This Product Has Been Discontinued

SpecSheet

Cisco UCS B230 M1 Blade Server

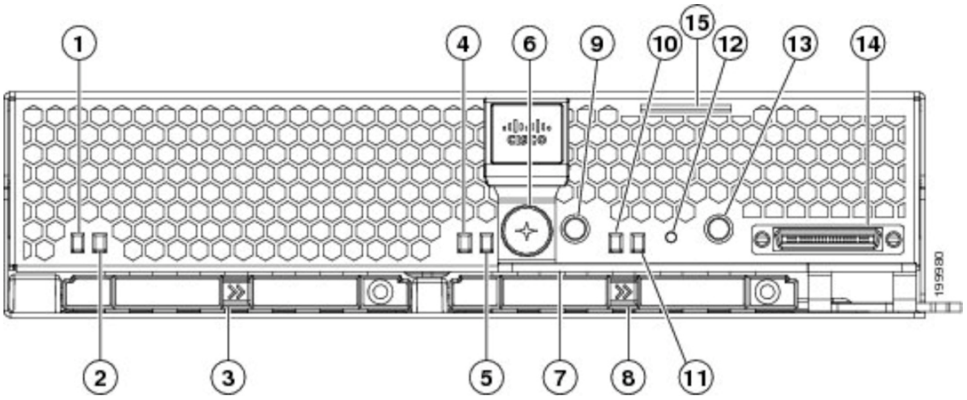
Overview

The Cisco® UCS B230 M1 Blade Server is a two-socket, half-width blade server, using Intel's Xeon 6500 and 7500 Series processors with 32 DIMM slots, one mezzanine slot and up to two solid-state drives (SSD). Up to eight half-width blade servers can be accommodated in the Cisco UCS 5108 Blade Server Chassis.

Figure 1. Cisco UCS B230 M1 Blade Server

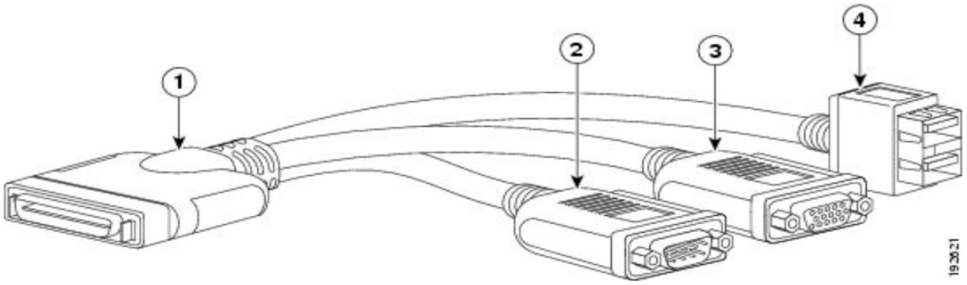
Detailed Views

Figure 2. Front View of the Cisco UCS B230 M1 Blade Server



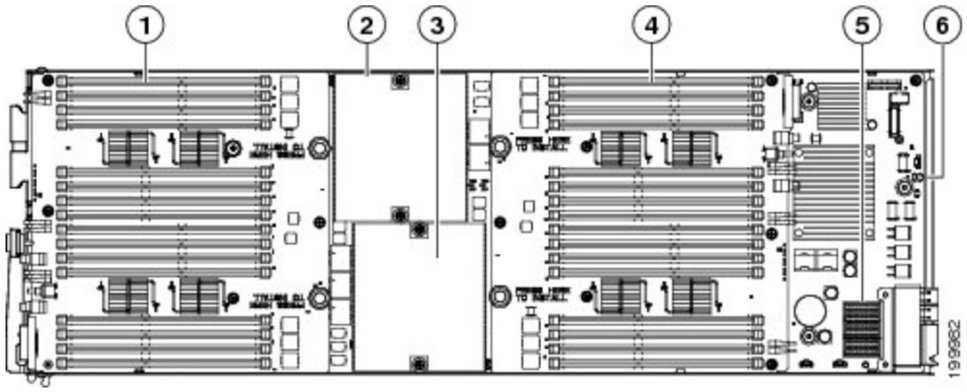
1	SSD activity LED	**9**	Locator button and LED
2	SSD1 fault LED	**10**	Network link status LED
3	SSD sled in Bay 1	**11**	Blade health LED
4	SSD 2 activity LED	**12**	Reset button
5	SSD 2 fault LED	**13**	Power on/standby button and LED
6	Blade release lever captive screw	**14**	Keyboard, video, monitor (KVM), console connector
7	Blade release lever	**15**	Asset tag
8	SSD sled in bay 2		

