Cisco UCS B200 M4 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 into a single converged system with simplified management, greater cost efficiency and agility, and increased visibility and control. One of the newest servers in the Cisco UCS portfolio is the Cisco UCS B200 M4 Blade Server.

The UCS B200 M4 Blade Server (Figure 1) delivers performance, flexibility and optimization for data centers and remote sites. This enterprise-class server offers market-leading performance, versatility, and density without compromise for workloads ranging from web infrastructure to distributed databases. The Cisco UCS B200 M4 server can quickly deploy stateless physical and virtual workloads, with the programmable ease of use of the Cisco UCS Manager software and simplified server access with Cisco®SingleConnect technology. Based on the Intel® Xeon® processor E5-2600 v4 and v3 product family, it offers up to 1.5 TB of total memory when using 64 GB DIMMs, up to two drives, and up to 80 Gbps I/O throughput. The Cisco UCS B200 M4 offers exceptional levels of performance, flexibility, and I/O throughput to run your most demanding applications.

In addition, Cisco UCS has the architectural advantage of not having to power and cool excess switches, NICs and HBAs in each blade server chassis. Having a larger power budget per blade server provides uncompromised expandability and capabilities, as in the new Cisco UCS B200 M4 server with its leading memory-slot and drive capacity.

Figure 1. Cisco UCS B200 M4 Blade Server



Cisco UCS B200 M4 Overview

The Cisco UCS B200 M4 provides:

- Up to two multicore Intel Xeon processor E5-2600 v4 and v3 series CPUs for up to 44 processing cores.
- 24 DIMM slots for industry-standard DDR4 memory at speeds up to 2400 MHz and it offers up to 1.5 TB of total memory when using 64 GB DIMMs.
- Two optional, hot-plug, SAS and SATA hard disk drives (HDDs) or solid-state drives (SSDs).
- Cisco UCS Virtual Interface Card (VIC) 1340: a 2-port, 40 Gigabit Ethernet, Fibre Channel over Ethernet (FCoE)-capable modular LAN on motherboard (mLOM) mezzanine adapter.
  - 2x ports - 40 Gbps Unified I/O portsor2 sets of 4 x 10-Gbps unified I/O ports
  - Delivers 80 Gbps to the server
  - Adapts to either 10 Gbps or 40 Gbps fabric connections

© 2016 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public Information.

- Cisco FlexStorage local drive storage subsystem provides flexible boot and local storage capabilities. It allows you to:
  - Support for optional NVIDIA M6 GPU
    - Configure the Cisco UCS B200 M4 to meet your local storage requirements without having to buy, power and cool components that you do not need.
  - Choose an enterprise-class RAID controller, or go without any controller or drive bays if not utilizing local drives
  - Easily add, change, or remove Cisco FlexStorage modules
- The Cisco UCS B200 M4 server is a half-width blade. Up to eight can reside in the 6-rack-unit (6RU) Cisco UCS 5108 Blade Server Chassis, offering one of the highest densities of servers per rack unit of blade chassis in the industry.

