

# Cisco UCS C460 M4 Rack Server

## Product Overview

The Cisco UCS<sup>®</sup> C460 M4 Rack Server (Figure 1) provides the performance and reliability to run mission-critical applications and virtualized workloads that require intensive computation processing and very high memory capacity. Applications that are memory-bound (for example, large-scale virtualization, massive database applications, and server consolidation) will benefit from the increased performance and memory footprint of the Cisco UCS C460 M4.

The Cisco UCS C460 M4 is a four-rack-unit (4RU) rack server supporting the Intel<sup>®</sup> Xeon<sup>®</sup> E7-4800/8800 v2, v3, and v4 processor families. Product highlights include:

- Up to 6 terabytes (TB) of double-data-rate 3 (DDR3) memory or double-data-rate 4 (DDR4) memory in 96 DIMM slots
- Up to 12 Small Form Factor (SFF) hot-pluggable SAS, SATA, or SSD disk drives with support for 2 PCIe SSD
- Abundant I/O capability with 10 PCI Express (PCIe) Generation 3 (Gen 3) slots supporting the Cisco UCS virtual interface cards (VICs). An internal slot is reserved for a hard-disk drive array controller card
- Two Gigabit Ethernet LAN-on-motherboard (LOM) ports, two 10-Gigabit Ethernet ports, and a dedicated out-of-band (OOB) management port that provides additional networking options

**Figure 1.** Cisco UCS C460 M4 Rack Server



## Applications

The Cisco UCS C460 M4 Rack Server offers industry-leading performance and advanced reliability well suited for the most demanding enterprise and mission-critical workloads, large-scale virtualization, and database applications. Whether the Cisco UCS C460 M4 is used as a standalone system or in a Cisco Unified Computing System<sup>™</sup> (Cisco UCS) deployment, customers gain the benefits of the server's high-capacity memory when very large memory footprints such as the following are required:

- SAP workloads
- Database applications and data warehousing
- Large virtualized environments
- Real-time financial applications
- Java-based workloads
- Server consolidation

## Features and Benefits

The Cisco UCS C460 M4 expands the scope of virtualization to a wider range of demanding data center workloads and adds scale-up capability to meet the needs of computation-intensive, standalone applications. It increases customer choice by providing unique benefits in a rack server, bringing differentiation and value to what has traditionally been a market with products not optimized to meet the needs of virtualized data centers.

Table 1 summarizes the features and benefits of the Cisco UCS C460 M4 Rack Server.

**Table 1.** Features and Benefits

Feature	Benefit
<b>High-capacity memory (up to 6 TB* of main memory using 64-GB DIMMs)</b>	<ul style="list-style-type: none"> <li>Substantially increases memory footprint, increasing performance and capacity for demanding virtualization and large-data-set standalone workloads</li> <li>Reduces number of servers and decreases licensing costs with higher virtual-to-physical consolidation ratios</li> </ul>
<b>10-Gbps unified network fabric</b>	<ul style="list-style-type: none"> <li>Low-latency, lossless, 10-Gbps Ethernet and industry-standard Fibre Channel over Ethernet (FCoE) fabric options available</li> <li>With a wire-once deployment model, changing I/O configurations no longer means installing adapters and recabling racks and switches</li> <li>Fewer interface cards, cables, and upstream network ports to purchase, power, configure, and maintain</li> </ul>
<b>Virtualization optimization with Cisco Data Center VM-FEX and Adapter FEX technologies, I/O virtualization, and Intel Xeon processor E7-4800/8800 v2, v3, v4 product families</b>	<ul style="list-style-type: none"> <li>Extends the network directly to virtual machines</li> <li>Consistent and scalable operating model</li> <li>Increased security and efficiency with reduced complexity</li> </ul>
<b>Redundant, hot-swappable power supplies</b>	Increases availability
<b>Support for up to 10 PCIe Gen 3.0 slots</b>	<ul style="list-style-type: none"> <li>Flexibility, increased performance, and compatibility with industry standards</li> <li>An additional dedicated internal slot available to configure RAID support through optional LSI MegaRAID controller</li> <li>Full length slots to support up to 2 GPUs</li> <li>PCIe 3.0 slots, which are estimated to substantially increase the bandwidth over the previous generation of PCIe and offer more flexibility while maintaining compatibility with PCIe 2.0</li> </ul>
<b>Multicore Intel Xeon processor E7-4800/8800 v2, v3, and v4 product families</b>	<ul style="list-style-type: none"> <li>New levels of processor scalability, memory, and I/O capacity to address IT's greatest and most critical enterprise resource planning (ERP), customer relationship management (CRM), database, analytics, and virtualization challenges, with exceptional hardware and software support</li> <li>Top-of-the-line processors to deliver leading performance for mission-critical business solutions with outstanding economics that create new possibilities</li> <li>Advanced reliability features and new security features including Machine Check Architecture Recovery to automatically manage hardware errors and protect against malicious software attacks, maintaining data integrity and increasing the availability of mission-critical services</li> <li>Intelligent performance that automatically adapts to the diverse needs of a virtualized environment as well as the most computation-demanding standalone applications</li> <li>Intel Turbo Boost Technology and Intel Intelligent Power Technology, which adapt processor performance to application demands and intelligently scale energy use based on utilization, reducing costs while still delivering the performance required</li> </ul>
<b>Hot-swappable SAS, SATA, or SSD drives</b>	<ul style="list-style-type: none"> <li>Up to 12 front-accessible, hot-swappable, SFF, SAS, SATA, or SSD drives</li> <li>Support for 2 PCIe SSDs</li> <li>Support for 10,000-rpm drives that deliver both value and capacity</li> <li>Support for 15,000-rpm drives for outstanding performance</li> <li>Capability to match storage characteristics to application requirements through the choice of high-capacity economical SATA drives or high-performance enterprise-class SAS drives and SSD</li> </ul>
<b>Cisco UCS Integrated Management Controller (IMC)</b>	<ul style="list-style-type: none"> <li>Web user interface for server management, administration, and virtual media</li> <li>Virtual media support for remote KVM and CD/DVD drives as if local</li> <li>IPMI 2.0 support for OOB management through third-party enterprise management systems</li> <li>Command-line interface (CLI) for server management</li> </ul>
<b>Integrated Dual Gigabit Ethernet</b>	<ul style="list-style-type: none"> <li>Outstanding network I/O performance and increased network efficiency and flexibility</li> <li>Increased network availability when configured in failover configurations</li> </ul>

