Cisco UCS C480 M5 Rack Server

Contents

The Cisco UCS® C480 M5 Rack Server delivers a no-compromise balance of performance, expansion capabilities, and flexibility to scale in a 4-Rack-Unit (4RU) form-factor.

Product Overview

The Cisco UCS C480 M5 Rack Server is a storage- and I/O-optimized enterprise-class rack server that delivers industry-leading performance for in-memory databases, big data analytics, virtualization, Virtual Desktop Infrastructure (VDI), and bare-metal applications. The C480 M5 delivers outstanding levels of expandability and performance for standalone or Cisco Unified Computing System™ (Cisco UCS) managed environments in a 4RU form-factor. And because of its modular design, you pay for only what you need. It offers these new latest capabilities:

- Four new second-generation Intel® Xeon® Scalable CPUs (up to 28 cores per socket)
- Four existing Intel® Xeon® Scalable CPUs (up to 28 cores per socket)
- Support for two-or four-processor configurations
- Support for the Intel Optane DC Persistent Memory (128G, 256G, 512G)
- Support for higher-density DDR4 memory, from 6 TB (128G DDR4 DIMMs) to 12 TB (256G DDR4 DIMMs)
- Memory speeds increase from 2666 MHz to 2933 MHz
- Intel Optane DC Persistent Memory Modules (DCPMM) – 128G, 256G, and 512G[1]
- Up to 18 TB using 24x256G DDR4 DIMMs and 24x512G Intel® Optane DC Persistent Memory Modules
- Up to 4 GPUs (2-CPU configuration) or 6 GPUs (4-CPU configuration) with offerings from NVIDIA and AMD
- 12 PCI Express (PCIe) 3.0 slots
  - Six x8 full-height, full length slots
  - Six x16 full-height, full length slots
- Flexible storage options with support up to 32 Small-Form-Factor (SFF) 2.5-inch, SAS, SATA, and PCIe NVMe disk drives

- Cisco® 12-Gbps SAS Modular RAID Controller in a dedicated slot
- Internal Secure Digital (SD) and M.2 boot options
- Dual embedded 10 Gigabit Ethernet LAN-On-Motherboard (LOM) ports

[1] Requires a DDR4 DIMM for deployment (e.g. 12 Intel Optane DC Persistent Memory Modules require 12 DDR4 DIMMs). The sizes of DCPMM must be the same and the DDR4 DIMMS must the same. But between the DCPMM and DIMMs, the sizes may vary, as shown in the 18-TB configuration described earlier in this data sheet.

Features and Benefits

Table 1 summarizes the features and benefits of the Cisco UCS C480 M5.

Table 1.   Main features and benefits

Feature	Benefit
High-capacity memory support of up to 12 TB using 256-GB DIMMs and 18 TB using Intel Optane DC Persistent Memory Modules	Large memory footprint to deliver performance and capacity for in-memory computing
Modular storage support with up to 24 front-accessible and 8 top-loading hot-swappable Hard Disk Drives (HDDs) and Solid-State Disks (SSDs) or PCIe NVMe drives	• Modularity to right-size storage options to match application requirements • Flexibility to expand as storage needs increase
Support for up to 12 PCIe Generation 3.0 slots	• Increased I/O for performance and flexibility • Support for up to 6 Graphics Processing Units (GPUs) to support deep-learning workloads
Scalable CPU configurations	Capability to scale from 2 sockets to 4 sockets using C480 M5 server modules as business needs change
Up to 4 GPUs (2 CPU) or 6 GPUs (4 CPU) supported	Increased performance of VDI, analytics, and database solutions
Hot-swappable, redundant power supplies	Increased high availability
Integrated dual 10-Gbps Ethernet	Increased network I/O performance

Storage and I/O Optimized for Industry-Leading Performance

The Cisco UCS C480 M5 is a storage and I/O-optimized enterprise-class rack server that delivers industry-leading performance for:

- In-memory databases
- Big data analytics
- Virtualization and VDI workloads
- Bare-metal applications

C480 M5 servers can be deployed as standalone servers or in a Cisco UCS managed environment. When used in combination with Cisco UCS Manager, the C480 M5 brings the power and automation of unified computing to enterprise applications, including Cisco® SingleConnect technology, drastically reducing switching and cabling requirements.

Cisco UCS Manager uses service profiles, templates, and policy-based management to enable rapid deployment and help ensure deployment consistency. It also enables end-to-end server visibility, management, and control in both virtualized and bare-metal environments.

