

Cisco UCS B440 M1 High-Performance Blade Server



Product Overview

The Cisco® UCS B440 M1 High-Performance [Blade Server](#) delivers the performance and reliability to power compute-intensive, enterprise-critical applications. By extending the agility and TCO benefits of unified computing to a wider range of workloads, the Cisco UCS B440 M1 helps IT departments free resources and respond more quickly to business demands.

The Cisco UCS B440 M1 is based on industry-standard server technologies and provides:

- Two or four Intel® Xeon® 7500 series multicore processors for up to 32 processing cores
- 32 DIMM slots for industry-standard double-data-rate 3 (DDR3) memory
- Four optional front-accessible, hot-plug Small Form Factor (SFF) hard drives with an LSI Logic SAS2108 controller and integrated RAID
- Two dual-port mezzanine card connections for up to 40 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 Intelligent Platform Management Interface (IPMI)

The Cisco UCS B440 M1 is a full-width blade (Figure 1); up to four of these high-density four-socket servers can reside in the 6-rack-unit (6RU) Cisco UCS 5100 Series Blade Server Chassis.

Figure 1. Cisco UCS B440 M1 High-Performance Blade Server



Table 1 provides an overview the Cisco UCS B440 M1.

Table 1. Cisco UCS B440 M1 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 M1	4	32 registered DIMMs (RDIMMs); up to 256 GB	4-,8- and 16-GB DDR3; error-correcting code (ECC) RDIMMs	Full width	4	160	2	Up to 40 Gbps of redundant I/O

Features and Benefits

The Cisco UCS B440 M1 blade server is designed to power the most demanding enterprise applications such as large-data-set and transaction-intensive databases, enterprise resource planning (ERP) programs, and decision-support systems (DSSs). Powered by the scalable performance and new reliability features of Intel Xeon 7500 series processors, the Cisco UCS B440 M1 helps widen the scope of workload virtualization and unifies performance-intensive standalone applications within an integrated, simplified infrastructure. The Cisco UCS B440 M1 balances up to 32 processing cores and 512 GB of main memory with combined I/O throughput of up to 40 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 adapter options, and unique to the Cisco Unified Computing System, the Cisco UCS M81KR Virtual Interface Card (VIC) delivers up to 128 dynamic virtual adapters and interfaces, all tightly integrated with Cisco UCS Manager and VMware vCenter Server. Incorporating Cisco VN-Link technology, this advanced fabric interface provides network visibility to virtual machines and enables configurations and policies to follow the virtual machine during migration (for more information please see [Cisco UCS M81KR Virtual Interface Card](#)). Two of these high-performance adapters can be employed to make use of the significant processing capacity of the Intel Xeon 7500 series processors in the Cisco UCS B440 M1.

The Cisco UCS B440 M1 delivers an optimized balance of processing performance, 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 M1.

Table 2. Features and Benefits

Feature	Benefit
Unified fabric	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	Requires no configuration; like 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"> For each blade, extensive environmental monitoring provided by Cisco UCS Manager Allows use of user thresholds to optimize environmental management of the blade
Mezzanine adapters	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"> Support on each blade for up to four front-access hot-swappable drives for local storage, providing redundancy options and ease of serviceability Support for RAID 0, 1, 5, and 6 Support for SFF SAS and SATA hard disk drives (HDDs)
Intel Xeon 7500 series multicore processors	<ul style="list-style-type: none"> Provide intelligent performance that automatically adapts to the diverse needs of a virtualized environment as well as the most compute-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 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 B440 M1. Table 4 summarizes regulatory standards compliance.

Table 3. Product Specifications

Item	Specification
Processors	2 or 4 Intel Xeon 7500 series processors
Processor cores	4, 6, or 8 cores, varying by processor model
Memory	<ul style="list-style-type: none"> 32 DIMM slots Maximum of 512 GB Support for DDR3 RDIMMs
Mezzanine adapters slots	<ul style="list-style-type: none"> 2 per Cisco UCS B440 M1
Hard drives	Up to 4 front-accessible, hot-swappable, 2.5-inch SAS or SATA drives per blade
Hard drive options	<ul style="list-style-type: none"> 73-GB SAS; 146-GB SAS, and 300-GB SAS SFF HDDs 300-GB SATA SFF HDD
Drive controller	<ul style="list-style-type: none"> LSI SAS2108 RAID controller 1-GB write cache RAID 0, 1, 5, and 6 support Optional battery backup
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

Item	Specification
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 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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