Cisco UCS C200 M1 High-Density 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, Cisco VN-Link virtualization support, and Cisco Extended Memory Technology. It supports an incremental deployment model and protects customer investments with a future migration path to unified computing.

The Cisco UCS C200 M1 High-Density Rack-Mount Server is a high-density server with balanced compute performance and I/O flexibility (Figure 1). This price-to-performance optimized two-socket, one-rack-unit (1RU) rack-mount server is designed to balance simplicity, performance, and density for web infrastructure and mainstream data center, small-office, and remote-office applications. Its single-rack-unit size makes it useful for service providers offering dedicated or multi-tenant hosting, and its economical price makes it well suited to the appliance market.

Figure 1. Cisco UCS C200 M1 Server

Applications

The Cisco UCS C200 M1 server is a high-density general-purpose two-socket server optimized to deliver high performance in a compact, 1RU form factor. Based on Intel® Xeon® 5500 series processors, the server provides excellent performance and value for workloads including the following:

- Horizontally scaled applications such as web servers in which both performance and density are important
- Application server workloads where multiple processor cores contribute directly to higher performance
- Infrastructure applications including mail and messaging servers, firewalls, file and print servers, and intrusion-detection systems
- Small-office and remote-office applications
- Service provider infrastructure for both shared and dedicated hosting models

Features and Benefits

The Cisco UCS C200 M1 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.

* Future capability planned to follow the product's first customer shipment (FCS).

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
10-Gbps unified network fabric	• Low-latency, lossless, 10-Gbps Ethernet and industry-standard Fibre Channel over Ethernet (FCoE) fabric • Wire-once deployment model in which changing I/O configurations no longer means installing adapters and recabling racks and switches • Fewer interface cards, cables, and upstream network ports to purchase, power, configure, and maintain
Virtualization optimization	• Cisco VN-Link technology, I/O virtualization, and Intel Xeon 5500 series processor features, extending the network directly to virtual machines • Consistent and scalable operational model • Increased security and efficiency with reduced complexity
Unified management* (when integrated into the Cisco Unified Computing System)	• Entire solution managed as a single entity with Cisco UCS Manager, improving operational efficiency and flexibility • Service profiles and templates that implement role- and policy-based management, enabling more effective use of skilled server, network, and storage administrators • Automated provisioning and increased business agility, allowing data center managers to provision applications in minutes rather than days
Quad-core Intel Xeon 5500 series processors	• Intelligent performance that automatically adjusts processor performance to meet application demands, increasing performance when needed and achieving substantial energy savings when not • 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 • Flexible virtualization technology that optimizes performance for virtualized environments, including processor support for migration and direct I/O
Hot-swappable SAS and SATA drives	• Up to 4 front-accessible, hot-swappable, internal 3.5-inch SAS or SATA drives, providing redundancy options and ease of serviceability • Balanced performance and capacity to best meet application needs: ◦ 15,000-RPM SAS drives for highest performance ◦ 7200-RPM SAS drive for high capacity and performance ◦ 7200-RPM SATA II drives for high capacity and value
RAID 0, 1, 5, 6, and 10 support	• A choice of RAID controllers to provide data protection for up to 4 SAS or SATA drives • Options include built-in RAID 0 and 1 support for SATA drives; RAID 0 and 1 for SAS or SATA drives through a mezzanine card; and RAID 0, 1, 5, 6, and 10 support through a PCIe LSI MegaRAID Controller
Cisco UCS Integrated Management Controller	• Web user interface for server management; remote keyboard, video, and mouse (KVM); virtual media; and administration • Virtual media support for remote KVM and CD and DVD drives as if local • Intelligent Platform Management Interface (IPMI) 2.0 support for out-of-band management through third-party enterprise management systems • Command-line interface (CLI) for server management
Fast-memory support	12 DIMM slots supporting up to 96 GB of 1333-MHz memory for optimal performance
Redundant fans and power supplies	Dual-redundant fans and power supplies for enterprise-class reliability and uptime
Support for up to 2 PCIe 2.0 slots	• Flexibility, increased performance, and compatibility with industry standards • PCIe 2.0 slots, which double bandwidth over the previous generation and offer more flexibility while maintaining compatibility with PCIe 1.1 • I/O performance and flexibility with 1 low-profile, half-length and 1 full-height, half-length x8 PCIe slot
Integrated dual-port Gigabit Ethernet	• Outstanding network I/O performance and increased network efficiency and flexibility • Increased network availability when configured in failover configurations
Optical drive	Direct front-panel read/write access to CD and DVD media

