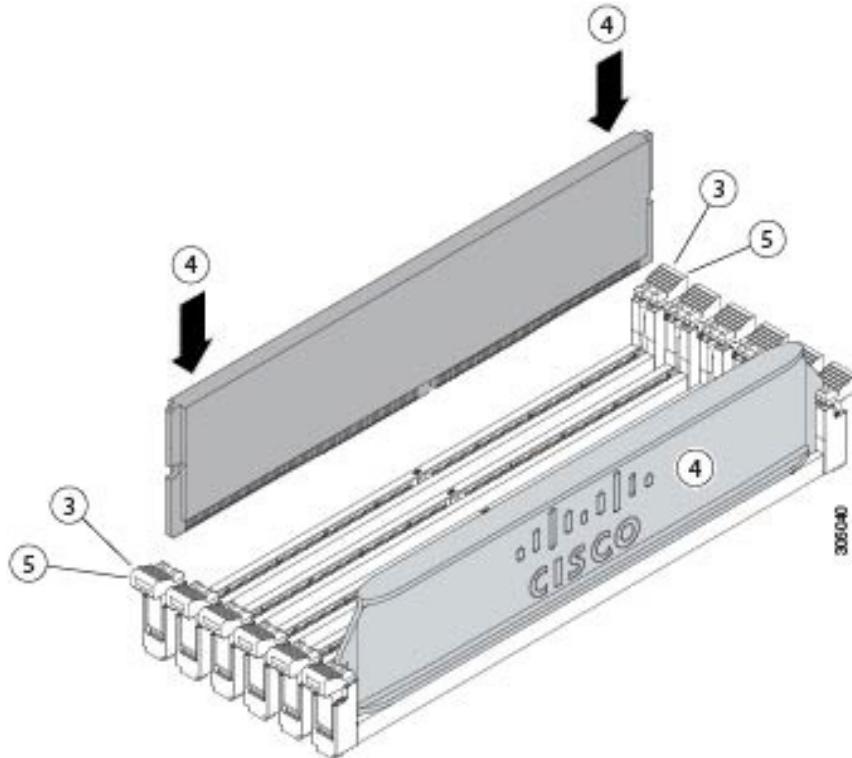
NOTE: Before servicing any DIMM or PMem, do the following:

- 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:

- (1) Order new DIMMs or PMem as needed from [Table 5 on page 21](#).
- (2) Open both connector latches and remove and replace the DIMM/PMem as needed.

Figure 14 Replacing Memory



- (3) Press evenly on both ends of the DIMM/PMem until it clicks into place in its slot.



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

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- (4) Press the connector latches inward slightly to seat them fully.

For additional details on replacing or upgrading DIMMs and PMem, see “Cisco UCS C240 M5 Server Installation and Service Guide” found at these links:

[https://www.cisco.com/c/en/us/td/docs/unified\\_computing/ucs/c/hw/C240M5/install/C240M5/C240M5\\_chapter\\_010.html#concept\\_c53\\_tbp\\_hz](https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M5/install/C240M5/C240M5_chapter_010.html#concept_c53_tbp_hz)

[https://www.cisco.com/c/en/us/td/docs/unified\\_computing/ucs/c/hw/C240M5/install/C240M5/C240M5\\_chapter\\_010.html#concept\\_b1k\\_mbt\\_tgb](https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M5/install/C240M5/C240M5_chapter_010.html#concept_b1k_mbt_tgb)

