

Cisco UCS B200 M3 Blade Server



Product Overview

The Cisco® Unified Computing System™ (Cisco UCS™) combines Cisco UCS B-Series Blade Servers and C-Series Rack Servers with networking and storage access in a single converged system that simplifies management and delivers greater cost efficiency and agility with increased visibility and control. The latest server expansion of the Cisco UCS portfolio includes the new Cisco UCS B200 M3 Blade Server along with the new Cisco UCS C220 M3 Rack Server (one rack unit [1RU]) and Cisco UCS C240 M3 Rack Server (2RU). These three new servers increase compute density through more cores and cache balanced with more memory capacity and drives and with faster I/O. Together these server improvements and complementary Cisco UCS system advancements deliver the best combination of features and cost efficiency to support IT's diverse needs.

The Cisco UCS B200 M3 Blade Server delivers performance, versatility, and density without compromise. It addresses the broadest set of workloads, from IT and web infrastructure, through distributed database. Building on the success of the Cisco UCS B200 M2 Blade Server, the enterprise-class Cisco UCS B200 M3 Blade Server further extends the capabilities of the Cisco UCS portfolio in a half-width blade form factor. The Cisco UCS B200 M3 harnesses the power of the latest Intel® Xeon® processor E5-2600 product family, with up to 768 GB of RAM (using 32-GB DIMMs), two disk drives, and up to dual 4x 10 Gigabit Ethernet throughput. In addition, Cisco UCS has the architectural advantage of not having to power and cool excess switches in each blade chassis. With a larger power budget per blade server, Cisco can design uncompromised expandability and capabilities in its blade servers, as evidenced by the new Cisco UCS B200 M3, with its leading memory slot and drive capacity.

The Cisco UCS B200 M3 provides:

- Two, multi-core, Intel® Xeon® processor E5-2600 product family CPUs, for up to 16 processing cores
- 24 DIMM slots for industry-standard double-data-rate 3 (DDR3) memory running up to 1600 MHz and up to 768 GB of total memory (using 32-GB DIMMs)
- Two optional, hot-pluggable SAS or SATA hard disk drives (HDDs) or solid-state drives (SSDs)
- Remote management through a Cisco Integrated Management Controller (CIMC) that implements policy established in Cisco UCS Manager

- Out-of-band access by remote keyboard, video, and mouse (KVM) device, Secure Shell (SSH) Protocol, and virtual media (vMedia) as well as the Intelligent Platform Management Interface (IPMI)

In addition, the Cisco UCS B200 M3 is a half-width blade (Figure 1). Up to eight of these high-density, two-socket blade servers can reside in the 6RU Cisco UCS 5108 Blade Server Chassis, offering one of the highest densities of servers per rack unit in the industry.

Another Cisco innovation, the Cisco UCS Virtual Interface Card (VIC) 1240 is a 4-port 10 Gigabit Ethernet, Fibre Channel over Ethernet (FCoE)-capable modular LAN on motherboard (LOM) designed exclusively for the M3 generation of Cisco UCS B-Series Blade Servers. When used in combination with an optional I/O expander, the Cisco UCS VIC 1240 capabilities can be expanded up to eight ports of 10 Gigabit Ethernet. The Cisco UCS VIC 1240 enables a policy-based, stateless, agile server infrastructure that can present up to 256 PCI Express (PCIe) standards-compliant interfaces to the host that can be dynamically configured as either network interface cards (NICs) or host bus adapters (HBAs). In addition, the Cisco UCS VIC 1240 supports Cisco® Data Center Virtual Machine Fabric Extender (VM-FEX) technology, which extends the Cisco UCS fabric interconnect ports to virtual machines, simplifying server virtualization deployment.

Figure 1. Cisco UCS B200 M3 Blade Server



The Cisco UCS B200 M3 Blade Server continues Cisco's commitment to delivering uniquely differentiated value, fabric integration, and ease of management that is exceptional in the marketplace. The Cisco UCS B200 M3 further extends the capabilities of Cisco UCS by delivering new levels of manageability, performance, energy efficiency, reliability, security, and I/O bandwidth for enterprise-class applications:

Applications

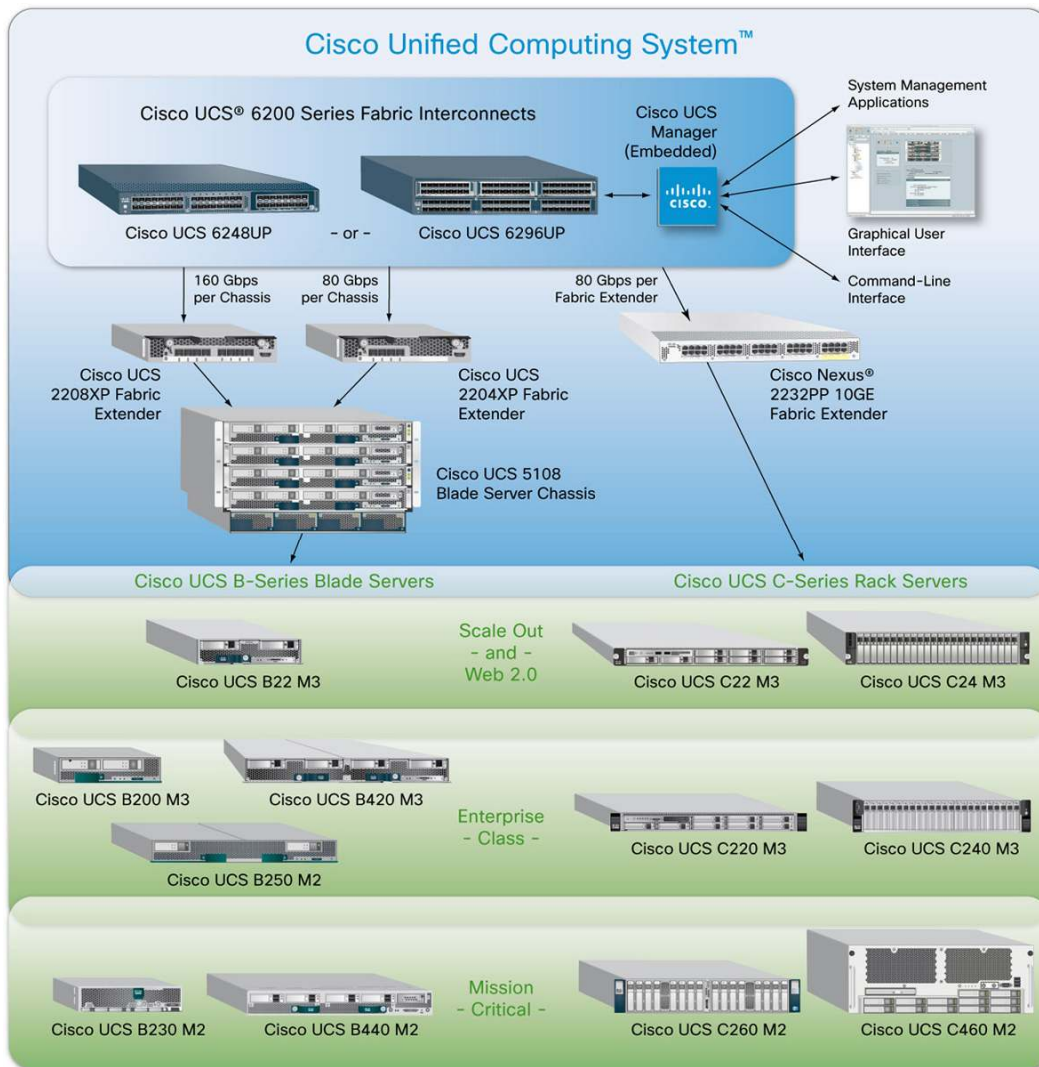
The Cisco UCS B200 M3 is suited for a broad range of IT workloads:

- Virtualized workloads
- IT and web infrastructure
- Virtual desktops
- Databases
- Middleware
- Enterprise resource planning (ERP) and customer relationship management (CRM) applications

Cisco UCS Servers Change the Economics of the Data Center

IT infrastructure matters now more than ever, as organizations seek to achieve the full potential of infrastructure as a service (IaaS), bare metal, virtualized servers, and cloud computing. Cisco continues to lead in Data Center innovation with the introduction of new building blocks for the Cisco Unified Computing System that extend its exceptional simplicity, agility, and efficiency (Figure 2). Innovations such as the Cisco UCS B200 M3 Blade Server bring even better industry-leading performance from IT infrastructure to enterprise applications.

