

Cisco UCS B250 M2 Extended Memory Blade Server

Overview

The Cisco[®] UCS B250 M2 Extended Memory Blade Server extends the capabilities of the Cisco Unified Computing System[™] by utilizing Intel's latest Xeon 5600 Series multi-core processors. The USC B250 M2 is a two-socket full-width blade server with two mezzanine adapter slots, up to two optional front-accessible 2.5-inch small form-factor (SFF) SAS or 15mm SATA solid-state disk (SSD) drives and 48 DIMM slots for up to 384 GB of industry standard memory.

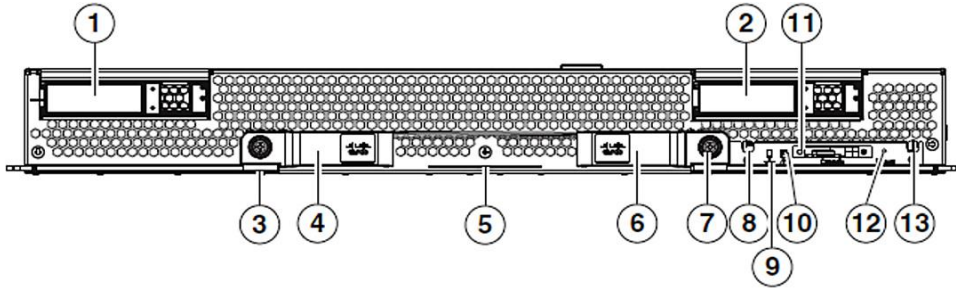
Figure 1. Cisco UCS B250 M2 Extended Memory Blade Server



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Detailed Views

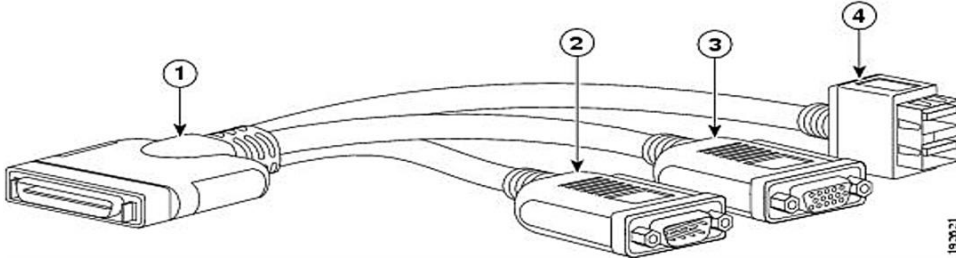
Figure 2. Front View of the Cisco UCS B250 M2 Blade Server



1	Hard drive bay 1	8	Power-on/standby button and LED
2	Hard drive bay 2	9	Network link status LED
3	Left ejector thumbscrew	10	Blade health LED
4	Left ejector handle	11	Keyboard, video, monitor (KVM) console connector
5	Asset tag	12	Reset button
6	Right ejector handle	13	Locator button and LED
7	Right ejector thumbscrew		

