

## Cisco UCS C210 M2 General-Purpose Rack-Mount Server

### Product Overview

Cisco® UCS C-Series Rack-Mount Servers extend unified computing innovations to an industry-standard form factor to help reduce total cost of ownership (TCO) and increase business agility. Designed to operate both in standalone environments and as part of the Cisco Unified Computing System™, the series employs Cisco technology to help customers handle the most challenging workloads. The series incorporates a standards-based unified network fabric and Cisco VN-Link virtualization and protects customer investments with a future migration path to unified computing.

The Cisco UCS C210 M2 General-Purpose Rack-Mount Server is a two-socket, two-rack-unit (2RU) rack-mount server housing up to 16 internal small form-factor (SFF) SAS, SATA or SSD drives for a total of up to 16 terabytes (TB) of storage (Figure 1). The Cisco UCS C210 M2 server is designed to balance performance, density, and efficiency for workloads requiring economical, high-capacity, reliable, internal storage. Based on six-core Intel® Xeon® 5600 series processors, the server is built for applications including virtualization, network file servers and appliances, storage servers, database servers, and content-delivery servers.

Building on the success of the Cisco UCS C210 M1 General-Purpose Rack-Mount Server, the Cisco UCS C210 M2 server extends the capabilities of the Cisco Unified Computing System with the next generation of Intel processor technology: Intel® Xeon® 5600 series processors. These powerful processors deliver more cores, threads, and cache, all within a similar power envelope, with even faster payback, greater productivity, and better energy efficiency than preceding models. When put into production, Cisco Unified Computing System and Intel Xeon 5600 series processors together offer further reductions in TCO, increased business agility, and another big leap forward in data center virtualization.

**Figure 1.** Cisco UCS C210 M2 Server



### Applications

The Cisco UCS C210 M2 server combines the fastest Intel processors on the market today with a substantial amount of internal storage, creating a platform that speeds up standard and virtualized environments while helping optimize performance of storage-intensive applications:

- Virtualization workloads using a single or a large pool of servers; the optional Cisco UCS P81E Virtual Interface Card\* brings the full power of the Cisco Unified Computing System to the platform, including the capability to support up to 128 Ethernet or Fibre Channel virtual interfaces that are programmed on demand to meet the needs of both virtualized and nonvirtualized environments, and Intel Virtualization Technology for Direct I/O further speeds virtual machine I/O operations by facilitating direct control over physical interfaces from virtual machines
- Database management systems can thrive on the server's abundant internal storage.

- The Cisco UCS C210 M2 is an ideal application server, where multiple processor cores contribute directly to performance.
- I/O-intensive applications, including data warehousing, medical imaging, video surveillance, document imaging, and content distribution, have up to 16 TB of disk storage for application data.

## Features and Benefits

The Cisco UCS C210 M2 server extends Cisco's product portfolio to meet the needs of customers that choose to deploy rack-mount servers. The server enables organizations to deploy systems incrementally - using as many or as few servers as needed - on a schedule that best meets the organization's timing and budget.

Designed to operate both in standalone environments and as part of the Cisco Unified Computing System, the server combines high-capacity disk storage and I/O configurations with Cisco innovations, including a unified network fabric and network-aware Cisco VN-Link technology.

The server brings differentiation and value to what has been a commodity market with products not optimized to meet the needs of virtualized data centers. Available from Cisco and its data center network infrastructure (DCNI) partners, the server advances the rack-mount server market with the features outlined in Table 1.