Figure 2. Cisco UCS Components



Cisco innovations, such as the Cisco UCS Manager software, allow administrators to create a software model of a desired server (using Cisco service profiles and templates) and then instantiate that server and its I/O connectivity by associating a model with physical resources. This approach contrasts with the traditional approach of configuring each system resource manually, one at a time, through individual element managers. Unlike legacy vendors of traditional systems, Cisco uses a unified management model with service profiles that can be moved easily between any Cisco UCS servers - whether blade server or rack server - in a Cisco UCS Manager domain. In other words, Cisco UCS service profiles are form-factor agnostic.

Other Cisco UCS building blocks include new Cisco UCS VIC options, expanded Cisco UCS fabric interconnects, and additional fabric extender options that expand throughput and management simplicity for both blade and rack servers across bare-metal, virtualized, and cloud environments. Cisco UCS also provides investment protection. For example, fabric extenders can be upgraded in the same Cisco UCS 5108 Server Chassis using the same fabric interconnects. Fabric interconnects can be upgraded independently of fabric extenders and blade servers within the chassis. The Cisco UCS 5108 Chassis high-performance midplane provides 8 blades with 1.2 terabits (Tb) of available Ethernet throughput for future blade and I/O requirements. In addition, Cisco continues to innovate in all these areas, helping ensure that newer, more powerful blade servers have matching I/O bandwidth and computing power through continuous innovation across the Cisco UCS environment.

The Cisco UCS B200 M3 is also part of a large family of blade servers: the Cisco B-Series Blade Servers. Designed to operate as part of Cisco UCS, the Cisco UCS B-Series servers employ many innovative Cisco technologies to help customers handle the most challenging workloads. Cisco UCS B-Series servers operating in a Cisco UCS management framework incorporate a standards-based unified network fabric, Cisco VM-FEX virtualization support, Cisco UCS Manager software, Cisco fabric extender architecture, and Cisco Extended Memory Technology. Again, Cisco is innovating across all these technologies. Together, these Cisco UCS architectural advantages and Cisco's software advances, Cisco's continuous innovation, and unique blade server and chassis designs combine to make Cisco UCS the first truly unified data center platform. In addition, Cisco UCS can transform IT organizations through policy-based automation and deep integration with familiar systems management and orchestration tools.

Features and Benefits

Table 1 summarizes the features and benefits of the Cisco UCS B200 M3 server:

Table 1. Features and Benefits

Feature	Benefit
Unified fabric	<ul style="list-style-type: none"> Decreases total cost of ownership (TCO) by reducing the number of NICs, HBAs, switches, and cables needed Enables the Cisco UCS 5108 chassis to eliminate in-chassis HBAs, NICs, and switches and reallocates the saved power to denser, more powerful blade servers with more DIMM slots and better per-blade performance compared to alternative offerings
Cisco UCS Manager service profiles	<ul style="list-style-type: none"> Helps reduce the number of manual steps required to deploy servers in the data center, improving server policy consistency and coherency Allows servers and support infrastructure to be provisioned in minutes instead of days, shifting IT's focus from maintenance to strategic initiatives Reduces configuration errors significantly as blades are added or repurposed Enables service profile movement from blade to blade, rack server to blade, blade to rack server, or blade to blade in another chassis
Autodiscovery	<ul style="list-style-type: none"> Requires no configuration; as with all Cisco UCS components, blades are automatically recognized and configured by Cisco UCS Manager
Extensive monitoring	<ul style="list-style-type: none"> Through Cisco UCS Manager, provides extensive environmental monitoring for each blade Allows use of user thresholds to optimize environmental management of the blade
Cisco VIC adapter	<ul style="list-style-type: none"> Offers the Cisco UCS VIC 1240, a 4-port 10 Gigabit Ethernet, FCoE-capable adapter When used in combination with its port expander card, the Cisco UCS VIC 1240 can be expanded to eight ports of 10 Gigabit Ethernet support
Mezzanine adapters	<ul style="list-style-type: none"> Provides choice of converged network adapters (CNAs) and VIC adapters, providing flexibility, increased performance, compatibility with industry standards, and network policy coherence for virtualized environments
Cisco Flexible Flash (FlexFlash) memory	<ul style="list-style-type: none"> Provides dual secure digital high-capacity (SDHC) flash card sockets on the front left side of the server <p>Note: Cisco Flexible Flash secure digital cards are currently orderable; however, they will be enabled only with future firmware and software updates.</p>

