Cisco UCS B420 M4 Blade Server

Product Overview

The Cisco Unified Computing System™ (Cisco UCS®) unites networks, storage, and management fabric and revolutionizes server deployment, enabling a flexible, stateless computing environment for Cisco UCS B-Series Blade Servers and C-Series Rack Servers. With this unique approach, Cisco UCS reduces total cost of ownership (TCO) and increases business agility.

The Cisco UCS B420 M4 Blade Server expands the Cisco UCS 4-socket blade portfolio.

Features and Benefits

Designed for demanding virtualization and database workloads, the Cisco UCS B420 M4 combines a large memory footprint with 4-socket scalability, using the Intel® Xeon® processor E5-4600 v3 product family. The Cisco UCS B420 M4 supports 2133 MHz DDR4 memory and uses UCS Cisco virtual interface card (VIC) technology to achieve up to 160 Gbps of aggregate I/O bandwidth, all in a dense, full-width blade form factor. The Cisco UCS B420 M4 maintains memory performance even as capacity grows. In addition, with the large power envelope of the Cisco UCS 5108 Blade Server Chassis, the Cisco UCS B420 can handle up to 3 TB of memory without compromising CPU speed or core count. Up to four Cisco UCS B420 M4 Blade Servers can be installed in the Cisco UCS 5108 Blade Server Chassis.

The Cisco UCS B420 M4 is centrally managed using Cisco UCS Manager. Cisco UCS Manager provides a single management interface for all hardware and software components of a Cisco UCS domain. Cisco UCS Manager manages up to 160 servers, using Cisco® SingleConnect technology to consolidate network, storage, and management traffic. With Cisco UCS Central Software, management can be extended globally to thousands of servers in multiple domains.

Figure 1.   Cisco UCS B420 M4 Blade Server

The Cisco UCS B420 M4 provides:

- Four Intel® Xeon® processor E5-4600 v3 series CPUs, for up to 72 cores per server
- Forty-eight DIMM slots, providing 3 TB of 2133 MHz DDR4 memory
- Three mezzanine connectors, supporting 160 Gbps bandwidth
- Four SAS, SATA, or SSD hot-pluggable drive bays
- RAID 0, 1, 5, and 10, with optional 2 GB flash-backed write cache
- Up to four Cisco UCS B420 M4 Blade Servers per Cisco UCS 5108 Blade Server Chassis

Applications

The Cisco UCS B420 M4 server is well suited for demanding IT workloads, including:

- Large virtual server and virtual desktop workloads
- Memory-intensive database installations
- Cloud infrastructure
- Enterprise resource planning (ERP) and customer relationship management (CRM) applications
- Development and in-house applications

Cisco UCS Servers Change the Economics of the Data Center

The Cisco UCS B420 M4 Blade Server is part of a Cisco UCS management framework that incorporates a standards-based unified network fabric, Cisco Data Center Virtual Machine Fabric Extender (VM-FEX) virtualization support, Cisco UCS Manager, Cisco UCS Central Software, Cisco UCS Director software, and Cisco fabric extender architecture (Figure 2).