**Table 1.** Features and Benefits

Feature	Benefit
<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</li> <li>• Wire-once deployment model in which 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</b>	<ul style="list-style-type: none"> <li>• Cisco VN-Link technology, I/O virtualization, and Intel Xeon 5600 series processor features, extending the network directly to virtual machines</li> <li>• Consistent and scalable operational model</li> <li>• Increased security and efficiency with reduced complexity</li> </ul>
<b>Unified management* (when integrated into the Cisco Unified Computing System)</b>	<ul style="list-style-type: none"> <li>• Entire solution managed as a single entity with Cisco UCS Manager, improving operational efficiency and flexibility</li> <li>• Service profiles and templates that implement role- and policy-based management, enabling more effective use of skilled server, network, and storage administrators</li> <li>• Automated provisioning and increased business agility, allowing data center managers to provision applications in minutes rather than days</li> </ul>
<b>Six-core Intel Xeon 5600 series processors</b>	<ul style="list-style-type: none"> <li>• Intelligent performance that automatically adjusts processor performance to meet application demands, increasing performance when needed and achieving substantial energy savings when not</li> <li>• Automated energy efficiency that reduces energy costs by automatically putting the processor and memory in the lowest available power state while still delivering the performance required</li> <li>• Flexible virtualization technology that optimizes performance for virtualized environments, including processor support for migration and direct I/O</li> <li>• With more cores, threads, and cache, in a similar power envelope, the Cisco Unified Computing System and Intel Xeon 5600 series processors together offer further reductions in TCO, increased business agility, and another big leap forward in data center virtualization.</li> <li>• Cisco C-series servers keep pace with Intel Xeon processor innovation by offering the latest series 5600 processors with an increase in processor frequency and improved security features. With the increased clock speed, the Intel Xeon 5600 series based UCS C-Series rack mount servers will offer improved price/performance making UCS servers one of the best values in the industry.</li> </ul>
<b>High-capacity, flexible internal storage</b>	<ul style="list-style-type: none"> <li>• Up to 16 front-accessible, hot-swappable, SFF SAS, SATA or SSD drives for local storage, providing redundancy options and ease of serviceability</li> <li>• Balanced performance and capacity to best meet application needs: <ul style="list-style-type: none"> <li>◦ 15,000 RPM SAS drives for highest performance</li> <li>◦ 10,000 RPM SAS drives for high performance and value</li> <li>◦ 7200-RPM SATA drives for high capacity and value</li> </ul> </li> </ul>
<b>RAID 0, 1, 5, 6, 10, 50, and 60 support</b>	A choice of RAID controllers to provide data protection for up to 16 SAS, SATA or SSD drives in PCIe and mezzanine card form factors

Feature	Benefit
<b>Cisco UCS Integrated Management Controller</b>	<ul style="list-style-type: none"> <li>• Web user interface for server management; remote keyboard, video, and mouse (KVM); virtual media; and administration</li> <li>• Virtual media support for remote KVM and CD and DVD drives as if local</li> <li>• Intelligent Platform Management Interface (IPMI) 2.0 support for out-of-band management through third-party enterprise management systems</li> <li>• Command-line interface (CLI) for server management</li> </ul>
<b>Fast-memory support</b>	12 DIMM slots supporting up to 192 GB of 1333-MHz memory for optimal performance
<b>Redundant fans and power supplies</b>	Dual-redundant fans and power supplies for enterprise-class reliability and uptime
<b>5 PCI Express (PCIe) 2.0 slots</b>	<ul style="list-style-type: none"> <li>• Flexibility, increased performance, and compatibility with industry standards</li> <li>• PCIe 2.0 slots, which double bandwidth over the previous generation and offer more flexibility while maintaining compatibility with PCIe 1</li> <li>• I/O performance and flexibility with 2 full-height, full-length and 3 full-height half-length x8 PCIe slots, all with x16 connectors</li> </ul>
<b>Integrated dual-port 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>
<b>Optional optical drive</b>	Direct front-panel read/write access to CD and DVD media

## Product Specifications

Table 2 lists the specifications for the Cisco UCS C210 M2 server.