Figure 3. KVM console connector cable for the Cisco UCS B230 M1 Server



1	Connector to blade server slot	**3**	VGA connection for a monitor
2	DB9 serial connector	**4**	2-port USB connector for a mouse and keyboard

Figure 4. Inside the Cisco UCS B230 M1 Blade Server



1	DIMM slots	**2**	CPU 1 and heat sink
3	CPU2 and heat sink	**4**	DIMM slots
5	Adapter card connector	**6**	Diagnostic button

Base Unit Features

Table 1. Feature Specifications for the Cisco UCS B230 M1 Blade Server

Feature	Specifications
CPU	Up to two Intel® Xeon® 7500 or 6500 Series processors
Chipset	Intel® 7500/6500 chipset
Memory	32 DIMM slots (up to 256 GB)
Mezzanine slots	One mezzanine slot
Internal storage devices	Up to two hot-swappable solid-state drives (SSD)
Interfaces	A console port is provided to give a direct connection to a blade server to allow operating system installation and other management tasks to be done directly rather than remotely. The port uses a local console cable dongle device included in the chassis accessory kit. The local console connector cable (N20-BKVM) provides a connection into a Cisco UCS blade server, providing a DB9 serial connector, a VGA connector for a monitor, and dual USB ports for a keyboard and mouse.
Power subsystem	Integrated in Cisco UCS 5100 Series Chassis
Fans	Integrated in Cisco UCS 5100 Series Chassis
Integrated management processor	Cisco Integrated Management Controller (CIMC) interface to the Cisco UCS Manager

Configuring the Cisco UCS B230 M1 Server

UCS B230 M1 base server (must be selected)	N20-B6730-1-UPG

STEP: 1 Select the CPU type

Select one or two CPUs from the following list. If you choose two CPUs, they must match (you cannot choose two different CPUs for the same server).

- 2.26GHz Xeon X7560 130W 8C CPU/24MB cache — A01-X0200
- 1.86GHz Xeon L7555 95W 8C CPU/24MB cache — A01-X0206
- 2.00 GHz Xeon X6550 130W 8C CPU/18MB cache — A01-X0308
- 2.00 GHz Xeon E6540 105W 6C CPU/18MB cache — A01-X0304
- 1.73 GHz Xeon E6510 105W 4C CPU/12MB cache — A01-X0302

STEP: 2 Select the memory type

Please refer to the Memory Notes section for allowable memory configurations and rules/guidelines.

Select a minimum of one and a maximum of 16 DIMM kits from the following list:

- 8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB Kit/Low Volt — A02-M308GB3-2
- 16GB DDR3-1333MHz RDIMM/PC3-10600/2x8GB Kit/Low Volt — A02-M316GB3-2
- 8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB Kit — A02-M308GD5-2
- 16GB DDR3-1333MHz RDIMM/PC3-10600/2x8GB Kit — A02-M316GD5-2

Note: Memory must be populated in identical DIMM pairs.

STEP: 3 Select the 7mm SSD drive type (optional)

The SSD drive is not required. You can select a maximum of two drives:

- 32GB Low Height 7mm SATA SSD hot plug/drive sled mounted N20-D032SSD
- 64GB Low Height 7mm SATA SSD hot plug/drive sled mounted N20-D064SSD

STEP: 4 Select a mezzanine card

A mezzanine card is required. Select one from the following list:

- UCS M81KR Virtual Interface Card/PCIe/2-port 10Gb N20-AC0002
- Cisco UCS NIC M51KR-B Broadcom BCM57711 Network Adapter N20-AB0002
- Cisco UCS CNA M61KR-I Intel Converged Network Adapter N20-AI0102
- Cisco UCS CNA M72KR-E Emulex Converged Network Adapter N20-AE0102
- Cisco UCS CNA M72KR-Q QLogic Converged Network Adapter N20-AQ0102

STEP: 5 Select the operating system. (optional)

A variety of operating system options are available.

SUSE Linux Enterprise Server

- SLES/1yr subscription/svcs required/0 media SLES-1A
- SLES/3yr subscription/svcs required/0 media SLES-3A