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
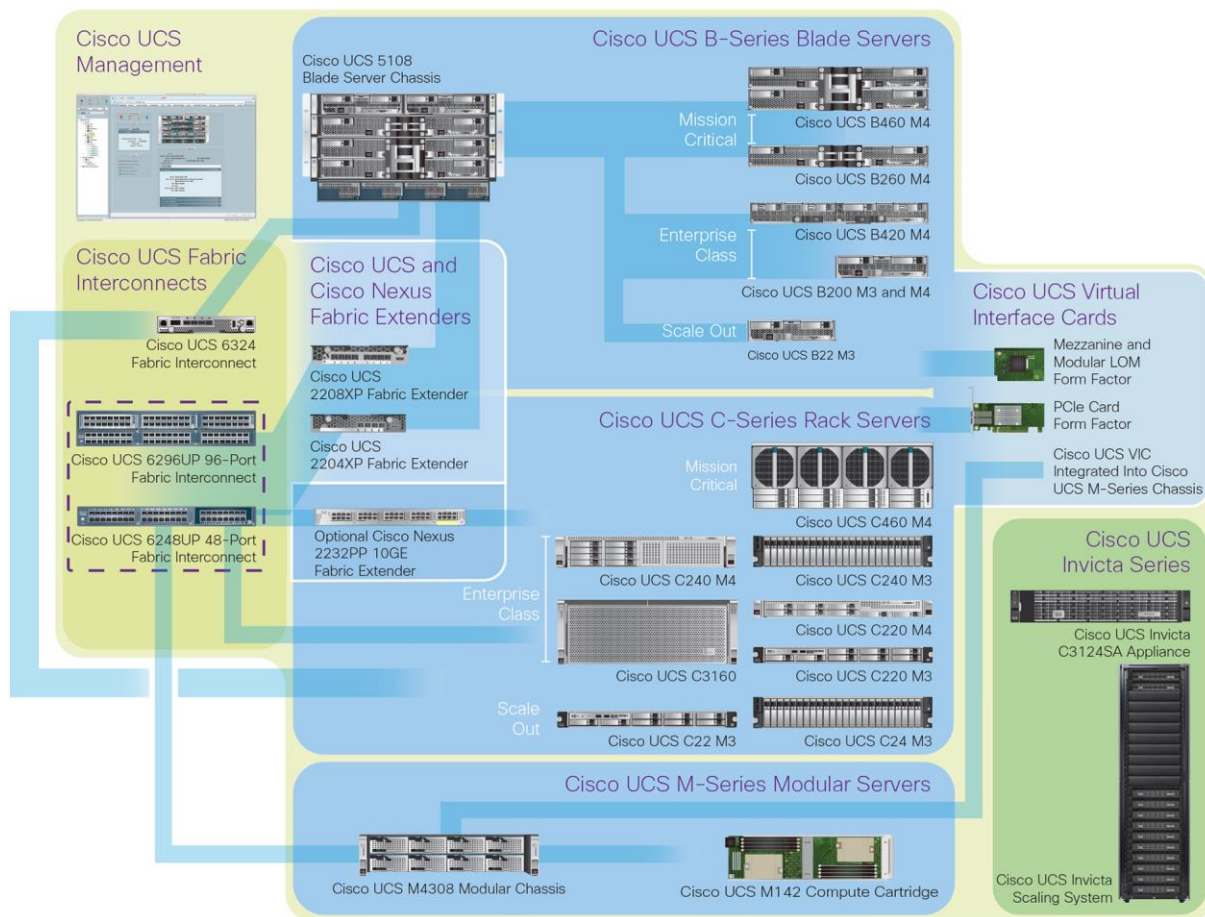
Features and Benefits

Table 1 summarizes the features and benefits of the Cisco UCS environment.

Table 1. Cisco UCS 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 and stateless computing	• Through Cisco UCS Manager service profiles, reduces 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. • 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. • 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.
Cisco UCS Manager Open XML, API	• 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 Virtual Interface Card (VIC)	• 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. • 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.

Specifications

Table 2 summarizes the specifications for the Cisco UCS B420 M4. For detailed specifications see the UCS B420 M4 spec sheet, visit http://www.cisco.com/c/dam/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/b420m4_specsheet.pdf.

Table 2.   B420 M4 Product Specifications

Item	Specification
Processors	• Up to four Intel Xeon processor E5-4600 v3 product family providing dense 4-socket performance and scalability • 2 and 4 CPU configurations are supported • Up to 18 cores per CPU
Memory	• 48 DIMM slots • Maximum of 3.0 TB • Maintains memory performance even as capacity grows
Adapter slots	• 3 configurable adapter slots support 160 Gbps bandwidth: VIC 1340 supports dual 4 x 10 Gbs Unified I/O ports, Port Expander supports 4 x 10 Gbs Unified I/O ports, and VIC 1380 supports 8 x 10 Gbs Unified ports, for a total of 160 Gbps
SFF drive bays	• Up to 4 hot-pluggable SFF drive bays • SAS/SATA/HDD/SSD • RAID 0, 1, 5, and 10 • Optional 2-GB flash-backed write cache
Additional storage support	2 SD card slots (external) 1 USB 2.0 port (internal)
Form factor	Full-width blade server mounts in a Cisco UCS 5100 series blade server chassis. Up to four UCS B420 M4 blade servers can be installed per blade server chassis.

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.

For More Information

For more information about the UCS B420 M4 Blade Server, visit http://www.cisco.com/c/dam/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/b420m4_specsheet.pdf.

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.

Printed in USA

C78-734584-00   05/15