

Cisco UCS B440 M2 High-Performance Blade Server



Product Overview

The Cisco[®] UCS B440 M2 High-Performance [Blade Server](#) delivers the performance, scalability and reliability to power computation-intensive, enterprise-critical applications. By extending the agility and total-cost-of-ownership (TCO) benefits of unified computing to a wider range of workloads, the Cisco UCS B440 M2 helps IT departments free resources and respond more quickly to business demands.

The Cisco UCS B440 M2 is based on industry-standard server technologies and provides:

- Two or four multicore Intel[®] Xeon[®] processor E7-4800 product family for up to 40 processing cores
- Even better power performance than the B440 M1 with next generation memory buffers
- 32 DIMM slots for industry-standard double-data-rate 3 (DDR3) memory
- Four optional front-accessible, hot-pluggable Small Form Factor (SFF) hard drives with an LSI Logic SAS2108 controller and integrated RAID
- Two dual-port mezzanine-card connections for up to 80 Gbps of redundant I/O throughput
- Remote management through an integrated service processor that also implements 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 the Intelligent Platform Management Interface (IPMI)

The Cisco UCS B440 M2 is a full-width blade server (Figure 1); up to four of these high-density four-socket servers can reside in the six-rack-unit (6RU) Cisco UCS 5100 Series Blade Server Chassis.

Figure 1. Cisco UCS B440 M2 High-Performance Blade Server



Table 1 provides an overview of the Cisco UCS B440 M2.

Table 1. Cisco UCS B440 M2 Overview

Model	Number of Processor Sockets	Maximum Memory Capacity	Memory Size and Speed	Size and Form Factor	Maximum Number of Servers per Chassis	Maximum Number of Servers per Cisco Unified Computing System™	Mezzanine Adapters	Throughput
Cisco UCS B440 M2	4	32 registered DIMMs (RDIMMs); up to 1 TB	4-, 8-, 16- and 32-GB DDR3; error-correcting code (ECC) RDIMMs	Full width	4	160	2	Up to 80 Gbps of redundant I/O

Features and Benefits

The Cisco UCS B440 M2 blade server is designed to power the most demanding enterprise applications such as large-data-set and transaction-intensive databases, enterprise resource planning (ERP) applications, and decision-support systems (DSSs). Powered by the scalable performance and new reliability and security features of Intel® Xeon® processor E7-4800 product family, the Cisco UCS B440 M2 helps widen the scope of workload virtualization and unifies performance-intensive standalone applications within an integrated, simplified infrastructure. Advanced silicon-level reliability and security features automatically manage hardware errors and protect from malicious software attacks, maintaining data integrity and increasing the availability of enterprise-critical services. The Cisco UCS B440 M2 balances up to 40 processing cores and 1 TB of main memory with combined I/O throughput of up to 160 Gbps. These performance capabilities combined with comprehensive silicon and system-level reliability, availability, and serviceability (RAS) features place this server in the mission-critical class of systems.

Cisco's innovative service profile technology embedded in 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.

Every 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 (CapEx) and operating expenses (OpEx), including administrative overhead and power and cooling costs. Among the I/O options, and unique to the Cisco Unified Computing System, the Cisco UCS Virtual Interface Card (VIC) 1280 delivers up to 256 dynamic virtual adapters and interfaces, all tightly integrated with Cisco UCS Manager and VMware vCenter Server. Incorporating Cisco VM-FEX technology, this advanced fabric interface unifies virtual and physical networking into a single infrastructure. It provides virtual-machine visibility from the physical network and a consistent network operations model for physical and virtual servers. Two of these high-performance adapters can be employed to make use of the significant processing capacity of the Intel® Xeon® processor E7-4800 product family in the Cisco UCS B440 M2.