Red Hat Enterprise Linux

- RHEL/2 Socket/1 Guest/1Yr Svcs Required — RHEL-2S-1G-1A
- RHEL/2 Socket/1 Guest/3Yr Svcs Required — RHEL-2S-1G-3A
- RHEL/2 Socket/4 Guest/1Yr Svcs Required — RHEL-2S-4G-1A
- RHEL/2 Socket/4 Guest/3Yr Svcs Required — RHEL-2S-4G-3A
- RHEL/2 Socket/U Guest/1Yr Svcs Required — RHEL-2S-UG-1A
- RHEL/2 Socket/U Guest/3Yr Svcs Required — RHEL-2S-UG-3A
- RHEL/4 Socket/1 Guest/1Yr Svcs Required — RHEL-4S-1G-1A
- RHEL/4 Socket/1 Guest/3Yr Svcs Required — RHEL-4S-1G-3A
- RHEL/4 Socket/4 Guest/1Yr Svcs Required — RHEL-4S-4G-1A
- RHEL/4 Socket/4 Guest/3Yr Svcs Required — RHEL-4S-4G-3A
- RHEL/4 Socket/U Guest/1Yr Svcs Required — RHEL-4S-UG-1A
- RHEL/4 Socket/U Guest/3Yr Svcs Required — RHEL-4S-UG-3A

RHEL Add-Ons

- High-Availability/2 Socket/1Yr Svcs Required — RHEL-HA-2S-1A
- High-Availability/2 Socket/3Yr Svcs Required — RHEL-HA-2S-3A
- High-Availability/4 Socket/1Yr Svcs Required — RHEL-HA-4S-1A
- High-Availability/4 Socket/3Yr Svcs Required — RHEL-HA-4S-3A
- Resilient Storage With Ha/2 Socket/1 Yr Svcs Required — RHEL-RS-2S-1A
- Resilient Storage With Ha/2 Socket/3 Yr Svcs Required — RHEL-RS-2S-3A
- Resilient Storage With Ha/4 Socket/1 Yr Svcs Required — RHEL-RS-4S-1A
- Resilient Storage With Ha/4 Socket/3 Yr Svcs Required — RHEL-RS-4S-3A

Windows Server

- Windows Svr 2008 ST media (1-4CPU, 5CAL) — MSWS-08-STHV
- Windows Svr 2008 EN media (1-8CPU, 25CAL) — MSWS-08-ENHV
- Windows Svr 2008 ST media R2 ST (1-4CPU, 5CAL) — MSWS-08R2-STHV
- Windows Svr 2008 EN media R2 EN (1-8CPU, 25CAL) — MSWS-08R2-ENHV

- Windows Svr 2008 R2-2 CPU-Data Center — MSWS-08R2-DCHV2S
- Windows Svr 2008 R2-4 CPU-Data Center — MSWS-08R2-DCHV4S

VMware Server

• VMware vSphere Advanced (1 CPU), 1yr 24x7 support	VMW-VS-ADV-1A
• VMware vSphere Advanced (1 CPU), 3yr 24x7 support	VMW-VS-ADV-3A
• VMware vSphere Enterprise (1 CPU), 1yr 24x7 support	VMW-VS-ENT-1A
• VMware vSphere Enterprise (1 CPU), 3yr 24x7 support	VMW-VS-ENT-3A
• VMware vSphere Enterprise Plus (1 CPU), 1yr 24x7 support	VMW-VS-ENTP-1A
• VMware vSphere Enterprise Plus (1 CPU), 3yr 24x7 support	VMW-VS-ENTP-3A

Select an OS Media Kit. (optional)

• RHEL 6 Media Only (Multilingual)	RHEL-6
• SLES 11 media only (multilingual)	SLES-11
• Windows Svr 2008 ST media	MSWS-08-STHV-RM
• Windows Svr 2008 EN media	MSWS-08-ENHV-RM
• Windows Svr 2008 ST media R2 ST (1-4CPU, 5CAL)	MSWS-08R2-STHV-RM
• Windows Svr 2008 EN media R2 EN (1-8CPU, 25CAL)	MSWS-08R2-ENHV-RM
• Windows Svr 2008 ST media R2 DC (1-8CPU, 25CAL)	MSWS-08R2-DCHV-RM

STEP: 6 Select from a variety of value-added software. (optional)

• BMC BladeLogic CM for Virtualized Cisco Servers	BMC-001
• BMC Blade Logic Compliance, VM Bundle, 2 Socket Server	BMC-001-COMP
• BMC BladeLogic CM for Physical Cisco Servers	BMC-002
• BMC Blade Logic Compliance, Single OS	BMC-002-COMP
• BMC Bladelogic CM, Virtualized 4-Socket Server	BMC-003
• BMC Blade Logic Compliance, VM Bundle, 4 Socket Server	BMC-003-COMP
• BMC BPPM Per Server	BMC-012
• VMware vCenter Server Standard, 1yr 24x7 support	VMW-VCS-1A
• VMware vCenter Server Standard, 3yr 24x7 support	VMW-VCS-3A
• Nexus 1000V License PAK for 1 Virtual Ethernet module	N1K-VLEM-UCS-1
• Nexus 1000V VSM Virtual Appliance Software	N1K-CSK9-UCS-404

STEP: 7 Select the appropriate Services. (optional)

A variety of Service options are available, as listed here.