Product Specifications

Table 2 lists the specifications for the Cisco UCS C200 M1 server.

Table 2. Product Specifications

Item	Specification
Processors	• 1 or 2 Intel Xeon Series 5500 processors • Choice of processors: Intel Xeon X5570, X5550, E5540, E5520, L5520, or E5504
Memory	• 12 DIMM slots for up to 96 GB of memory using 8-GB DIMMs • Support for DDR3 registered DIMMs • ECC and ChipKill support • Mirroring option
PCIe slots	• 2 PCIe 2.0 slots available ◦ 2 x8, half-length slots ◦ x16 connector on full-height slot and x8 connector on low-profile slot
Mezzanine card	LSI 1064 Controller-Based Mezzanine Card (RAID 0 or 1; 4 ports)
Hard drives	Up to 4 front-accessible, hot-swappable, 3.5-inch SAS or SATA drives
Hard disk options	• 250-GB SATA; 7200 RPM • 500-GB SATA; 7200 RPM • 146-GB SAS; 15,000 RPM • 300-GB SAS; 15,000 RPM • 1-TB SAS; 7200 RPM
Optical drive	24x CD-R/RW DVD±R/RW read/write optical drive
Integrated graphics	Matrox G200 core embedded into the ServerEngines Pilot-2 Baseboard Management Controller (BMC)
Cisco UCS Integrated Management Controller	• Integrated ServerEngines Pilot-2 BMC • IPMI 2.0 compliant for management and control • One 10/100BASE-T out-of-band management interface • CLI and WebGUI management tool for automated, lights-out management • KVM
Front-panel connector	Ease of access to front-panel video, 2 USB ports, and serial console
Front-panel locator LED	Indicator to help direct administrators to specific servers in large data center environments
Additional rear connectors	Additional interfaces include a DB-15 video port, 2 USB 2.0 ports, and a DB-9 serial port
Physical dimensions (H x W x D)	1RU: 1.7 x 16.9 x 27.8 in. (4.32 x 42.93 x 70.61 cm)
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
Safety	• UL 60950-1 No. 21CFR1040 • CAN/CSA-C22.2 No. 60950-1 • IRAM IEC60950-1 • CB IEC60950-1 • EN 60950-1 • IEC 60950-1

	• GOST IEC60950-1 • SABS/CB IEC6095-1 • CCC*/CB GB4943-1995 • CNS14336 • CB IEC60950-1 • AS/NZS 60950-1 • GB4943
EMC: Emissions	• 47CFR Part 15 (CFR 47) Class A • AS/NZS CISPR22 Class A • CISPR2 2 Class A • EN55022 Class A • ICES003 Class A • VCCI Class A • EN61000-3-2 • EN61000-3-3 • KN22 Class A • CNS13438 Class A
EMC: Immunity	• EN55024 • CISPR24 • KN 61000-4 Series, KN 24