The Cisco UCS B440 M2 delivers an optimized balance of processing performance, memory capacity, advanced I/O, and mission-critical reliability in a high-density form factor. This powerful building block extends the capability of the Cisco Unified Computing System to help IT architects deliver enterprise-critical services with higher levels of efficiency, agility, and control than ever before.

Table 2 summarizes the features and benefits of the Cisco UCS B440 M2.

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
Integration with 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
Autodiscovery	<ul style="list-style-type: none"> Requires no configuration; as with all components in the Cisco Unified Computing System, 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
Mezzanine adapters	<ul style="list-style-type: none"> Offers choice of CNAs and virtual interface adapters, providing flexibility, increased performance, compatibility with industry standards, and network policy coherence for virtualized environments
Optional local storage	<ul style="list-style-type: none"> Provides support on each blade for up to four front-access hot-swappable drives for local storage, providing redundancy options and ease of serviceability Supports RAID 0, 1 and 5 Supports SFF SAS hard disk drives (HDDs) and SATA solid state drives (SSDs)
Intel® Xeon® processor E7-4800 product family	<ul style="list-style-type: none"> Provide performance, reliability and security capabilities to meet the diverse needs of a virtualized environment as well as the most computation-demanding standalone applications Use Intel Turbo Boost Technology and Intel Intelligent Power Technology to adapt processor performance to application demands and intelligently scale energy use based on utilization, reducing costs while still delivering the performance required Offer 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

Specifications

Cisco UCS B-Series Blade Servers are designed for use in the Cisco Unified Computing System environment with Cisco UCS Manager and Cisco UCS 6200 Series Fabric Interconnects, 5100 Series Blade Server Chassis, and 2200 Series Fabric Extenders to function in this integrated environment.

Table 3 summarizes the specifications for the Cisco UCS B440 M2. Table 4 summarizes regulatory standards compliance.

Table 3. Product Specifications

Item	Specification
Processors	<ul style="list-style-type: none"> 2 or 4 Intel® Xeon® processor E7-4800 product family
Processor cores	<ul style="list-style-type: none"> 6, 8, or 10 cores, varying by processor model
Memory	<ul style="list-style-type: none"> 32 DIMM slots Maximum of 1 TB Support for DDR3 RDIMMs
Mezzanine adapter slots	<ul style="list-style-type: none"> 2 per Cisco UCS B440 M2
Hard drives	<ul style="list-style-type: none"> Up to 4 front-accessible, hot-swappable, 2.5-inch SAS HDDs or SATA SSDs per blade

Item	Specification
Hard drive options	<ul style="list-style-type: none"> • 146-GB and 300-GB 6 Gb SAS 15K rpm HDDs • 300-GB, 600-GB and 900-GB 6 Gb SAS 10K rpm HDDs • 100-GB, 200-GB and 300-GB Enterprise Performance SSDs • 100-GB and 400-GB Enterprise Value SSDs
Drive controller	<ul style="list-style-type: none"> • LSI SAS2108 controller with RAID 0 and 1 support • Optional RAID 5 support • Optional write cache battery backup unit
Management	<ul style="list-style-type: none"> • Managed from the Cisco UCS 6200 Series Fabric Interconnects by Cisco UCS Manager
Temperature: Operating	<ul style="list-style-type: none"> • 50 to 95°F (10 to 35°C)
Temperature: Nonoperating	<ul style="list-style-type: none"> • -40 to 149°F (-40 to 65°C)
Humidity: Operating	<ul style="list-style-type: none"> • 5 to 93% noncondensing
Humidity: Nonoperating	<ul style="list-style-type: none"> • 5 to 93% noncondensing
Altitude: Operating	<ul style="list-style-type: none"> • 0 to 10,000 ft (0 to 3000m); maximum ambient temperature decreases by 1°C per 300m
Altitude: Nonoperating	<ul style="list-style-type: none"> • 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 • 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"> • EN50082-1 • EN61000-6-1 • EN55024 • CISPR24 • EN300386 • KN 61000-4 Series

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 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.



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