The Cisco Integrated Management Controller (IMC) delivers comprehensive out-of-band server management with support for many industry standards, including:

- Redfish Version 1.01 (v1.01)
- Intelligent Platform Management Interface (IPMI) v2.0
- Simple Network Management Protocol (SNMP) v2 and v3
- Syslog
- Simple Mail Transfer Protocol (SMTP)
- HTML5 GUI
- HTML5 virtual Keyboard, Video, and Mouse (vKVM)
- Command-Line Interface (CLI)
- XML API

Management Software Development Kits (SDKs) and DevOps integrations exist for Python, Microsoft PowerShell, Ansible, Puppet, Chef, and more. For more information about integrations, see [Cisco DevNet](#).

The C480 M5 is Cisco Intersight™ ready. Cisco Intersight is a new cloud-based management platform that uses analytics to deliver proactive automation and support. By combining intelligence with automated actions, you can reduce costs dramatically and resolve issues more quickly.

Product Specifications

Table 2 lists the specifications for the Cisco UCS C480 M5 Rack Server.

Table 2. Specifications

Item	Specifications
Form factor	4RU rack server
Processors	Intel® Xeon® Scalable CPUs and second-generation Intel® Xeon® Scalable CPUs (2 or 4)
Memory	48 DDR4 DIMM slots: 16, 32, 64, 128, and 256 GB; up to 2933 MHz
PCIe expansion	12 PCIe 3.0 slots plus 1 dedicated 12-Gbps RAID controller slot
RAID controllers	Internal controllers: • Cisco 12-Gbps Modular RAID Controller (PCIe 3.0) with 4-GB Flash-Backed Write Cache (FBWC), providing enterprise-class data protection for up to 24 SAS and SATA HDDs and SSDs • 12-Gbps 9460-8i RAID controller with 2-GB FBWC provides support for up to 8 SAS and SATA HDDs and SSDs in the auxiliary drive modules • PCIe NVMe switch card for up to 8 PCIe NVMe drives in the auxiliary drive module
Internal storage	Support for up to 32 hot-swappable 2.5-inch Small Form Factor (SFF) drives • Up to 24 front loading 2.5-inch SAS/SATA HDDs and SSDs and PCIe NVMe drives • Up to 8 top loading 2.5-inch SAS/SATA/PCIe HDDs and SSDs or NVMe drives in the C480 M5 auxiliary drive module • DVD drive option
Embedded Network Interface Cards (NICs)	Dual 10GBASE-T Intel x550 Ethernet ports
Power supplies	Hot-pluggable, redundant 1600W AC
Other storage	• Dual internal Cisco FlexFlash SD cards (32, 64, and 128 GB) for installing an operating system or hypervisor • Support for RAID 0 mirroring between SD cards • Dual M.2 SATA SSD drives
Management	• Cisco Intersight™ • Cisco IMC • Cisco IMC Supervisor • Cisco UCS Manager • Cisco UCS Central Software • Cisco UCS Director • Cisco UCS Performance Manager
Rack options	Cisco ball-bearing rail kit with optional reversible cable management arm
Hardware and software interoperability	See the Cisco Hardware and Software Interoperability List for a complete listing of supported operating systems and peripheral options

System Requirements

Table 3 lists the system requirements for the server.

Table 3.   System requirements

Item	Requirements
Cisco UCS Manager (optional)	Release 3.2(2) or later
Cisco IMC	Release 3.1(2) or later

Ordering information

For ordering information, see the Cisco UCS C480 M5 server specifications sheet.

For information about installing or upgrading your server, see the Cisco UCS C480 M5 hardware installation guide.

Warranty information

Cisco UCS C480 M5 Rack Servers have a 3-year Next-Business-Day (NBD) hardware warranty and 90-day software warranty.

Augmenting the Cisco UCS warranty, Cisco Smart Net Total Care™ and Cisco Solution Support services are part of Cisco's technical services portfolio. Cisco 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 Cisco Smart Net Total Care portal. For more information, please refer to https://www.cisco.com/c/en/us/support/services/smart-net-total-care/index.html.

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. Solution Support is a critical element in data center administration, helping 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 https://www.cisco.com/c/en/us/services/technical/solution-support.html.

Product Environmental information

Product environmental information for users per Commission Regulation (EU) 2019/424 https://www.cisco.com/web/dofc/18799431.pdf

Takeback and Recycle Program

https://www.cisco.com/c/en/us/about/product-innovation-stewardship/product-recycling/takeback-recycle-program.html.

Cisco and Partner Services

Cisco and our industry-leading partners deliver services that accelerate your transition to a Cisco UCS C-Series Rack Servers solution. Cisco Unified Computing 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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For More Information

For more information about Cisco UCS servers, refer to https://www.cisco.com/go/ucs.

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