Unified Computing Mission Critical Service

This service delivers personalized technical account management, expedited technical support, and expert field support engineering for the Cisco Unified Computing System (UCS).

The Mission Critical Support Service provides a designated technical account manager (TAM) who acts as a strategic resource to help assure the unified computing environment runs at peak efficiency. Should a problem arise that threatens business continuity, the TAM provides crisis management leadership, and customer IT staff gets expedited access to Cisco's award-winning Technical Assistance Center (TAC).

Please note: This service has qualification criteria. There should be $1.2M of UCS equipment, 200 blades and a single location to qualify for this service level.

• UC Mission Critical 24x7x4 On-site	CON-UCM7-B6730U
• UC Mission Critical 24x7x2 On-site	CON-UCM8-B6730U

Unified Computing Support Service

For support of the entire Unified Computing System, Cisco offers the Cisco Unified Computing Support Service. This service provides expert software and hardware support to help sustain performance and high availability of the unified computing environment. Provided is the access to the award-winning Cisco Technical Assistance Center (TAC) around the clock, from anywhere in the world.

For UCS blade servers, there is Smart Call Home, which provides proactive, embedded diagnostics and real-time alerts. For systems that include the Unified Computing System Manager, the support service includes downloads of UCSM upgrades. The Unified Computing Support Service includes flexible hardware replacement options, including replacement in as little as two hours. There is also access to Cisco's extensive online technical resources to help maintain optimal efficiency and uptime of the unified computing environment.

- UC Support 8X5XNBD Not on-site CON-UCS1-B6730U
- UC Support 8X5X4 Not on-site CON-UCS2-B6730U
- UC Support 24x7x4 Not on-site CON-UCS3-B6730U
- UC Support 24x7x2 Not on-site CON-UCS4-B6730U

- UC Support 8X5XNBD On-site CON-UCS5-B6730U
- UC Support 8X5X4 On-site CON-UCS6-B6730U
- UC Support 24x7x4 On-site CON-UCS7-B6730U
- UC Support 24x7x2 On-site CON-UCS8-B6730U

Unified Computing Warranty Plus Service

For faster parts replacement than is provided with the standard Cisco Unified Computing System warranty, Cisco offers the Cisco Unified Computing Warranty Plus Service. Customers can choose from several levels of advanced parts replacement coverage, including onsite parts replacement in as little as two hours. Warranty Plus provides remote access any time to Cisco support professionals who can determine if a return materials authorization (RMA) is required.

- UC Warranty Plus 24x7x4 CON-UCW3-B6730U
- UC Warranty Plus 8X5XNBD On- Site CON-UCW5-B6730U

For more information, see:
Unified Computing Warranty and Support Services.

For a complete listing of available Services for Cisco Unified Computing System:
Unified Computing Services.

Product Notes

Memory notes, allowable configurations, and rules/guidelines

Table 2. DIMM Installation Order

DIMM Population Rules	Preferred	DIMM Population Order
	DIMM per CPU	**Install in Slots**
Install only in matched pairs. Memory for this server is sold in pairs that are matched in size, speed, manufacturer, and other parameters, and mixing DIMMs that are not matched can cause the memory to not be recognized by the system.	2 (blue)	(B0, B1)
Make sure the latches are fully seated into the DIMM.	4 (blue)	(B0, B1) - (D0, D1)
This blade server needs at least one matched pair of DIMMs attached to CPU 1 or CPU 2. Both CPUs can boot and run from a single DIMM pair.	8 (blue, white)	(B0, B1) - (D0, D1) - (A0, A1) - (C0, C1)
DIMMs installed in slots for an absent CPU are not recognized. For optimal performance, distribute DIMMs evenly across both CPUs.	16 (blue, white yellow, black)	(B0, B1) - (D0, D1) - (A0, A1) - (C0, C1) (B2, B3) - (D2, D3) - (A2, A3) - (C2, C3)

The UCS B230 contains 32 memory DIMM slots. Each CPU has 16 DIMM slots organized in pairs.

The B230 M1 blade server needs at least one matched pair of DIMMs attached to CPU 1 or CPU 2.

Both CPUs can boot and run from a single DIMM pair. The DIMM pairs must be identical (the same size, speed, and manufacturer) and are sold in appropriately matched pairs, but one DIMM pair on a CPU can be different from other pairs.

The DIMMs installed in slots for an absent CPU are not recognized.

Memory DIMM's should be installed evenly across the installed CPUs, though it is not a requirement.