## 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 49** below to determine if still supported.

**Table 49 EOL Products**

EOS option PID	Description	EOL bulletin link
<b>DRIVES</b>		
<b>HDDs</b>		
UCS-HD300G10NK9	300GB 12G SAS 10K RPM SFF HDD (SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html</a>
UCS-HD8T7KL4KN	8 TB 12G SAS 7.2K RPM LFF HDD (4K)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743558.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743558.html</a>
UCS-HD10T7KL6GN	10 TB 6G SATA 7.2K RPM LFF HDD (512e)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-HD4T7KL6GN	4 TB 6G SATA 7.2K RPM LFF HDD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-HD6T7KL6GN	6TB 6G SATA 7.2K RPM LFF HDD (512e)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-HD1T7KL12N	1TB 12G SAS 7.2K RPM LFF HDD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-HD1T7KL6GN	1 TB 6G SATA 7.2K RPM LFF HDD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-HD10T7KL4KN	10 TB 12G SAS 7.2K RPM LFF HDD (4K)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/select-ucs-hyperflex-accessories-eol.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/select-ucs-hyperflex-accessories-eol.html</a>
UCS-HD2T7KL6GN	2 TB 6G SATA 7.2K RPM LFF HDD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/select-ucs-hyperflex-accessories-eol.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/select-ucs-hyperflex-accessories-eol.html</a>
<b>Enterprise Value SSDs</b>		
UCS-SD16T61X-EV	1.6TB 2.5 inch Enterprise Value 6G SATA SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741895.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741895.html</a>

Table 49 EOL Products

EOS option PID	Description	EOL bulletin link
UCS-SD480G61X-EV	480 GB 2.5 inch Enterprise Value 6G SATA SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html</a>
UCS-SD240G61X-EV	240GB 2.5 inch Enterprise Value 6G SATA SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/eos-eol-notice-c51-742066.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/eos-eol-notice-c51-742066.html</a>
UCS-HY150G61X-EV	150 GB 3.5 inch Enterprise Value 6G SATA SSD (Intel 3520)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/eos-eol-notice-c51-742066.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/eos-eol-notice-c51-742066.html</a>
UCS-SD240GBE1NK9	240GB Enterprise Value SSD (SATA) (1X DWPD, SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/eos-eol-notice-c51-742066.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/eos-eol-notice-c51-742066.html</a>
UCS-SD150G61X-EV	150 GB 2.5 inch Enterprise Value 6G SATA SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html</a>
UCS-SD38TBHTNK9	3.8TB Enterprise value SAS SSD (1X DWPD, SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html</a>
UCS-SD480GBHTNK9	480GB Enterprise Value SAS SSD (1X DWPD, SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html</a>
UCS-SD480GH61X-EV	480 GB 2.5 inch Enterprise Value 12G SAS SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-SD480G2HNK9	480GB Enterprise value SAS SSD (1X DWPD, SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-SD19TH61X-EV	1.9 TB 2.5 inch Enterprise Value 12G SAS SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-SD38TBE1NK9	3.8 TB Enterprise value SATA SSD (1X DWPD, SED) Non FIPS	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744204.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744204.html</a>
UCS-SD38TH61X-EV	3.8 TB 2.5 inch Enterprise Value 12G SAS SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-SD19TB121X-EV	1.9 TB 2.5 inch Enterprise Value 12G SAS SSD (Toshiba PM4)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-SD38TB121X-EV	3.8TB 2.5 inch Enterprise Value 12G SAS SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>

Table 49 EOL Products

EOS option PID	Description	EOL bulletin link
UCS-SD960G121X-EV	960 GB 2.5 inch Enterprise Value 12G SAS SSD (Toshiba PM4)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-SD960GH61X-EV	960 GB 2.5 inch Enterprise Value 12G SAS SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-SD38T2HTNK9	3.8TB Enterprise value 12G SAS SSD (1X DWPD, SED) <b>FIPS140-2</b>	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-SD480G121X-EV	480 GB 2.5 inch Enterprise Value 12G SAS SSD	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
<b>NVMe</b>		
UCSC-NVMELW-I500	500GB 2.5in U.2 Intel P4501 NVMe Med. Perf. Value Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html</a>
UCSC-NVMEXP-I375	375GB 2.5in Intel Optane NVMe Extreme Perf.	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html</a>
UCSC-NVMELW-I1000	Cisco 2.5" U.2 1TB Intel P4501 NVMe Med. Perf. Value Endur (Intel)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html</a>
UCSC-NVMEHW-I1000	Cisco 2.5" U.2 1TB Intel P4500 NVMe High Perf. Value Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html</a>
UCSC-NVMELW-I2000	Cisco 2.5" U.2 2TB Intel P4501 NVMe Perf. Value Endur (Intel)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html</a>
UCSC-NVMEHW-I2000	Cisco 2.5" U.2 2TB Intel P4600 NVMe High Perf. High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html</a>
UCSC-NVMEHW-I1600	Cisco 2.5" U.2 1.6TB Intel P4600 NVMe High Perf. High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html</a>
UCSC-NVMEHW-I4000	Cisco 2.5" U.2 4TB Intel P4500 NVMe High Perf. Value Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742509.html</a>