Ordering Information

Help customers understand all the components they need to purchase to install and use the product. This section also 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 C200 M1 Rack Server with DVD-RW and 1 Power Supply. CPUs, memory, HDD, PCIe cards, Rail Kit and Redundant PSU must be ordered below.	R200-1120402
Intel Xeon X5570 Quad-Core Processor (2.93GHz , 95W CPU/8MB cache, 1333MHz	N20-X00001
Intel Xeon X5550 Quad-Core Processor (2.66GHz, 95W CPU/8MB cache, 1333MHz)	N20-X00006
Intel Xeon E5540 Quad-Core Processor (2.53GHz, 80W CPU/8MB cache, 1066MHz)	N20-X00002
Intel Xeon E5520 Quad-Core Processor (2.26GHz, 80W CPU/8MB cache, 1066MHz)	N20-X00003
Intel Xeon L5520 Quad-Core Processor (2.26GHz, 60W CPU/8MB cache, 1066MHz)	N20-X00004
Intel Xeon E5504 Quad-Core Processor (2.00GHz, 80W CPU/4MB cache, 800MHz)	N20-X00009
2GB DDR3-1333MHz RDIMM/PC3-10600	N01-M302GB1
4GB DDR3-1333MHz RDIMM/PC3-10600	N01-M304GB1
8GB DDR3-1333MHz RDIMM/PC3-10600	N01-M308GB2
1GB DDR3-1066MHz Unbuffered DIMM/PC3-10600/single rank 1Gb DRAMs	A02-U301GB1
2GB DDR3-1066MHz Unbuffered DIMM/PC3-10600/dual rank 1Gb DRAMs	A02-U302GB1
LSI 1064E Controller-Based Mezzanine Card (4-port SAS/SATA 3.0G RAID 0, 1, 1E controller)	R2X0-ML002
LSI MegaRAID SAS 8708EM2 PCIe RAID Controller with 256MB Write Cache (SAS/SATA RAID 0,1,5,6,10,50.60, eight ports)	R2XX-PL002
Battery Back-up (for the LSI MegaRAID controller)	R2XX-LBBU
250GB SATA 7.2K RPM 3.5" HDD/hot plug/C200 drive sled	R200-D250GCSATA
500GB SATA 7.2K RPM 3.5" HDD/hot plug/C200 drive sled	R200-D500GCSATA
146GB SAS 15K RPM 3.5" HDD/hot plug/C200 drive sled	R200-D146GB
300GB SAS 15K RPM 3.5" HDD/hot plug/C200 drive sled	R200-D300GB
1TB SAS 7.2K RPM 3.5" HDD/hot plug/C200 drive sled	R200-D1TC
650W power supply unit for UCS C200 M1 or C210 M1 Rack-Mount Server	R2X0-PSU2-650W

Rail Kit for the UCS C-Series Rack Server	R250-SLDRAIL
Cable Management Arm	R250-CBLARM
Trusted Platform Module Chip	R200-TPM1
N5000 AC Power Cable, 6A, 250V, North America, 2.5m	CAB-N5K6A-NA
N5000 AC Power Cable, 13A, 250V, North America, 2.5m	CAB-AC-250V/13A
N5000 AC Power Cable, 6A, 250V, Power Strip Type	CAB-C13-C14-JMPR
N5000 AC Power Cable, 10A, 250V, Argentina, 2.5m	SFS-250V-10A-AR
N5000 AC Power Cable, 10A, 250V, Australia, 2.5m	CAB-9K10A-AU
N5000 AC Power Cable, 10A, 250V, China, 2.5m	SFS-250V-10A-CN
N5000 AC Power Cable, 10A, 250V, Europe, 2.5m	CAB-9K10A-EU
N5000 AC Power Cable, 10A, 250V, India, 2.5m	SFS-250V-10A-ID
N5000 AC Power Cable, 10A, 250V, Israel, 2.5m	SFS-250V-10A-IS
N5000 AC Power Cable, 10A, 250V, Italy, 2.5m	CAB-9K10A-IT
N5000 AC Power Cable, 10A, 250V, Switzerland, 2.5m	CAB-9K10A-SW
N5000 AC Power Cable, 10A, 250V, United Kingdom, 2.5m	CAB-9K10A-UK
N5000 Power Cord, 125VAC 15A NEMA 5-15 Plug, North America, 2.5m	CAB-9K12A-NA

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 www.cisco.com/go/unifiedcomputingservices.

For More Information

Please visit www.cisco.com/go/unifiedcomputing.

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