Overview

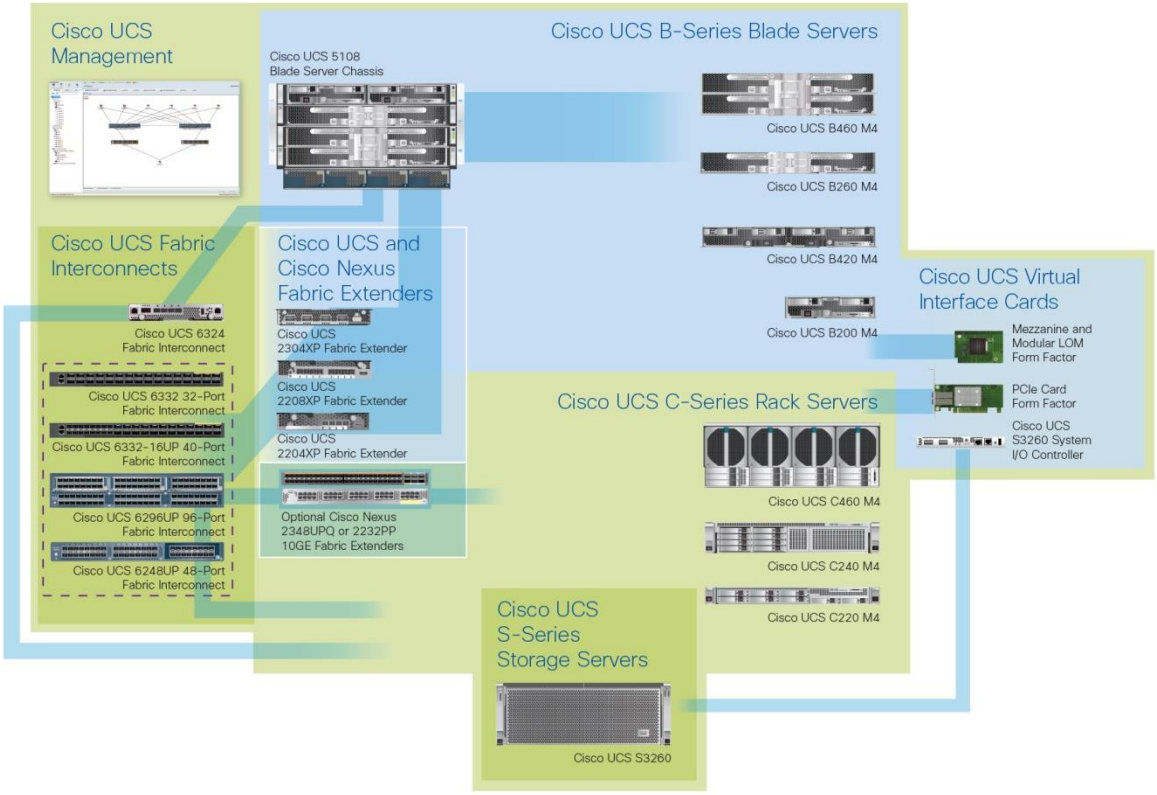
The Cisco UCS B200 M4 server is suited for a broad spectrum of IT workloads, including:

- IT and web infrastructure
- Virtualized workloads
- Consolidating applications
- Virtual desktops
- Middleware
- ERP and CRM applications
- Single-instance and distributed databases

  The Cisco UCS B200 M4 Blade Server is one member of the Cisco UCS B-Series Blade Servers platform. As part of Cisco UCS, Cisco UCS B-Series servers incorporate many innovative Cisco technologies to help customers handle their most challenging workloads. Cisco UCS B-Series servers within a Cisco UCS management framework incorporate a standards-based unified network fabric, Cisco Data Center VM-FEX virtualization support, Cisco UCS Manager, Cisco UCS Central, Cisco UCS Director software, and Cisco fabric extender architecture (Figure 2)

© 2016 Cisco and/or its affiliates. All rights reserved. All other trademarks are the property of their respective owners. This document is Cisco Public Information.
Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries.

Figure 2. Cisco UCS Server Innovations Change the Economics of the Data Center by Enabling Customer Workloads to Benefit from Cisco UCS Simplification and Operational Efficiencies



Features and Benefits of the Cisco UCS B200 M4 Server

Table 1 lists the main features and benefits of the Cisco UCS B200 M4.

Table 1. Main Features and Benefits

Feature	Benefit
Cisco SingleConnect Technology	• Lower operational and capital expenditures network access simplification. • SingleConnect technology: wire once and provision or repurpose any workload in minutes, not days. No need to rewire as the server application-centric personality is assigned through software. • Fewer cables, HBAs, NICs, and switches to purchase, warranty, power, cool, and maintain. • True server unification of servers, LAN and SAN with a single pane of management (UCS Manager/Central). • Wire servers once, deploy and repurpose servers through software - no more rewiring.
Cisco UCS Manager (Greater Flexibility, Lower Cost)	• Lower operational and capital expenditures. • Helps reduce the number of manual steps required to deploy servers in the data center, improving server policy consistency and coherency. • Deploy servers for any application in a consistent, automated and repeated manner through UCS Manager/Central/Director and service profiles. ◦ a Less configuration drift among servers. • Future foundation and management paradigm for fast, consistent server provisioning of new servers and repurposing of old servers for other workloads. • Allows servers and support infrastructure to be provisioned in minutes instead of days, shifting IT's focus from maintenance to strategic initiatives. • Enables service profile movement from blade to blade, rack server to blade, blade to rack server, or blade to blade in another chassis.