**Table 49 EOL Products**

<b>EOS option PID</b>	<b>Description</b>	<b>EOL bulletin link</b>
UCSC-NVMEHW-I2TBV	2TB 2.5in U.2 Intel P4500 NVMe High Perf. High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html</a>
UCSC-NVMEHW-I3200	3.2TB 2.5in U.2 Intel P4600 NVMe High Perf. High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html</a>
UCSC-NVMEHY-H3200	3.2 TB HGST SN200 NVMe High Perf. High Endurance (HGST)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCSC-NVMEHW-H3200	U.2 3.2 TB HGST SN200 NVMe High Perf. High Endurance (HGST)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCSC-NVMEHW-H1600	1.6TB 2.5in U.2 HGST SN200 NVMe High Perf. High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCSC-NVMEHY-H1600	1.6TB 3.5in LFF HGST SN200 NVMe High Perf. High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCSC-NVME-H32003	Cisco HHHL AIC 3.2T HGST SN260 NVMe Extreme Perf High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html</a>
UCSC-NVMEHW-H6400	Cisco 2.5" U.2 6.4TB HGST SN200 NVMe High Perf. High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCSC-NVME-H38401	Cisco HHHL AIC 3.8TB HGST SN260 NVMe Extreme Performance High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html</a>
UCSC-NVME-H64003	Cisco HHHL AIC 6.4T HGST SN260 NVMe Extreme Perf High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html</a>
UCSC-NVMEHW-H7680	7.7TB 2.5in U.2 HGST SN200 NVMe High Perf. Value Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCSC-NVMEHW-H800	800GB 2.5in U.2 HGST SN200 NVMe High Perf. High Endurance	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html</a>
<b>Enterprise Performance SSDs</b>		
UCS-SD400GBENK9	400GB Enterprise performance SAS SSD (10X DWPD, SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html</a>

Table 49 EOL Products

EOS option PID	Description	EOL bulletin link
UCS-SD600GBE3NK9	600GB Enterprise performance SATA SSD (3X DWPD, SED) Non FIPS	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-742823.html</a>
UCS-SD960GBHTNK9	960 GB Enterprise value SAS SSD (1X DWPD, SED) <b>FIPS140-2</b>	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-SD800GBENK9	800GB Enterprise performance SAS SSD (10X DWPD, SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html</a>
UCS-SD400G12TX-EP	400GB 2.5in Enterprise Performance 12G SAS SSD(10Xendurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html</a>
UCS-SD400H123X-EP	400 GB 2.5inch Enterprise performance 12G SAS SSD(3X endurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-SD16TBENK9	1.6 TB Enterprise performance SAS SSD (10XDWPD, SED) <b>FIPS140-2</b>	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html</a>
UCS-SD800G12TX-EP	800 GB 2.5 inch Enterprise performance 12G SAS SSD (10X DWPD)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html</a>
UCS-HY800G12TX-EP	800 GB 3.5 inch Enterprise performance 12G SAS SSD (10X DWPD) (Toshiba PM4)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html</a>
UCS-SD16TBHNK9	1.6 TB Enterprise performance SAS SSD (10X DWPD, SED) <b>FIPS140-2</b>	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-SD16TB12TX-EP	1.6TB 2.5 inch Enterprise performance 12G SAS SSD(10X DWPD)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html</a>
UCS-HY16TB12TX-EP	1.6 TB 3.5 inch Enterprise performance 12G SAS SSD (10X DWPD) (Toshiba PM4)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741644.html</a>
UCS-SD32H123X-EP	3.2 TB 2.5inch Enterprise performance 12G SAS SSD(3X endurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-SD800H123X-EP	800 GB 2.5inch Enterprise performance 12G SAS SSD(3X endurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-SD400GBHNK9	400GB Enterprise performance SAS SSD (10X DWPD, SED) <b>FIPS140-2</b>	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>

