Cisco UCS C250 M2 Extended-Memory Rack-Mount Server

High-Performance, Memory-Intensive Server for Virtualized and Large-Data-Set Workloads

At-A-Glance

Extended Memory for Demanding Workloads

The Cisco® UCS C250 M2 Extended-Memory Rack-Mount Server is a high-performance, memory-intensive, two-socket, two-rack-unit (2RU) rack-mount server designed to increase performance and capacity for demanding virtualization and large-data-set workloads (Figure 1). It also can reduce the cost of smaller memory footprints through the use of lower-cost, lower-density memory. The system is built for virtualized workloads in enterprise data centers, service provider environments, and virtual desktop hosting. The system also helps increase performance for large-data-set workloads, including database management systems and modeling and simulation applications.

Figure 1. Cisco UCS C250 M2 Server

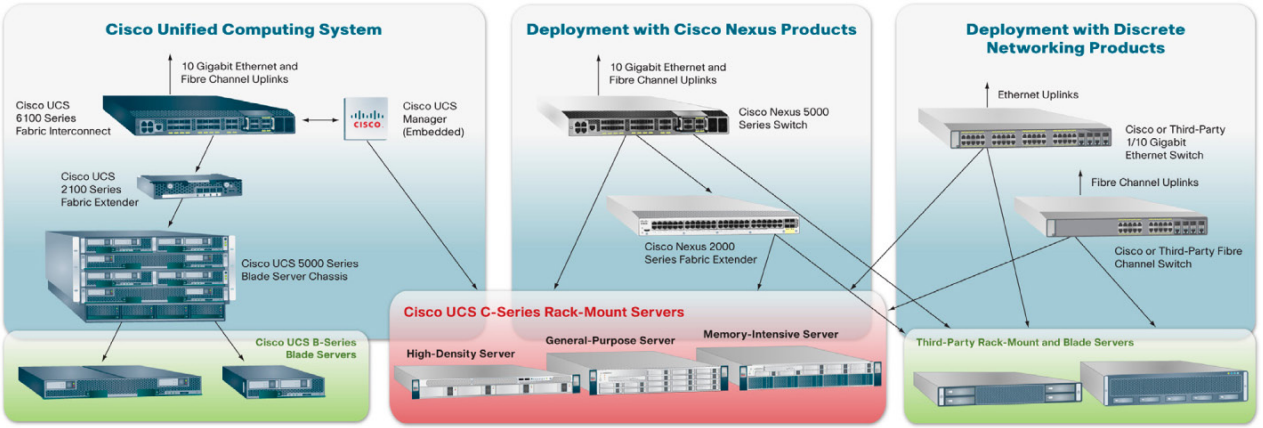
Unique Benefits in a Familiar Package

The Cisco UCS C250 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™* (Figure 2), the server combines flexible disk storage and I/O configurations with Cisco innovations including patented Cisco Extended Memory technology, 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 following features:

Figure 2. Cisco UCS C-Series Rack-Mount Servers Are Designed to Operate in a Wide Range of Data Center Environments, Including Those Using the Cisco Unified Computing System, Cisco Nexus® Family Products, and Discrete Ethernet and Fibre Channel Switches from Cisco and Third Parties



- **Cisco Extended Memory Technology:** This technology offers twice as much memory (384 GB) as traditional two-socket servers, or a more economical (192 GB) memory footprint using 4-GB rather than 8-GB DIMMs. Designed to strike a balance between processing power and memory capacity appropriate for virtualized and large-data-set workloads, the technology eliminates the need to upgrade to more expensive four-socket servers just to establish a large memory footprint. This technology, along with the use of Samsung 40 nm class DDR3 memory helps lower both capital and operating costs.
- **Flexible I/O and storage options:** With five PCI Express (PCIe) expansion slots, the server offers I/O flexibility and bandwidth, including the ability to integrate with traditional Gigabit Ethernet LANs and Fibre Channel SANs. The server hosts up to eight internal Small Form-Factor (SFF) SAS, SATA or SSD drives, providing internal storage capacity exceeding what is available in a corresponding blade form-factor server.
- **10 Gigabit unified network fabric:** When equipped with converged network adapters (CNAs) or the Cisco UCS P81E Virtual Interface Card*, the server integrates with a low-latency, lossless 10-Gbps Ethernet and industry-standard Fibre Channel over Ethernet (FCoE) fabric. This technology enables a "wire-once" deployment model in which changing I/O configurations no longer means installing adapters and recabling racks and switches.
- **Virtualization optimization*:** Cisco VN-Link technology, I/O virtualization, and Intel® Xeon® 5600 series processor features extend the network directly to virtual machines. This optimization enables a consistent and scalable operational model, helping increase security and efficiency while reducing complexity.
- **Unified management*:** When integrated as a part of the Cisco Unified Computing System, management is uniquely integrated into all components of the system, enabling the entire solution to be managed as a single entity through Cisco UCS Manager, improving operational efficiency and flexibility.
- **Service profiles:** When integrated as part of the Cisco Unified Computing System, Cisco UCS Manager implements role- and policy-based

management using service profiles and templates. Service profiles help automate provisioning and increase business agility, allowing data center managers to provision applications in minutes instead of days.