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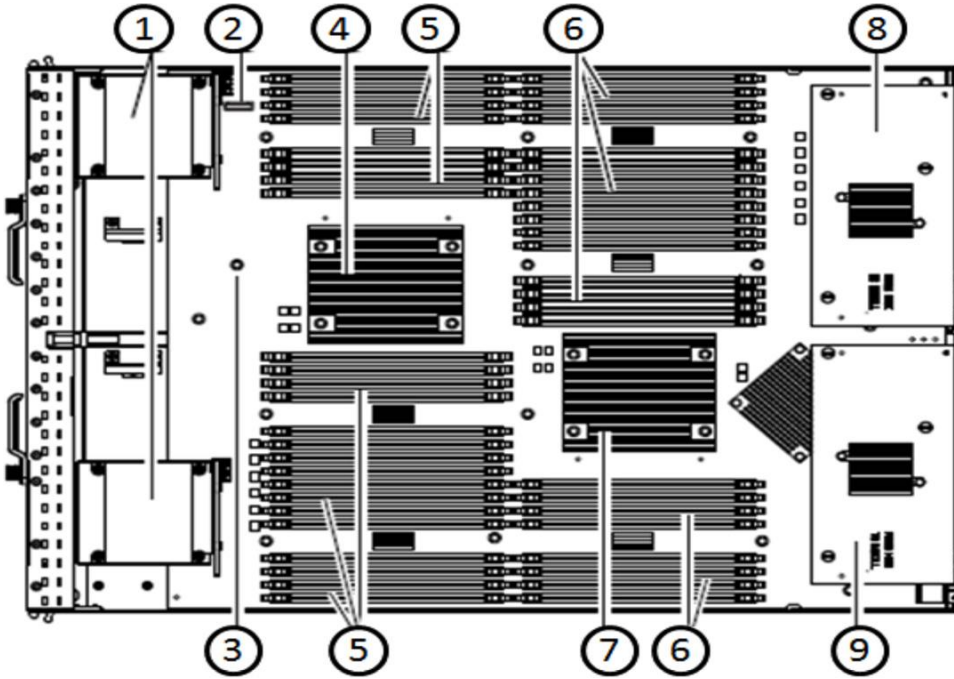
Figure 3. Keyboard, video, monitor (KVM) Console Connector for the Cisco UCS B250 M2 Blade Server



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

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Figure 4. Inside View of the Cisco UCS B250 M2 Blade Server



1	Hard drive bays	2	CMOS battery
3	Diagnostic button	4	CPU 1 and heat sink
5	CPU 1 DIMM slots	6	CPU 2 DIMM slots
7	CPU 2 with heat sink	8	Adapter card slot 0
9	Adapter card slot 1		

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Base Unit Features

Table 1. Feature Specifications for the Cisco UCS B250 M2 Blade Server

Item	Description
CPU	Up to two Intel® Xeon® 5500 or 5600 Series processors.
Chipset	Intel® 5500 chipset
Memory	48 DIMM slots (Up to 384 GB)
Expansion slot	Two mezzanine adapter slots
Internal storage devices	Up to two optional front-accessible, hot-swappable, 2.5-inch, small form factor (SFF) SAS or 15mm SATA solid-state disk (SSD) drives, with an LSI Logic 1064e controller and integrated RAID.
Interfaces	<p>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 connector cable included in the chassis accessory kit.</p> <p>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.</p>
Power subsystem	Integrated in UCS 5100 Series Chassis
Fans	Integrated in UCS 5100 Series Chassis
Integrated management processor	Cisco Integrated Management Controller (CIMC) interface to UCSM

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Configuring the Cisco UCS B250 M2 Extended Memory Blade Server

UCS B250 M2 base server (must be selected)

N20-B6625-2-UPG

STEP: 1 Select 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).

Intel Xeon 5600 Series

- 3.46 GHz Xeon X5690 130W 6C CPU/12MB cache/DDR3 1333MHz A01-X0115
- 3.33 GHz Xeon X5680 130W 6C CPU/12MB cache/DDR3 1333MHz A01-X0100

- 3.06 GHz Xeon X5675 95W 6C CPU/12MB cache/DDR3 1333MHz A01-X0117
- 2.93 GHz Xeon X5670 95W 6C CPU/12MB cache/DDR3 1333MHz A01-X0102
- 2.66 GHz Xeon X5650 95W 6C CPU/12MB cache/DDR3 1333MHz A01-X0105

- 2.53 GHz Xeon E5649 80W 6C CPU/12MB cache/DDR3 1333MHz A01-X0120
- 2.66 GHz Xeon E5640 80W 4C CPU/12MB cache/DDR3 1066MHz A01-X0109
- 2.40 GHz Xeon E5620 80W 4C CPU/12MB cache/DDR3 1066MHz A01-X0111