\* With 96x64 GB DIMMs when available

## Product Specifications

Table 2 lists the specifications for the Cisco UCS C460 M4 Rack Server.

**Table 2.** Product Specifications

Item	Specification
<b>Processors</b>	<ul style="list-style-type: none"><li>• 2 or 4 multicore Intel Xeon processor E7-4800/8800 v2, v3, or v4 product family</li><li>• Choice of processors: Intel Xeon processor E7-4800/8800 v2, v3 or v4 processor family</li></ul>
<b>Memory</b>	<ul style="list-style-type: none"><li>• Up to 96 DIMMs</li><li>• Support for DDR3 registered DIMMs or load-reduced DIMMs</li><li>• Support for DDR4 registered DIMMs or load-reduced DIMMs</li><li>• Advanced error-correcting code (ECC)</li><li>• Mirroring option</li><li>• Double device data correction (DDDC)</li></ul>
<b>PCIe slots</b>	<ul style="list-style-type: none"><li>• There are 10 full-height PCIe expansion slots: 1 x 4, 3/4 length; 2 x 8, 1/2 length; 2 x 8, 3/4 lengths; 2 x 8, full length; 1 x 16, 3/4 length; and 2 x 16, full length</li></ul>
<b>Hard drives</b>	Up to 12 front-accessible, hot-swappable, 2.5-inch SAS, SATA, or SSD drives with support for 2 PCIe SSD
<b>Hard disk options</b>	<ul style="list-style-type: none"><li>• 100GB-3.8TB SSDs, 300GB-1.8TB HDD, and 800GB-1.6TB PCIe SSD</li></ul>
<b>Integrated graphics</b>	Matrox G200e core embedded into the Server Engines Pilot-2 baseboard management controller (BMC)
<b>Cisco UCS IMC</b>	<ul style="list-style-type: none"><li>• Integrated Server Engines Pilot-2 BMC</li><li>• IPMI 2.0 compliant for management and control</li><li>• Two 10/100BASE-T OOB management interfaces</li><li>• CLI and WebGUI management tool for automated, lights-out management</li><li>• KVM</li></ul>
<b>Front-panel connector</b>	Ease of access to front-panel VGA video port and 3 USB ports
<b>Front-panel status LEDs</b>	5 LED status indicators: for the CPU, memory, power supply, and LAN status and the system ID
<b>Additional rear connectors</b>	Additional interfaces: VGA video port, serial port connector, and 2 USB 2.0 ports
<b>Physical dimensions (H x W x D)</b>	4RU: 6.9 x 17.5 x 30 in. (175x 445 x 762 mm)
<b>Temperature: Operating</b>	50 to 95°F (10 to 35°C)
<b>Temperature: Nonoperating</b>	-40 to 158°F (-40 to 70°C)
<b>Humidity: Operating</b>	5 to 93% noncondensing
<b>Humidity Nonoperating</b>	95%, noncondensing at temperatures of 77 to 86°F (25 to 30°C)
<b>Altitude: Operating</b>	-100 to 5000 ft (-30 to 1500m)
<b>Altitude: Nonoperating</b>	40,000 ft (12,000m)

## Regulatory Standards

Table 3 lists regulatory standards compliance information.

**Table 3.** Regulatory Standards Compliance: Safety and EMC

Specification	Description
<b>Safety</b>	<ul style="list-style-type: none"><li>• UL 60950-1</li><li>• CAN/CSA C22.2 No. 60950-1</li><li>• EN 60950-1</li><li>• IEC 60950-1</li></ul>
<b>EMC: Emissions</b>	<ul style="list-style-type: none"><li>• Certified to FCC Class A; tested to CISPR 22 Class A, EN 55022 Class A and 89/336/EEC, VCCI Class A, AS/NZS 3548 Class A, ICES-003 Class A, and MIC Notice 1997-42 Class A, and BSMI CNS13438</li></ul>
<b>EMC: Immunity</b>	<ul style="list-style-type: none"><li>• Verified to comply with EN55024, CISPR 24, and MIC Notice 1997-41</li></ul>

## Ordering Information

This section provides a direct link to the Cisco Ordering Tool and lists part numbers for customer convenience (Table 4).

To place an order, visit the [Cisco Ordering homepage](#). To download software, visit the [Cisco Software Center](#).

**Table 4.** Ordering Information

Product Name	Part Number
UCS C460 M4 Rack Server w/o CPU/DIMM/HDD	UCSC-C460-M4

## Cisco Unified Computing Services: Cisco UCS C-Series Rack Servers

Using a unified view of data center resources, Cisco and our industry-leading partners deliver services that accelerate your transition to a Cisco UCS C-Series Rack Server solution. Cisco® Unified Computing Services helps you quickly deploy the servers, optimize ongoing operations to better meet your business needs, and migrate to Cisco's unified computing architecture. For more information, visit <http://www.cisco.com/go/unifiedcomputingservices>.

## For More Information

Please visit <http://www.cisco.com/go/unifiedcomputing>.



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