Features of the Cisco UCS C250 M2 Server

- Up to two six-core Intel Xeon 5500 or 5600 series processors (Figure 3); these multicore processors automatically and intelligently adjust server performance according to application needs, increasing performance when needed and achieving substantial energy savings when not
- Up to 384 GB, 48 dual in-line memory module (DIMM) slots, based on Samsung 40 nm class DDR3 memory technology. (Figure 4)
- Up to eight internal SFF SAS, SATA or SSD drives for a total of up to 8 TB
- RAID 0, 1 and 1E support for up to four or eight SAS, SATA or SSD drives with the optional LSI SAS30813E-R PCIe RAID Controller; and RAID 0, 1, 5, 6, 10, 50, and 60 support for up to eight SAS, SATA or SSD drives with the optional LSI MegaRAID Controller
- Support for up to five PCIe cards in three low-profile, half-length x8 and two full-height, half-length x16 slots; all slots use x16 connectors
- Four integrated Gigabit Ethernet ports and two 10/100-Mbps Ethernet management ports for accessing the Cisco UCS Integrated Management Controller
- Front-panel CD/DVD drive, locator LED, and interface with video, two USB, and serial port connections
- Back-panel video, two USB, and serial port connectors
- Increased reliability, availability, and serviceability through optional dual-redundant power supplies meeting Climate Saver specifications and front panel–accessible hot-swap cooling fans

Figure 3. Intel Xeon 5600 Series Processor

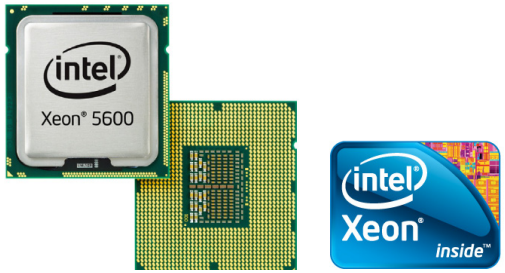


Figure 4. Samsung 40 nm Class, 1.35V High-Efficiency Green DDR3 Memory

Flexible I/O Options

One of the benefits of rack-mount servers is the capability to configure a range of I/O options to meet specific workload requirements. The Cisco UCS C250 M2 server offers a range of flexible I/O options through its five PCIe expansion slots. Cisco supports adapters through arrangements with original equipment manufacturers (OEMs).

- **The Cisco UCS P81E Virtual Interface Card*** delivers the full power of the Cisco Unified Computing System by providing up to 128 Ethernet or Fibre Channel virtual interfaces that are programmed on demand to meet the needs of virtualized and nonvirtualized environments alike. The dual-port card interfaces with a 10-Gbps unified fabric.
- **CNAs from Emulex and QLogic** present both Ethernet network interface cards (NICs) and Fibre Channel host bus adapters (HBAs) to the host operating system, consolidating traffic over a 10-Gbps unified fabric.
- **Discrete I/O adapters** further enhance customer flexibility and choice with Gigabit Ethernet, 10 Gigabit Ethernet, and 4-Gbps Fibre Channel interfaces from industry-leading vendors including Broadcom, Emulex, and QLogic.

Cisco Unified Computing Services

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 Unified Computing Services.

Why Cisco?

The Cisco Unified Computing System continues Cisco's long history of innovation in delivering integrated systems for improved business results based on industry standards and using the network as the platform. Recent examples include IP telephony, LAN switching, unified communications, and unified I/O. Cisco began the unified computing phase of our Data Center 3.0 strategy several years ago by assembling an experienced team from the computing and virtualization industries to augment our own networking and storage access expertise. As a result, Cisco delivered foundational technologies, including the Cisco Nexus® Family, supporting unified fabric and server virtualization. The Cisco Unified Computing System completes this phase, delivering innovation in architecture, technology, partnerships, and services. Cisco is well-positioned to deliver this innovation by taking a systems approach to computing that unifies network intelligence and scalability with innovative application-specific integrated circuits (ASICs), integrated management, and standard computing components.

For More Information

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

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

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