Table 49 EOL Products

EOS option PID	Description	EOL bulletin link
UCS-SD400GBENK9	400GB Enterprise performance SAS SSD (10X DWPD, SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740779.html</a>
UCS-HY16T123X-EP	1.6 TB 3.5in Enterprise performance 12G SAS SSD (3X endurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-SD16T123X-EP	1.6 TB 2.5 inch Enterprise performance 12G SAS SSD(3X DWPD)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-HY400G123X-EP	400GB 3.5in Enterprise performance 12G SAS SSD(3X endurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-SD400G123X-EP	400 GB 2.5 inch Enterprise performance 12G SAS SSD(3X DWPD)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-SD32T123X-EP	3.2 TB 2.5 inch Enterprise performance 12G SAS SSD(3X DWPD)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-HY800G123X-EP	800GB 3.5in Enterprise performance 12G SAS SSD(3X endurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-SD800G123X-EP	800GB 2.5in Enterprise Performance 12G SAS SSD(3X endurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>
UCS-SD16H123X-EP	1.6 TB 2.5inch Enterprise performance 12G SAS SSD(3X endurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
SED		
UCS-SD960GBE1NK9	960 GB Enterprise Value SATA SSD (1X DWPD, SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744204.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744204.html</a>
UCS-SD800GBHNK9	800 GB Enterprise performance SAS SSD (10X DWPD, SED)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol.html</a>
UCS-SD800GBCNK9	800 GB Enterprise performance SAS LFF SSD (10X DWPD, SED) (Micron 650DC)	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol.html</a>
UCS-HY800G123X-EP	800GB 3.5in Enterprise performance 12G SAS SSD(3X endurance)	<a href="https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html">https://www.cisco.com/c/en/us/products/collateral/hyperconverged-infrastructure/hyperflex-hx-series/eos-eol-notice-c51-2451489.html</a>

**Table 49 EOL Products**

<b>EOS option PID</b>	<b>Description</b>	<b>EOL bulletin link</b>
<b>GPU</b>		
UCSC-GPU-P100-16G	NVIDIA P100 16GB	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741579.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741579.html</a>
UCSC-GPU-P100-12G	NVIDIA P100 12GB	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741579.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741579.html</a>
UCSC-GPU-V340	AMD Radeon Pro V340, 2X16GB, 300W	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741579.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741579.html</a>
UCSC-GPU-7150x2	AMD Firepro 7150x2	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741579.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-741579.html</a>
UCSC-GPU-P40	NVIDIA P40	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744204.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744204.html</a>
UCSC-GPU-V100	NVIDIA V100 16GB	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744204.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744204.html</a>
UCSC-GPU-V100-32	NVIDIA V100 32GB	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol.html</a>
<b>Microsoft Windows server</b>		
MSWS-16-ST16C	Windows Server 2016 Standard (16 Cores/2 VMs)	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-ST24C	Windows Server 2016 Standard (24 Cores/2 VMs)	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-ST16C-NS	Windows Server 2016 Standard (16 Cores/2 VMs) - No Cisco SVC	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-ST24C-NS	Windows Server 2016 Standard (24 Cores/2 VMs) - No Cisco SVC	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-DC16C	Windows Server 2016 Data Center (16 Cores/Unlimited VMs)	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-DC24C	Windows Server 2016 Data Center (24 Cores/Unlimited VMs)	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-DC16C-NS	Windows Server 2016 DC (16 Cores/Unlim VMs) - No Cisco SVC	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-DC24C-NS	Windows Server 2016 DC (24 Cores/Unlim VMs) - No Cisco SVC	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
<b>OS Media</b>		