- 2.26 GHz Xeon L5640 60W 6C CPU/4MB cache/DDR3 1333MHz A01-X0106

Intel Xeon 5500 Series

- 2.93 GHz Xeon X5570 95W 4C CPU/8MB cache/DDR3 1333MHz N20-X00001
- 2.53 GHz Xeon E5540 80W 4C CPU/8MB cache/DDR3 1066MHz N20-X00002

- 2.26 GHz Xeon E5520 80W 4C CPU/8MB cache/DDR3 1066MHz N20-X00003
- 2.66 GHz Xeon X5550 95W 4C CPU/8MB cache/DDR3 1333MHz N20-X00006

- 2.26 GHz Xeon L5520 60W 4C CPU/8MB cache/DDR3 1066MHz N20-X00004

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STEP: 2 Select the memory type.

Please refer to the [Memory Notes](#) section for allowable memory configurations and rules/guidelines.

Select a minimum of 1 DIMM kit, up to a maximum of 12 DIMM kits **per** CPU.

- 8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB 2R Kit A02-M308GB1-2
- 16GB DDR3-1333MHz RDIMM/PC3-10600/2x8GB 2R Kit A02-M316GB1-2

- 8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB 1R Kit/Low-Dual Volt A02-M308GB2-2-L
- 8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB 2R Kit/Low-Dual Volt A02-M308GB1-2-L
- 16GB DDR3-1333MHz RDIMM/PC3-10600/2x8GB 2R Kit/Low-Dual Volt A02-M316GB1-2-L

- Factory Memory Mirroring Option N01-MMIRROR

Note: Memory configuration **must** be the same for both CPUs.

STEP: 3 Select 2.5-inch drive type (optional)

You can select a maximum of two drives from this list:

- 73 GB 6Gb SAS 15K RPM SFF HDD/hot plug/drive sled mounted A03-D073GC2
- 146 GB 6Gb SAS 10K RPM SFF HDD/hot plug/drive sled mounted A03-D146GA2
- 146 GB 6Gb SAS 15K RPM SFF HDD/hot plug/drive sled mounted A03-D146GC2
- 300 GB 6Gb SAS 10K RPM SFF HDD/hot plug/drive sled mounted A03-D300GA2
- 600 GB 6Gb SAS 10K RPM SFF HDD/hot plug/drive sled mounted A03-D600GA2

- 100GB SATA SSD SFF HDD/hot plug/drive sled mounted UCS-SSD100GI1F04

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STEP: 4 **Select from a list of mezzanine cards**

A mezzanine card is required. Select up to two cards and refer to the mix and match guidance below.

- UCS M81KR Virtual Interface Card/PCIe/2-port 10Gb
(can be selected with N20-AQ0102 or N20-AE0102) N20-AC0002
- Cisco UCS M71KR-Q QLogic Converged Network Adapter
(no mixing with other card options) N20-AQ0002
- Cisco UCS M71KR-E Emulex Converged Network Adapter
(no mixing with other card options) N20-AE0002
- Cisco UCS CNA M61KR-I Intel Converged Network Adapter
(no mixing with other card options) N20-AI0102
- Cisco UCS NIC M51KR-B Broadcom BCM57711 Network Adapter
(no mixing with other card options) N20-AB0002
- Cisco UCS CNA M72KR-E Emulex Converged Network Adapter
(can be selected with N20-AC0002) N20-AE0102
- Cisco UCS CNA M72KR-Q QLogic Converged Network Adapter
(can be selected with N20-AC0002) N20-AQ0102

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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

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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

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STEP: 6 Select an operating system media kit (optional).

Select a media kit from the following list:

- | | |
|---|-------------------|
| • 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: 7 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 |

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STEP: 8 Select the appropriate services (optional).

A variety of service options are available, as listed here:

Unified Computing Mission Critical Support Service

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

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 US\$1.2 million of Cisco Unified Computing System equipment, 200 blades, and a single location to qualify for this service level.

- UC Mission Critical 24x7x4 On-site CON-UCM7-B66252
- UC Mission Critical 24x7x2 On-site CON-UCM8-B66252

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. This service includes access to the award-winning Cisco Technical Assistance Center (TAC) around the clock, from anywhere in the world.

