

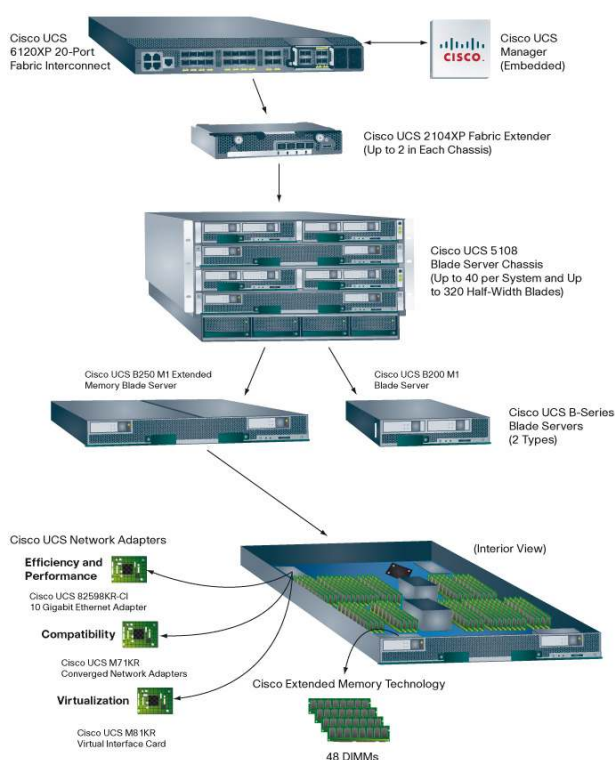
Cisco UCS B-Series M2 Blade Servers



Cisco Unified Computing System Overview

The Cisco® Unified Computing System is a next-generation data center platform that unites compute, network, storage access, and virtualization into a cohesive system designed to reduce total cost of ownership (TCO) and increase business agility. The system integrates a low-latency, lossless 10 Gigabit Ethernet unified network fabric with enterprise-class, x86-architecture servers. The system is an integrated, scalable, multichassis platform in which all resources participate in a unified management domain (Figure 1).

Figure 1. The Cisco Unified Computing System Is a Highly Available Cohesive Architecture



Building on the success of the Cisco UCS B200 M1 and UCS B250 M1 servers, the Cisco UCS B200 M2 and UCS B250 M2 servers extend 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. 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.

Product Overview

The Cisco UCS B-Series Blade Servers are crucial building blocks of the Cisco Unified Computing System, delivering scalable and flexible computing for today's and tomorrow's data center while helping reduce TCO.

The Cisco UCS B-Series Blade Servers are based on industry-standard server technologies and provide:

- Up to two Intel Xeon Series 5600 multicore processors
- Two optional front-accessible, hot-swappable SAS hard drives
- Support for up to two dual-port mezzanine card connections for up to 40 Gbps of redundant I/O throughput
- Industry-standard double-data-rate 3 (DDR3) memory
- Remote management through an integrated service processor that also executes policy established in Cisco UCS Manager software
- Local keyboard, video, and mouse (KVM) access through a front console port on each server
- Out-of-band access by remote KVM, Secure Shell (SSH) Protocol, and virtual media (vMedia) as well as Intelligent Platform Management Interface (IPMI)

The Cisco UCS B-Series offers two blade server models: the Cisco UCS B200 M2 2-Socket Blade Server and the Cisco UCS B250 M2 2-Socket Extended Memory Blade Server (Figure 2). The Cisco UCS B200 M2 is a half-width blade with 12 DIMM slots for up to 192 GB of memory; it supports one mezzanine adapter. The Cisco UCS B250 M2 is a full-width blade with 48 DIMM slots for up to 384 GB of memory; it supports up to two mezzanine adapters.

Figure 2. Cisco UCS B200 M2 and UCS B250 M2 Blade Servers



Table 1 compares the features of the Cisco UCS B-Series Blade Servers.