Table 49 EOL Products

EOS option PID	Description	EOL bulletin link
MSWS-16-ST16C-RM	Windows Server 2016 Std (16 Cores/2 VMs) - Recovery Media	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-ST24C-RM	Windows Server 2016 Std (24 Cores/2 VMs) - Recovery Media	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-DC16C-RM	Windows Server 2016 DC (16 Cores/Unlim VMs) - Recovery Media	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
MSWS-16-DC24C-RM	Windows Server 2016 DC (24 Cores/Unlim VMs) - Recovery Media	<a href="https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html">https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743145.html</a>
<b>CPU</b>		
UCS-CPU-I8280M	Intel 8280M 2.7GHz/205W 28C/38.50MB 3DX DDR4 2TB 2933 MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-CPU-I8276M	Intel 8276M 2.2GHz/165W 28C/38.50MB 3DX DDR4 2TB 2933 MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-CPU-I8260M	Intel 8260M 2.4GHz/165W 24C/35.75MB 3DX DDR4 2TB 2933 MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-CPU-I6240M	Intel 6240M 2.6GHz/150W 18C/24.75MB 3DX DDR4 2TB 2933 MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-CPU-I6238M	Intel 6238M 2.1GHz/140W 22C/30.25MB 3DX DDR4 2TB 2933 MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-CPU-I5215M	Intel 5215M 2.5GHz/85W 10C/13.75MB 3DX DDR4 2TB 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-743832.html</a>
UCS-CPU-8180M	2.5 GHz 8180M/205W 28C/38.50MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8176M	2.1 GHz 8176M/165W 28C/38.50MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8170M	2.1 GHz 8170M/165W 26C/35.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8160M	2.1 GHz 8160M/150W 24C/33MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8180	2.5 GHz 8180/205W 28C/38.50MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8176	2.1 GHz 8176/165W 28C/38.50MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>

**Table 49 EOL Products**

<b>EOS option PID</b>	<b>Description</b>	<b>EOL bulletin link</b>
UCS-CPU-8170	2.1 GHz 8170/165W 26C/35.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8168	2.7 GHz 8168/205W 24C/33MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8164	2.0 GHz 8164/150W 26C/35.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8160T	2.1 GHz 8160/150W 24C/33MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8160	2.1 GHz 8160/150W 24C/33MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8158	3.0 GHz 8158/150W 12C/24.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8156	3.6 GHz 8156/105W 4C/16.50MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-8153	2.0 GHz 8153/125W 16C/22MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6142M	2.6 GHz 6142M/150W 16C/22MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6140M	2.3 GHz 6140M/140W 18C/24.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6134M	3.2 GHz 6134M/130W 8C/24.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6154	3.0 GHz 6154/200W 18C/24.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6152	2.1 GHz 6152/140W 22C/30.25MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6150	2.7 GHz 6150/165W 18C/24.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6148	2.4 GHz 6148/150W 20C/27.50MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6144	3.5 GHz 6144/150W 8C/24.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>