Feature	Benefit
Optional local storage	<ul style="list-style-type: none"> Provides support on each blade for up to two optional front-access SAS or SATA HDDs or SSDs
Intel Xeon processor E5-2600 product family	<ul style="list-style-type: none"> Automated energy efficiency reduces energy costs by automatically putting the processor and memory in the lowest available power state while still delivering the performance required and flexible virtualization technology that optimizes performance for virtualized environments, including processor support for migration and direct I/O Up to twice the performance for floating-point operations is provided. Intel Advanced Vector Extensions (AVX) provides new instructions that can significantly improve performance for applications that rely on floating-point or vector computations Cisco UCS B-Series servers keep pace with Intel Xeon processor innovation by offering the latest processors with an increase in processor frequency and improved security features. With the increased performance provided by the Intel Xeon processor E5-2600 product family, Cisco UCS B-Series offers an improved price-to-performance ratio, making Cisco UCS servers among the best values in the industry Advanced reliability features, including Machine Check Architecture Recovery, to automatically monitor, report, and recover from hardware errors to maintain data integrity and keep mission-critical services online Hardened protection for virtual and cloud Environments: Establish trusted pools of virtual resources with Intel® Trusted Execution Technology (Intel® TXT). Intel TXT ensures that physical servers and hypervisors boot only into cryptographically verified "known good states." It safeguards your business more effectively by protecting your platform from the insertion of malware during or prior to launch

Specifications

Cisco UCS B-Series Blade Servers are key components of the Cisco UCS environment and are enabled by the Cisco UCS Manager and Cisco UCS 6100 Series Fabric Interconnects, 5100 Series Blade Server Chassis, and 2100 Series Fabric Extenders.

Table 2 summarizes the specifications for the Cisco UCS B200 M3.

Table 2. Product Specifications

Item	Specification
Processors	2 Intel Xeon processor E5-2600 product family CPUs
Processor cores	For a complete list of processor options, please refer to the corresponding SpecSheet
Memory	<ul style="list-style-type: none"> 24 DIMM slots Maximum of 768 GB with 32-GB DDR3 RDIMMs
Mezzanine adapter slots	2 (one dedicated to Cisco UCS VIC 1240)
Disk drives	Up to 2 optional front-access SAS or SATA HDDs or SSDs
Disk drive options	For a complete list of drive options, please refer to the corresponding SpecSheet
Maximum internal storage	Up to 1.2 TB
Drive controller	<ul style="list-style-type: none"> LSI SAS 2004 Integrated RAID controller RAID 0 and 1 support
Flash memory	2 slots for 16-GB SD flash memory cards (future enablement via software update)
Management	Managed from the Cisco UCS 6100 or 6200 Series Fabric Interconnects by Cisco UCS Manager
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)

Table 3 summarizes regulatory standards compliance.

Table 3. Regulatory Standards Compliance: Safety and EMC

Specification	Description
Regulatory compliance	Products should comply with CE Markings according to directives 2004/108/EC and 2006/108/EC
Safety	<ul style="list-style-type: none"> • UL 60950-1 No. 21CFR1040 Second Edition • CAN/CSA-C22.2 No. 60950-1 Second Edition • IEC 60950-1 Second Edition • EN 60950-1 Second Edition • IEC 60950-1 Second Edition • AS/NZS 60950-1 • GB4943 2001
EMC: Emissions	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • EN55024 • CISPR24 • EN300386 • KN24

Warranty Information

Find warranty information at Cisco.com on the [Product Warranties](#) page.

Ordering Information

For a complete list of part numbers, please refer to the corresponding [SpecSheet](#).

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 unified computing environment. Cisco Unified Computing Services helps you quickly deploy your data center resources and optimize ongoing operations to better meet your business needs. For more information about these and other Cisco Data Center Services offerings, visit <http://www.cisco.com/go/dcservices>.

Why Cisco?

Cisco has significant experience in listening to customer requirements and providing solid technology innovation for the enterprise data center. Cisco delivers standards-based solutions backed by a broad partner ecosystem of industry leaders to provide end-to-end customer solutions. Unified computing elevates the traditional product classification of network, server, storage, operating systems, and applications to a data center-wide vision. Cisco, as one of the largest technology providers in the world, has the resources, expertise, and customer focus to deliver on the unified computing vision.

For More Information

For more information about Cisco UCS B-Series Blade Servers, visit

<http://www.cisco.com/en/US/products/ps10280/index.html> or contact your local Cisco representative.

For complete technical information about Cisco UCS B200 M3 Blade Servers, visit:

http://www.cisco.com/en/US/prod/collateral/ps10265/ps10280/B200M3_SpecSheet.pdf.




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