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For Cisco 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 Unified Computing System Manager 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-B66252 |
| • UC Support 8X5X4 | Not on-site | CON-UCS2-B66252 |
| • UC Support 24x7x4 | Not on-site | CON-UCS3-B66252 |
| • UC Support 24x7x2 | Not on-site | CON-UCS4-B66252 |
| • UC Support 8X5XNBD | On-site | CON-UCS5-B66252 |
| • UC Support 8X5X4 | On-site | CON-UCS6-B66252 |
| • UC Support 24x7x4 | On-site | CON-UCS7-B66252 |
| • UC Support 24x7x2 | On-site | CON-UCS8-B66252 |

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 anytime to Cisco support professionals who can determine if a return materials authorization (RMA) is required.

- | | |
|-------------------------------------|-----------------|
| • UC Warranty Plus 24x7x4 | CON-UCW3-B66252 |
| • UC Warranty Plus 8X5XNBD On- Site | CON-UCW5-B66252 |

For more information, consult:

[Unified Computing Warranty and Support Services.](#)

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

[Unified Computing Services.](#)

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Product Notes

Memory Notes and Guidelines

The Cisco UCS B250 M2 Extended Memory Blade Server utilizes Cisco's extended memory technology in which memory writes are processed simultaneously to both DIMMs in a pair. Therefore, the Cisco UCS B250 M2 server memory is always sold as a correctly matched pair with identical manufacturer, type, speed, and size, and is intended to be installed together in the two paired banks of a single memory channel.

Mixing of unpaired DIMMs (even with other DIMMs sold under the same product ID) will result in a memory errors should a mismatch occur. Note the following:

- DIMMs must be added in matched pairs to the channel slots in the order shown in Figure 5. The Cisco UCS B250 M2 server does not support odd numbers of DIMMs in a channel, or a configuration of six DIMMs per channel.
- CPU and DIMM speeds must be matched for best performance. If the CPU and DIMM speeds do not match, the system runs at the slower of the two speeds.
- Both processors must have identical memory configurations.
- All DIMMs within a channel must be the same size. Populating different sized DIMMs within a channel is not supported.

The Cisco UCS B250 M2 Extended Memory Blade Server contains 48 DIMM slots - 24 for each CPU. The DIMMs for each CPU are divided into three channels, and each channel contains four pairs of DIMM slots.

- The CPU(s) you select can have some affect on performance.
- DIMM's can be run in a one-DIMM per-channel or a two-DIMM per-channel configuration. Each of these arrangements provides a different behavior.
- Recommendations for achieving performance of 1333 MHz on B200 M2 servers:
 - Use Intel Xeon X5680, X5670, X5650, L5640 or E5640 processors.
 - Use only Cisco certified single or dual-rank DIMMs that support 1333 MHz speeds. DIMMs do not have to be identical in type or capacity, but performance is optimized when memory type and quantity is equal for all memory channels on all CPUs.
 - Always set the system BIOS to operate the DIMMs in Performance mode in order to run at 1333 MHz.
 - Fully populating bank 1 or bank 2 with DIMMs will ensure optimal memory bandwidth running at the 1333-MHz speed. If DIMMs are partially populated in bank 1 (less than six DIMMs) or bank 2 patterns (less than 12 but more than 6 DIMMs), the 1333-MHz speed can be used, but the overall memory bandwidth will not be optimal.