© 2016 Cisco and/or its affiliates. All rights reserved. All other trademarks are the property of their respective owners. This document is Cisco Public Information.
Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries.

Feature	Benefit
Cisco UCS Manager Open XML, API (Increases Automation)	• UCS Manager is an open architecture with an API-first, automation-friendly design; rich interoperability across management and platform ecosystem. • Unique visibility into the UCS system above UCS Manager to UCS Director and other third-party management tools. • An almost unsurpassed ability to monitor, query and automate server hardware at a granular level. • UCS Manager XML APIs enable integration with new and existing data center infrastructure and XML-based SDK for commercial & custom implementations. • UCS Manager/Central offer full APIs, such as IPMI, SMASH-CLP, WS-MAN, and XML to enable third party software to integrate into UCS Manager. • Complete Cisco UCS PowerTool for PowerShell scripting for automation of nearly every UCS Manager action.
Cisco UCS FlexStorage® technology	• Allows you to choose exactly the blade storage and storage controller, you need; with a choice of hard disks (SSD, SATA, or SAS) with a 12Gb SAS controller, or no disks or controller with blanking disks.
Performance	• Cisco UCS servers have delivered over 111 world records to date and the UCS B200 series blade servers have contributed 30 world records spanning a wide range of workloads including: ◦ a VMware VMmark ◦ b VMware View Planner ◦ c Oracle E-Business Suite ◦ d SAP ◦ e JD Edwards ◦ f Siebel ◦ g SPECjbb2013 ◦ h SPEC_fp_rate_2006 ◦ i SPEC_int_base_2006 This diversity of world records underscores the history of ground-breaking performance upon which the Cisco UCS B200 M4 is built.
Autodiscovery	• Requires no configuration; like all components in Cisco UCS, blade and rack servers are automatically recognized and configured by Cisco UCS Manager.
Extensive monitoring	• Through Cisco UCS Manager, provides extensive environmental monitoring for each blade. • Allows use of user thresholds to optimize environmental management of the blade. • Cisco UCS Manager XML API enables unique monitoring, visibility, and automation for nearly every server attribute.
Cisco UCS Virtual Interface Card (VIC) 1340	• 1200 Series VICs enable advanced networking features including Netflow for network statistics, and DPDK, USNIC for low latency computing applications. • 1300 Series VICs include all of the 1200 Series features plus additional enhancements including network overlay offload support for NVGRE and VXLAN, and RoCE services. • 2-port, 40 Gigabit Ethernet, Fibre Channel over Ethernet (FCoE)-capable modular LAN on motherboard (mLOM) mezzanine adapter. • 2x ports - 40 Gbps Unified I/O ports or 2 sets of 4 x 10-Gbps unified I/O ports. • Delivers 80 Gbps total I/O throughput to the server. • Adapts to either 10 Gbps or 40 Gbps fabric connections. • Creates up to 256 fully functional unique and independent PCIe adapters and interfaces (NICs or HBAs) without requiring single-root I/O virtualization (SR-IOV) support from operating systems or hypervisors. • Provides virtual machine visibility from the physical network and a consistent network operations model for physical and virtual servers. • Supports customer requirements for a wide range of operating systems and hypervisors Microsoft Windows, Red Hat Enterprise Linux, SUSE Linux, VMware vSphere, and Citrix XenServer.
Mezzanine adapters	• Provides choice of VIC adapters, providing flexibility, increased performance, compatibility with industry standards, and network policy coherence for virtualized environments.
Cisco FlexFlash	• Dual SDHC flash card sockets are provided on the front left side of the server.
Optional local storage	• Provides support on each blade for up to two optional front-access SAS, SATA or PCIe NVMe HDDs and SSDs.

© 2016 Cisco and/or its affiliates. All rights reserved. All other trademarks are the property of their respective owners. This document is Cisco Public Information.
Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries.