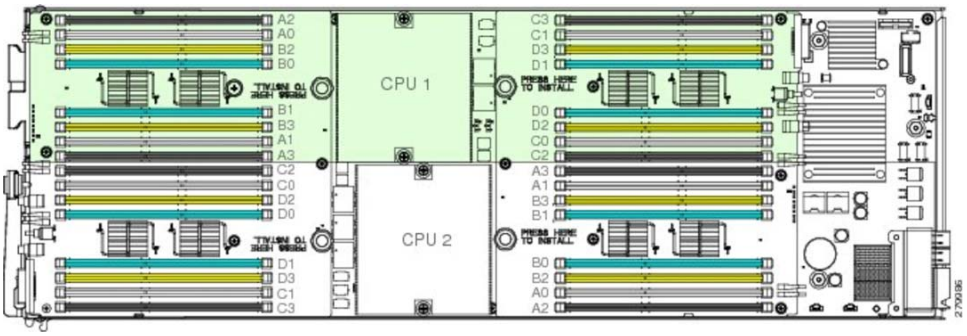
Memory Arrangement

DIMM slots are color-coded blue, white, yellow, and black, and it is recommended that the memory be installed memory in that order.

Figure 5 shows how the DIMMs slots are laid out on the blade server motherboard. A CPU uses the DIMM slots directly to the right or the left of the CPU. Note that the arrangement for CPU 2 and CPU 1 is not identical.

Contents: Overview | Detailed Views | Base Unit Features | Configuring | Memory | HDD
Mezzanine Cards | Software | Services | Memory Notes | RAID Controller Notes
Physical Specs | Power Specs | Environmental Specs

Figure 5. DIMM Slot Numbering



Each channel pair is identified by a letter: A, B, C, or D for each CPU. Each DIMM pair member is identified by numbers, 0, 1, 2 or 3. Additional DIMMs must be installed as shown in Table 2.

[1] The slots inside the brackets are electrically paired with each other, and should be populated with identical matched DIMMs that were ordered as a pair. Do not swap a paired DIMM with a DIMM that is not identical in manufacturer part number.

RAID Controller Notes

The LSI-2008 is an eight port, 6Gb/s SAS/SATA RAID On-a-Chip (ROC) VLSI IC. The LSI-2008 ROC provides a x8 PCIe Gen2 interface, which is connected as x4 on the B230 server board.

The LSI-2008 SAS/SATA Controller is embedded on the motherboard and supports the following features:

- RAID 0, 1

LSI-2008 Flash ROM

The LSI-2008 requires a minimum of 8Mbyte Flash ROM configured for 8-bit I/O. The Flash ROM contains code for the System Optional BIOS, which is needed for booting the RAID array, and also RAID firmware for the embedded CPU.

Contents:						
	Overview	Detailed Views	Base Unit Features	Configuring	Memory	HDD
	Mezzanine Cards	Software	Services	Memory Notes	RAID Controller Notes	
	Physical Specs	Power Specs	Environmental Specs			

Technical Specifications

Physical Dimensions Specifications

Table 3. Physical Dimension Specifications for the Cisco UCS B230 M1 Blade Server

Specification	Value
Height	1.95 inches (50 mm)
Width	8.00 inches (203 mm)
Depth	24.4 inches (620 mm)
Weight	18.0 lbs (8.16 kg) *

***Note:** The system weight listed here is an estimate for a fully configured system and will vary depending on number of peripheral devices.

Power Specifications

For configuration-specific power specifications, use the Cisco UCS Power Calculator at: http://www.cisco.com/assets/cdc_content_elements/flash/dataCenter/cisco_ucs_power_calculator/.

Contents: Overview | Detailed Views | Base Unit Features | Configuring Memory | HDD | Mezzanine Cards | Software | Services | Memory Notes | RAID Controller Notes | Physical Specs | Power Specs | Environmental Specs

Environmental Specifications

Table 4. Environmental Specifications for B230 M1 base server

Environment	Specification
Temperature operating	50 to 95°F (10 to 35°C)
Temperature nonoperating	-40 to 149°F (-40 to 65°C)
Altitude: Operating	0 to 10,000 ft (0 to 3000m); maximum ambient temperature decreases by 1°C per 300m
Altitude: Non operating	40,000 ft (12,000m)
Humidity	5-93% non condensing
Safety	• UL 60950-1 • CAN/CSA-C22.2 No. 60950-1 • EN 60950-1 • IEC 60950-1 • AS/NZS 60950-1 • GB4943
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	• EN50082-1 • EN61000-6-1 • EN55024 • CISPR24 • EN300386 • KN 61000-4 Series

For More Information

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