Table 1. Comparison of Cisco UCS B200 M2 and UCS B250 M2 Features

Model	Maximum Memory Capacity	Memory Size and Speed	Size and Form Factor	Maximum Number of Servers per Chassis	Maximum Number of Servers per System	Mezzanine Adapters	Throughput
Cisco UCS B200 M2	12 DIMMs; up to 192 GB	4-, 8-, and 16-GB DDR3; 1333 MHz	Half-width	8	160	1	Up to 20 Gbps of redundant I/O throughput
Cisco UCS B250 M2	48 DIMMs; up to 384 GB	4- and 8-GB DDR3; 1066 MHz and 1333 MHz	Full width	4	80	2	Up to 40 Gbps of redundant I/O throughput

Features and Benefits

The Cisco UCS B-Series Blade Servers are designed to increase performance, energy efficiency, and flexibility for demanding virtualized and nonvirtualized applications. Based on Intel Xeon 5600 Series processors, Cisco UCS B-Series Blade Servers adapt processor performance to application demands and intelligently scale energy use based on utilization.

Each Cisco UCS B-Series Blade Server uses converged network adapters (CNAs) for access to the unified fabric. This design reduces the number of adapters, cables, and access-layer switches while still allowing traditional LAN and SAN connectivity. This Cisco innovation reduces capital expenditures and operating expenses, including administrative overhead and power and cooling costs.

Cisco's innovative service profile technology embedded in the Cisco UCS Manager, provisions Cisco UCS B-Series Blade Servers and their I/O properties (for more information, please see [Cisco UCS Manager At-a-Glance](#)). Infrastructure policies needed to provision servers and deploy applications, such as policies for power and cooling, security, identity, hardware health, and Ethernet and storage networking, are encapsulated in the service profiles. Use of service profiles helps reduce the number of manual steps needed for provisioning, the opportunities for human error, and server and network deployment times. In addition, service profiles improve policy consistency and coherency across the entire Cisco Unified Computing System.

The Cisco UCS B250 M2 increases performance and capacity for demanding virtualization and large-data-set workloads with up to 384 GB of industry-standard memory. This technology offers a cost-effective memory footprint for demanding workloads.

The Cisco UCS B200 M2 balances simplicity, performance, and density for production-level virtualization and other mainstream data center workloads.

Table 2 summarizes the features and benefits of the Cisco UCS B-Series.

Table 2. Features and Benefits

Feature	Benefit
Unified fabric	<ul style="list-style-type: none"> Decreases TCO by reducing the number of network interface cards (NICs), host bus adapters (HBAs), switches, and cables needed
Service profile support	<ul style="list-style-type: none"> Contains all the infrastructure policies required to deploy applications and provision servers Helps reduce the number of manual steps required and the opportunity for human error, 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
Autodiscovery	<ul style="list-style-type: none"> Requires no configuration; like all components in the Cisco Unified Computing System, blades are automatically recognized and configured by Cisco UCS Manager
Cisco Extended Memory Technology	<ul style="list-style-type: none"> With Cisco UCS B250 M2, provides up to 384 GB of DDR3 memory Substantially increases the memory footprint, increasing performance and capacity for demanding virtualization and large-data-set workloads Helps reduce the number of servers and decrease licensing costs with higher virtual to physical consolidation ratios Offers a more cost-effective memory footprint as smaller-density DIMMs can be substituted for more expensive, higher-density DIMMs
Two server blade types	<ul style="list-style-type: none"> Provides memory and I/O bandwidth flexibility to meet application requirements
Mezzanine adapters	<ul style="list-style-type: none"> Provides flexibility, increased performance, compatibility with industry standards, and network policy coherence for virtualized environments
Hot-swappable SAS drives	<ul style="list-style-type: none"> Each blade supports up to two front-access hot-swappable drives for local storage, providing redundancy options and ease of serviceability Supports 10,000-RPM drives for value and capacity. and 15,000-RPM drives for performance
Embedded RAID 0 and 1 support	<ul style="list-style-type: none"> Provides data protection at no additional cost
Intel Xeon Series 5600 multicore processors	<ul style="list-style-type: none"> Adapts processor performance to application demands, and intelligently scales energy use based on utilization