**Table 2.** Product Specifications

Item	Specification
<b>Processors</b>	<ul style="list-style-type: none"> <li>• 1 or 2 Intel Xeon Series 5500 or 5600 processors</li> <li>• Choice of processors: Intel Xeon X5670, X5650, X5675, L5640, E5649, E5645, E5640, E5620, E5506, or E5606</li> </ul>
<b>Memory</b>	<ul style="list-style-type: none"> <li>• 12 DIMM slots for up to 192 GB of memory using 16-GB DIMMs; 4 and 8-GB DIMMs are also available</li> <li>• Support for DDR3 registered DIMMs</li> <li>• Support for DDR3 low-voltage DIMMs</li> <li>• Advanced ECC</li> <li>• Mirroring option</li> </ul>
<b>PCIe slots</b>	<ul style="list-style-type: none"> <li>• 5 PCIe x8 slots <ul style="list-style-type: none"> <li>◦ 5 x8 slots</li> <li>◦ x16 connectors on all slots</li> <li>◦ 3 full-height, half-length and 2 full-height full-length slots available</li> </ul> </li> </ul>
<b>Mezzanine card</b>	LSI 1064e Controller-Based Mezzanine Card (RAID 0 or 1; 4 ports)
<b>Hard drives</b>	Up to 16 front-accessible, hot-swappable, 2.5-inch SAS, SATA or SSD drives
<b>Hard disk options</b>	<ul style="list-style-type: none"> <li>• 146-GB SAS; 6G, 15,000 RPM</li> <li>• 300-GB SAS; 6G, 10,000 RPM</li> <li>• 500-GB SATA; 7200 RPM</li> <li>• 600-GB SAS; 10,000 RPM</li> <li>• 1-TB SATA; 7,200 RPM</li> <li>• 100-GB SSD</li> </ul>
<b>Optical drive</b>	Optional 24x CD-R/RW DVD±R/RW read/write optical drive
<b>Integrated graphics</b>	Matrox G200 core embedded into the ServerEngines Pilot-2 Baseboard Management Controller (BMC)
<b>Cisco UCS Integrated Management Controller</b>	<ul style="list-style-type: none"> <li>• Integrated ServerEngines Pilot-2 BMC</li> <li>• IPMI 2.0 compliant for management and control</li> <li>• One 10/100BASE-T out-of-band management interface</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 video, 2 USB ports, and serial console
<b>Front-panel locator LED</b>	Indicator to help direct administrators to specific servers in large data center environments
<b>Additional rear connectors</b>	Additional interfaces include a DB-15 video port, 2 USB 2.0 ports, and a DB-9 serial port
<b>Physical dimensions (HxWxD)</b>	2RU: 3.45 x 17.2 x 28.4 in. (8.76 x 43.69 x 72.14 cm)

Item	Specification
Temperature: Operating	50 to 95°F (10 to 35°C)
Temperature: Nonoperating	-40 to 149°F (-40 to 65°C)
Humidity: Operating	5 to 93% noncondensing
Humidity Nonoperating	5 to 93% noncondensing
Altitude: Operating	0 to 10,000 ft (0 to 3000m); maximum ambient temperature decreases by 1°C per 300m
Altitude: Nonoperating	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 No. 21CFR1040</li> <li>• CAN/CSA-C22.2 No. 60950-1</li> <li>• IRAM IEC60950-1</li> <li>• CB IEC60950-1</li> <li>• EN 60950-1</li> <li>• IEC 60950-1</li> <li>• GOST IEC60950-1</li> <li>• SABS/CB IEC6095-1</li> <li>• CCC/CB GB4943-1995</li> <li>• CNS14336</li> <li>• CB IEC60950-1</li> <li>• AS/NZS 60950-1</li> <li>• GB4943</li> </ul>
<b>EMC: Emissions</b>	<ul style="list-style-type: none"> <li>• 47CFR Part 15 (CFR 47) Class A</li> <li>• AS/NZS CISPR22 Class A</li> <li>• CISPR2 2 Class A</li> <li>• EN55022 Class A</li> <li>• ICES003 Class A</li> <li>• VCCI Class A</li> <li>• EN61000-3-2</li> <li>• EN61000-3-3</li> <li>• KN22 Class A</li> <li>• CNS13438 Class A</li> </ul>
<b>EMC: Immunity</b>	<ul style="list-style-type: none"> <li>• EN55024</li> <li>• CISPR24</li> <li>• KN 61000-4 Series, KN 24</li> </ul>

For a complete list of Product ID numbers (PIDS) please refer to the corresponding [SpecSheet](#).

## Cisco Unified Computing Services: Cisco C-Series Rack-Mount 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-Mount Server solution. Cisco Unified Computing Services help 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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