**Table 49 EOL Products**

<b>EOS option PID</b>	<b>Description</b>	<b>EOL bulletin link</b>
UCS-CPU-6142	2.6 GHz 6142/150W 16C/22MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6140	2.3 GHz 6140/140W 18C/24.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6138T	2.0 GHz 6138T/125W 20C/27.5MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6138	2.0 GHz 6138/125W 20C/27.50MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6136	3.0 GHz 6136/150W 12C/24.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6134	3.2 GHz 6134/130W 8C/24.75MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6132	2.6 GHz 6132/140W 14C/19.25MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6130	2.1 GHz 6130/125W 16C/22MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6128	3.4 GHz 6128/115W 6C/19.25MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-6126	2.6 GHz 6126/125W 12C/19.25MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-5122	3.6 GHz 5122/105W 4C/16.50MB Cache/DDR4 2666MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-5120	2.2 GHz 5120/105W 14C/19.25MB Cache/DDR4 2400MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-5118	2.3 GHz 5118/105W 12C/16.50MB Cache/DDR4 2400MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-5117	2.0 GHz 5117/105W 14C/19.25MB Cache/DDR4 2400MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-5115	2.4 GHz 5115/85W 10C/13.75MB Cache/DDR4 2400MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-4116	2.1 GHz 4116/85W 12C/16.50MB Cache/DDR4 2400MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>

**Table 49 EOL Products**

<b>EOS option PID</b>	<b>Description</b>	<b>EOL bulletin link</b>
UCS-CPU-4114	2.2 GHz 4114/85W 10C/13.75MB Cache/DDR4 2400MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-4112	2.6 GHz 4112/85W 4C/8.25MB Cache/DDR4 2400MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-4110	2.1 GHz 4110/85W 8C/11MB Cache/DDR4 2400MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-4108	1.8 GHz 4108/85W 8C/11MB Cache/DDR4 2400MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-3106	1.7 GHz 3106/85W 8C/11MB Cache/DDR4 2133MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
UCS-CPU-3104	1.7 GHz 3104/85W 6C/8.25MB Cache/DDR4 2133MHz	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-744580.html</a>
<b>MEMORY</b>		
UCS-MR-X8G1RS-H	8GB DDR4-2666-MHz RDIMM/PC4-21300/single rank/x4/1.2v	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740780.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740780.html</a>
UCS-MR-X16G2RS-H	16GB DDR4-2666-MHz RDIMM/PC4-21300/dual rank/x4/1.2v	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740780.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-740780.html</a>
UCS-MR-X16G1RT-H	16GB DDR4-2933MHz RDIMM 1Rx4 (8Gb)/1.2v	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html</a>
UCS-MR-X32G2RT-H	32GB DDR4-2933MHz RDIMM 2Rx4 (8Gb)/1.2v	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html</a>
UCS-MR-X64G2RT-H	64GB DDR4-2933MHz RDIMM 2Rx4 (16Gb)/1.2v	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html</a>
UCS-ML-X64G4RT-H	64GB DDR4-2933MHz LRDIMM 4Rx4 (8Gb)/1.2v	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html</a>
UCS-ML-128G4RT-H	128GB DDR4-2933MHz LRDIMM 4Rx4 (16Gb)/1.2v	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/ucs-hyperflex-accessories-eol14611.html</a>

**Table 49 EOL Products**

<b>EOS option PID</b>	<b>Description</b>	<b>EOL bulletin link</b>
UCS-ML-X64G4RS-H	64GB DDR4-2666-MHz LRDIMM/PC4-21300/quad rank/x4/1.2v	<a href="https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html">https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/eos-eol-notice-c51-2412151.html</a>
<b>Operating system</b>		
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	
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 50 UCS C240 M5 Dimensions and Weight

Parameter	Value
Height	3.43 in. (87.1 mm)
Width (including slam latches)	17.57 in. (446.3 mm) Including handles: 18.96 in (481.5 mm)
Depth	29.56 in. (750.8 mm) Including handles: 30.44 in (773.1 mm)
Front Clearance	3 in. (76 mm)
Side Clearance	1 in. (25 mm)
Rear Clearance	6 in. (152 mm)
Weight <sup>1</sup>	
Maximum (12 front HDDs, 2 rear HDDs, 2 CPUs, 24 DIMMs, 2 power supplies)	66.0 lbs (29.0 kg)
Minimum (1 HDD, 1 CPU, 1 DIMM, 1 power supply)	41.5 lbs (18.8 kg)
Bare (0 HDD, 0 CPU, 0 DIMM, 1 power supply)	38.8 lbs (17.6 kg)

Notes:

1. Weight does not include outer rail, which is attached to the rack.

## Power Specifications

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

- 770 W (AC) power supply (see [Table 51](#))
- 1050 W (AC) power supply (see [Table 52](#))
- 1050 W V2 (DC) power supply (see [Table 53](#))
- 1600 W (AC) power supply (see [Table 54](#))

**Table 51 UCS C240 M5 Power Specifications (770 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)	770			
Maximum Rated Standby Output (W)	36			
Nominal Input Voltage (V rms)	100	120	208	230
Nominal Input Current (A rms)	8.8	7.4	4.2	3.8
Maximum Input at Nominal Input Voltage (W)	855	855	855	846
Maximum Input at Nominal Input Voltage (VA)	882	882	882	872
Minimum Rated Efficiency (%) <sup>1</sup>	90	90	90	91
Minimum Rated Power Factor <sup>1</sup>	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) <sup>2</sup>	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 52 UCS C240 M5 1050 W (AC) Power Supply Specifications**

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

**Table 52 UCS C240 M5 1050 W (AC) Power Supply Specifications**

Maximum Allowable Frequency Range (Hz)	47 to 63			
Maximum Rated Output (W) <sup>1</sup>	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 (%) <sup>2</sup>	90	90	90	91
Minimum Rated Power Factor <sup>2</sup>	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) <sup>3</sup>	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 53 UCS C240 M5 1050 W (DC) Power Supply Specifications**

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 (%) <sup>1</sup>	91

**Table 53 UCS C240 M5 1050 W (DC) Power Supply Specifications**

Minimum Rated Power Factor <sup>1</sup>	NA
Maximum Inrush Current (A peak)	15
Maximum Inrush Current (ms)	0.2
Minimum Ride-Through Time (ms) <sup>2</sup>	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 54 UCS C240 M5 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 (%) <sup>1</sup>	NA	NA	90	91
Minimum Rated Power Factor <sup>2</sup>	NA	NA	0.97	0.97
Maximum Inrush Current (A peak)	30			
Maximum Inrush Current (ms)	0.2			
Minimum Ride-Through Time (ms) <sup>2</sup>	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

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 C240 M5 LFF server are listed in [Table 55](#).

**Table 55 UCS C240 M5 LFF Environmental Specifications**

Parameter	Minimum
Operating Temperature	Dry bulb temperature of 10°C to 35°C (50°F to 95°F) 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) Humidity condition: Uncontrolled, not to exceed 50% RH starting condition Derate the maximum temperature by 1°C (33.8°F) per every 305 meters of altitude above 900m
Extended Operating Temperature	5°C to 40°C (41°F to 104°F) with no direct sunlight Humidity condition: Uncontrolled, not to exceed 50% RH starting condition Derate the maximum temperature by 1°C (33.8°F) per every 305 meters of altitude above 900m
Non-Operating Temperature	Dry bulb temperature of -40°C to 65°C (-40°F to 149°F)
Operating Relative Humidity	10% to 90% and 28°C (82.4°F) maximum dew-point temperature, non-condensing environment Minimum to be higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity Maximum to be 24°C (75.2°F) dew point or 90% relative humidity
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 56 Cisco UCS C240 M5 Extended Operating Temperature Hardware Configuration Limits

Platform <sup>1</sup>	ASHRAE A3 (5°C to 40°C) <sup>2</sup>	ASHRAE A4 (5°C to 45°C) <sup>3</sup>
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	HDDs or SSDs (Rear Bays) PCIe NVMe SSDs GPUs VICs (Slots 1 and 4) NICs (Slots 1 and 4) HBAs (Slots 1 and 4)

**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 57](#).

**Table 57 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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