Feature	Benefit
	<ul style="list-style-type: none"> • Cisco UCS B200 M2 provides up to 192 GB of DDR3 memory
Intel Intelligent Power Technology	<ul style="list-style-type: none"> • Reduces energy costs by automatically putting processor and memory in the lowest available power state while still delivering the performance required
Intel Next-Generation Virtualization Technology	<ul style="list-style-type: none"> • Enables best-in-class virtualization performance, superb scalability, enhanced flexibility, and simplified server management
Extensive monitoring	<ul style="list-style-type: none"> • For each blade, provides extensive environmental monitoring • Allows use of user thresholds to optimize environmental management of the blade

Specifications

The Cisco UCS B-Series Blade Servers are designed for use in the Cisco Unified Computing System environment and require Cisco UCS Manager, UCS 6100 Series Fabric Interconnects, UCS 5100 Series Blade Server Chassis, and UCS 2100 Series Fabric Extenders to function in this integrated environment.

Table 3 summarizes the specifications for the Cisco UCS B-Series. Table 4 summarizes regulatory standards compliance.

Table 3. Product Specifications

Item	Specification
Processors	<ul style="list-style-type: none"> • 1 or 2 Intel Xeon Series 5600 processors • Choice of Cisco UCS B250 M2 processors: Intel Xeon X5690, X5680, X5675, X5670, X5650, E5649, E5640, or E5620 • Choice of Cisco UCS B200 M2 processors: Intel Xeon X5690, X5680, X5675, X5670, X5650, E5649, E5640, or E5620
Memory	<ul style="list-style-type: none"> • Up to 12 DIMM slots per Cisco UCS B200 M2 • Up to 48 DIMM slots per Cisco UCS B250 M2 • Support for DDR3 registered DIMMs • Support for DDR3 low voltage DIMMs
Mezzanine adapters slots	<ul style="list-style-type: none"> • 1 per Cisco UCS B200 M2 • 1 or 2 per Cisco UCS B250 M2
Mezzanine adapter types	<ul style="list-style-type: none"> • Cisco UCS 82598KR-10 Gigabit Ethernet Network Adapter: • Cisco UCS M71KR-Q QLogic Converged Network Adapter • Cisco UCS M71KR-E Emulex Converged Network Adapter • Cisco UCS M81KR Virtual Interface Card
Hard drives	Up to 2 front-accessible, hot-swappable, 2.5-inch SAS or SATA Solid State Disk (SSD) drives per blade
Hard drive options	<ul style="list-style-type: none"> • 73-GB SAS; 15,000 rpm • 146-GB SAS; 10,000 rpm and 15,000 rpm • 300-GB SAS; 10,000 rpm • 100-GB 15mm SATA SSD
Management	Managed from the Cisco UCS 6100 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 3,000 m) Maximum ambient temperature decreases by 1°C per 300m)
Altitude: Nonoperating	40,000 ft (12,000m)

Table 4. 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 • CAN/CSA-C22.2 No. 60950-1 • EN 60950-1 • IEC 60950-1 • AS/NZS 60950-1 • GB4943
EMC: Emissions	<ul style="list-style-type: none"> • 47CFR Part 15 (CFR 47) Class A • AS/NZS CISPR22 Class A • CISPR22 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"> • EN50082-1 • EN61000-6-1 • EN55024 • CISPR24 • EN300386 • KN 61000-4 Series

Ordering Information

This section helps 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 5).

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

Table 5. Ordering Information

Product Name	Part Number
Cisco UCS B200 M2 Blade Server	N20-B6625-1
Cisco UCS B250 M2 Blade Server	N20-B6625-2

Warranty Information

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

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 help 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, 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.



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San Jose, CA

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