Feature	Benefit
Intel Xeon processor E5-2600 v3 product family	• The Intel Xeon processor E5-2600 v4 and v3 product family is designed to deliver the best combination of performance, built-in capabilities, and cost effectiveness. • DDR4 memory technology • Offers built-in measuring and monitoring capabilities that make the Intel-powered platform the smart choice for a software-defined world. • Provides a broad set of platform options that deliver choice and value for different market segments. • Incorporates Intel Xeon Processor E5-2600 v4 and v3 Product Family newest and latest virtualization and security features: ◦ Virtualization: ◦ Virtualization: VM Control Structure (VMCS) Shadowing ◦ Cache QoS Monitoring ◦ A/D bits for Extended Page Tables (EPT) ◦ Security: ◦ General Crypto Assist† ◦ Asymmetric Crypto Assist† ◦ Symmetric Crypto Assist† ◦ SMM External Call Trap (SECT) • Cisco UCS B-Series servers keep pace with Intel Xeon processor innovation by offering the latest processors with increased processor frequency and improved security. Based on the Intel Xeon Processor E5-2600 v4 and v3 Product Family, Cisco UCS B-Series Blade Servers offer improved price-to-performance, making Cisco UCS servers one of the best values in the industry.

Specifications

Table 2 provides specifications for the Cisco UCS B200 M4.

Table 2. Product Specifications

Item	Specification
Processors	• 2 Intel Xeon Processor E5-2600 v4 and v3 Product Family CPUs For a complete list of processor options, please refer to the correspondingspec sheet.
Processor cores	• 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22 cores, varying by processor model For a complete list of processor options, please refer to the correspondingspec sheet.
Memory	• 24 DIMM slots • Maximum of 1.5 TB with 64 GB DIMMs • For a complete list of memory options, please refer to the correspondingspec sheet
Mezzanine adapter slots	• 2 • Advanced ECC
Disk drives	• Up to 2 optional, hot-plug, front-access SAS, SATA, and PCIe NVMe HDDs or SSDs.
Disk drive options	• For a complete list of disk options, please refer to the correspondingspec sheet.
Maximum internal storage	• Up to 3.2 TB
Drive controller	• Optional 12Gb SAS RAID Controller (LSI SAS 3108) > Optional 12Gb SAS RAID Controller (LSI SAS 3108) with built-in 2GB flash-backed write cache • RAID 0 and 1 support
Flash memory	• 2 slots for 32 or 64-GB SD flash memory cards
Management	• Managed from the Cisco UCS 6300, 6200 and 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 3000m); maximum ambient temperature decreases by 1°C per 300m.
Altitude: Nonoperating	• 40.000 ft (12,000m)

© 2016 Cisco and/or its affiliates. All rights reserved. All other trademarks are the property of their respective owners. This document is Cisco Public Information.
Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries.

Table 3. Regulatory Standards Compliance

Specification	Description
Regulatory compliance	Products should comply with CE Markings according to directives 2004/108/EC and 2006/108/EC.
Safety	• 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	• 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	• EN55024 • CISPR24 • EN300386 • KN24

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 can help you create an agile infrastructure that accelerates time to value, reduces costs and risks, and maintains availability during deployment and migration. After deployment, our services can help you improve performance, availability, and resiliency as your business needs evolve, and mitigate risk further. 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/unifiedcomputingservices or http://www.cisco.com/go/dcservices.

Cisco Capital

Financing to Help You Achieve Your Objectives

Cisco Capital can help you acquire the technology you need to achieve your objectives and stay competitive. We can help you reduce CapEx. Accelerate your growth. Optimize your investment dollars and ROI. Cisco Capital financing gives you flexibility in acquiring hardware, software, services, and complementary third-party equipment. And there's just one predictable payment. Cisco Capital is available in more than 100 countries. Learn more.

© 2016 Cisco and/or its affiliates. All rights reserved. All other trademarks are the property of their respective owners. This document is Cisco Public Information.
Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries.

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.



Cisco UCS with
Intel® Xeon® Processors



Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco Website at www.cisco.com/go/offices.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Printed in USA C78-732434-04 11/16

© 2016 Cisco and/or its affiliates. All rights reserved. All other trademarks are the property of their respective owners. This document is Cisco Public Information.
Intel, the Intel logo, Xeon, and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries.