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Cisco UCS C225 M6 SFF Rack Server

Contents

Product overview

The Cisco UCS C225 M6 SFF Rack Server extends the capabilities of the Cisco Unified Computing System portfolio in a 1-Rack-Unit (RU) form factor with the addition of AMD CPUs as well as 16 DIMM slots per CPU for 3200-MHz DDR4 DIMMs with individual DIMM capacity points up to 256 GB. The maximum memory capacity for two CPUs is 8 TB (for 32 x 256 GB DDR4 DIMMs1).

Features and benefits

There are several front drive and rear riser configurations, as listed below:

Front drives

- Option 1: Up to 10 SAS/SATA/NVMe drives (up to 4 of the drives can be NVMe)
- Option 2: Up to 10 NVME drives (All drives are NVMe)

Rear PCIe risers

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

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

- Cisco 12G RAID controller with cache backup to control SAS/SATA drives, or
- Cisco 12G SAS passthrough HBA to control SAS/SATA drives

Note: NVMe drives are controlled directly from the CPUs.

The UCS C225 M6 server has a single 1 GbE management port. A modular LAN on motherboard (mLOM) / Open Compute Project (OCP) 3.0 module provides up to two 100 GbE ports. A connector on the front of the chassis provides KVM functionality.

The Cisco UCS C225 M6 server can be used either as a 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.

Product specifications

Table 1.   C225 M6 SFF specifications

Capability / feature	Description
Chassis	One Rack Unit (1RU) chassis
CPU	One or two AMD Milan or Rome processors
Memory	32 slots for Registered DIMMs (RDIMMs) or Load-Reduced DIMMs (LRDIMMs)
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: • Integrated 2D graphics core with hardware acceleration • Embedded DDR memory interface supports up to 512 MB of addressable memory (8 MB is allocated by default to video memory) • Supports display resolutions up to 1920 x 1200 16 bpp @ 60 Hz • High-speed, integrated 24-bit RAMDAC • Single-lane PCI-Express host interface running at Gen 1 speed
Power subsystem	Up to two of the following hot-swappable power supplies: • 1050 W (AC) • 1050 W (DC) • 1600 W (AC) • 2300 W (AC) 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) 4.0 standard.
Fans	Eight hot-swappable fans for front-to-rear cooling
InfiniBand	The InfiniBand architecture is supported by the PCIe slots.

Capability / feature	Description

Expansion slots	Three half-height riser slots
	
	• Riser 1 (controlled by CPU 1):
	  ◦ One x16 PCIe Gen 4.0 slot (Cisco VIC), half-height, 3/4 length
	• Riser 2 (controlled by CPU 1):
	  ◦ One x8 PCIe Gen 4.0 slot, half-height, 3/4 length
	• Riser 3 (controlled by CPU 1):
	  ◦ One x16 PCIe Gen 4.0 slot (Cisco VIC), half-height, 3/4 length
	
	OR
	
	Two full-height riser slots
	
	• Riser 1 (controlled by CPU 1):
	  ◦ One x16 PCIe Gen 4.0 slot (Cisco VIC), full-height, 3/4 length
	• Riser 2 (controlled by CPU 1):
	  ◦ One x16 PCIe Gen 4.0 slot (Cisco VIC), full-height, 3/4 length

Interfaces	Rear panel: • One 1Gbase-T RJ-45 management port • One RS-232 serial port (RJ45 connector) • One DB15 VGA connector • Two USB 3.0 port connectors • One flexible modular LAN on motherboard (mLOM)/OCP 3.0 slot that can accommodate various interface cards Front panel: • One KVM console connector (supplies two USB 2.0 connectors, one VGA DB15 video connector, and one serial port (RS232) RJ45 connector)

Internal storage devices	Drive storage:
	
	Drives are installed into front-panel drive bays, which provide hot-swappable access for SAS/SATA or NVMe drives. The server is orderable in two different versions:
	
	• UCSC-C225-M6S (option 1):
	  ◦ Up to 10 SFF SAS/SATA Hard Drives (HDDs) or SAS/SATA Solid State Drives (SSDs)
	  ◦ Optionally, up to four SFF NVMe PCIe SSDs (replacing SAS/SATA drives). These drives must be placed in front drive bays 1, 2, 3, and 4 only and are controlled from CPU1. The rest of the bays (5 - 10) can be populated with SAS/SATA SSDs or HDDs.
	• UCSC-C225-M6N (option 2):
	  ◦ Up to 10 SFF NVMe PCIe SSDs only. All drives are controlled from CPU1. Only one CPU is required when choosing NVMe SSDs.
	
	Other storage:
	
	• A ministorage module connector on the motherboard supports a boot-optimized RAID controller carrier that holds two SATA M.2 SSDs. Mixing different capacity SATA M.2 SSDs is not supported.

Integrated management processor	A Baseboard Management Controller (BMC) runs Cisco Integrated Management Controller (CIMC) firmware. Depending on your CIMC settings, the CIMC can be accessed through the 1-GE dedicated management port or a Cisco Virtual Interface Card (VIC). CIMC manages certain components within the server, such as the Cisco 12G SAS HBA.

Capability / feature	Description
Storage controllers	One Cisco M6 12G SAS RAID controller or up to two Cisco 12G SAS HBAs plug into a dedicated slot. Cisco M6 12G SAS RAID Controller with 4GB FBWC: • RAID support (RAID 0, 1, 5, 6, 10, 50, 60, SRAID0, and JBOD mode) • Supports up to 24 internal SAS/SATA drives • Plugs into a dedicated slot Cisco 12G SAS HBA: • No RAID support • JBOD/Pass-through Mode support • Supports up to 16 SAS/SATA internal drives • Plugs into a dedicated slot
Modular LAN on Motherboard (mLOM)/ Open Compute Project (OCP) 3.0 slot	The dedicated mLOM/OCP 3.0 slot on the motherboard can flexibly accommodate the following cards: • Cisco Virtual Interface Cards (VIC) • OCP 3.0 network interface card (UCSC-O-ID10GC)
Cisco Intersight	Cisco Intersight provides server management capabilities. **Note:** Cisco UCS Manager (UCSM) support is not available for this server.
Cisco Integrated Management Controller (CIMC)	Requires CIMC Release 4.2(1) or later
Operating temperature	Minimum 10°C to 35°C (50°F to 95°F) with no direct sunlight (If any A10, A100, or rear HDDs are installed, the 35°C (50°F) restriction changes to 30°C (86° F).) Maximum allowable operating temperature derated 1C/300 m (1F/547 ft) above 950 m (3117 ft)
Extended operating temperature	5°C to 40°C (41°F to 104°F) with no direct sunlight Maximum allowable operating temperature de-rated 1C/175 m (1F/319 ft) above 950 m (3117 ft) 5°C to 4°5C (41°F to 113°F) with no direct sunlight Maximum allowable operating temperature de-rated 1C/125 m (1F/228 ft) above 950 m (3117 ft) System performance may be impacted when operating in the extended operating temperature range. Operation above 40°C is limited to less than 1% of annual operating hours. Hardware configuration limits apply to extended operating temperature range.
Nonoperating temperature	Below –40°C or above 65°C (below –40°F or above 149°F) Maximum rate of change (operating and nonoperating) 20°C/hr (36°F/hr)
Operating relative humidity	8% to 90% and 24°C (75°F) maximum dew-point temperature, noncondensing environment
Nonoperating relative humidity	5% to 95% and 33°C (91°F) maximum dew-point temperature, noncondensing environment

Capability / feature	Description
Operating altitude	0 m to 3050 m {10,000 ft)
Nonoperating altitude	Below 0 m or above 12,000 m (39,370 ft)

Ordering information

For information about installing or upgrading your server, see the hardware installation guide. For ordering information, see the Cisco UCS C225 M6 specifications sheet.

Table 2.   Ordering information

	Description
UCS-M6-MLB	Cisco UCS M6 rack, blade, chassis Major Line Bundle (MLB) This MLB consists of the server nodes (UCSC-C225-M6S and UCSC-C225-M6N) with software PIDs. Use this PID to begin a new configuration.
UCSC-C225-M6S	Up to 10 SFF front drives with no CPU, memory, HDD, PCIe cards, or power supply. All drives can be SAS/SATA HDDS or SSDs, or, optionally, any of bays 1, 2, 3 and 4 can be NVMe PCIe SSDs and the rest (bays 5 through 10) can be SAS/SATA HDDs or SSDs.
UCSC-C225-M6N	Up to 10 SFF front drives (NVMe PCIe SSDs only) with no CPU, memory, HDD, PCIe cards, or power supply

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

Warranty information

The Cisco UCS C225 M6 server has a three-year, Next-Business-Day (NBD) hardware warranty and a 90-day software warranty.

Cisco support

Augmenting the Cisco Unified Computing System (Cisco UCS) warranty, Cisco Smart Net Total Care and Cisco Solution Support services are part of Cisco's technical services portfolio. Smart Net Total Care combines Cisco's industry-leading and award-winning foundational technical services with an extra level of actionable business intelligence that is delivered to you through the smart capabilities in the Smart Net Total Care portal. Learn more about Smart Net Total Care.

Cisco Solution Support includes both Cisco product support and solution-level support, resolving complex issues in multivendor environments on average 43 percent more quickly than with product support alone. Cisco Solution Support is a critical element in data center administration, helping to 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 that you have deployed in your ecosystem. Whether there is an issue with a Cisco product or with a solution partner product, just call us. Our experts are the primary point of contact and own the case from first call to resolution. Learn more about Cisco Solution Support.

Product sustainability

Information about Cisco's Environmental, Social, and Governance (ESG) initiatives and performance is provided in Cisco's Corporate Social Responsibility (CSR) and sustainability reporting.

Table 3.   Cisco environmental sustainability information

Sustainability topic		Reference
General	Information on product-material-content laws and regulations	Materials
	Information on electronic waste laws and regulations, including our products, batteries, and packaging	WEEE compliance
	Information on our product takeback and reuse program	Cisco Takeback and Reuse Program
	Sustainability inquiries	Contact: csr_inquiries@cisco.com
	Operating and nonoperating conditions	Product specifications
Material	Product packaging weight and materials	Contact: environment@cisco.com

Product environmental information

Product environmental information for users per Commission Regulation (EU) 2019/424
https://www.cisco.com/web/dofc/22567672.pdf

Cisco and partner services

Cisco and our industry-leading partners deliver services that can accelerate your transition to a Cisco UCS X-Series Modular System solution. Cisco Unified Computing Systems Services can help you create an agile infrastructure, accelerate time to value, reduce costs and risks, and maintain availability during deployment and migration. After deployment, our services can help you improve performance, availability, and resiliency as your business needs evolve and help you further mitigate risk. For more information, visit
https://www.cisco.com/go/unifiedcomputingservices.

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