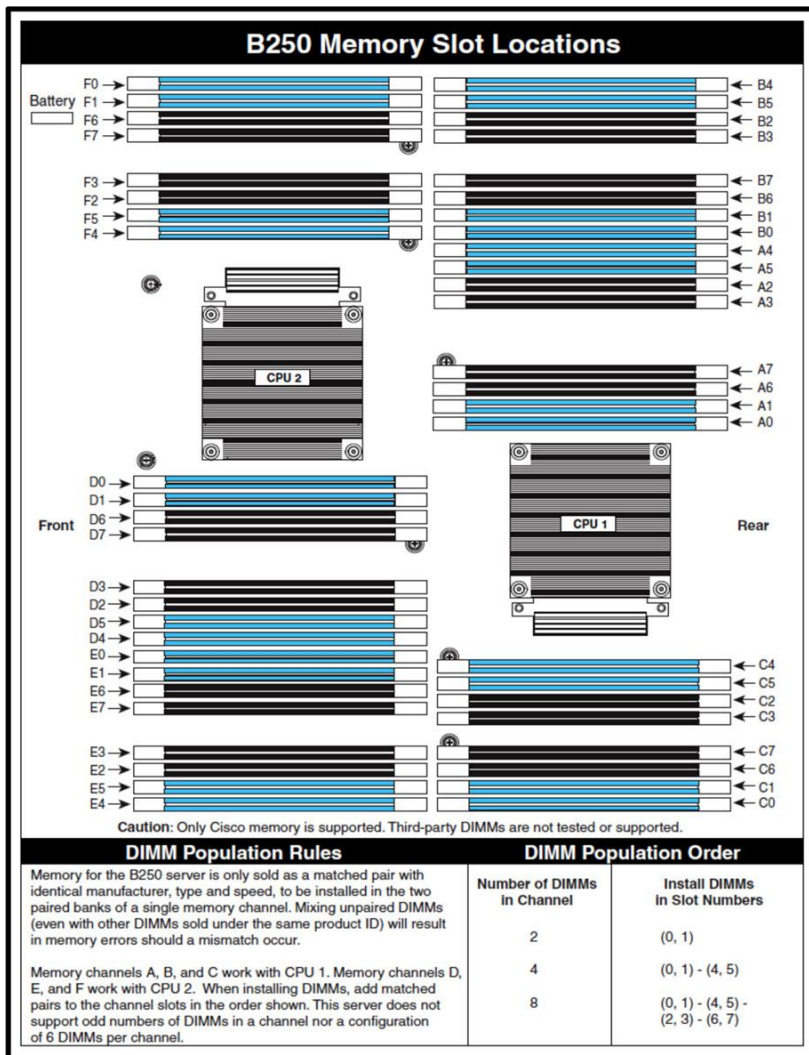
Note: The memory in the right column cannot communicate with the memory in left column (as illustrated in Figure 5) unless both CPUs are present.

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Figure 5 illustrates the physical location and DIMM slot numbering for the B250 M2 Extended Memory Blade server.

Table 2 illustrates the allowable memory configurations for non mirroring and mirroring options for 1 and 2 CPU configurations.

Figure 5. DIMM Slot Numbering for the Cisco UCS B250 M2 Blade Server



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Table 2. Memory Configurations Supported on the UCS B250 M2 Blade Server

Cisco UCS B250 M2 Supported Memory Population Configurations			
NON - MEMORY MIRRORING			
Minimum 2 DIMMs or 1 Paired DIMM Kit (per CPU)			
Maximum 48 DIMMs or 24 Paired DIMM Kits with 2 CPUs			
Maximum 24 DIMMs or 12 Paired DIMM Kits per CPU			
If 2 CPUs selected, memory configuration must be identical on both CPUs			
DIMM PID options for B250 M2:			
As referenced in this table:	PID	PID description	
(8GB/2x4GB 2R) =	A02-M308GB1-2	8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB Kit Standard Voltage	
(16GB/2x8GB 2R) =	A02-M316GB1-2	16GB DDR3-1333MHz RDIMM/PC3-10600/2x8GB Kit Standard Voltage	
(8GB/2x4GB 2R Low-Dual) =	A02-M308GB1-2-L	8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB 2R Kit/Low-Dual Voltage	
(8GB/2x4GB 1R Low-Dual) =	A02-M308GB2-2-L	8GB DDR3-1333MHz RDIMM/PC3-10600/2x4GB 1R Kit/Low-Dual Voltage	
(16GB/2x8GB 2R Low-Dual) =	A02-M316GB1-2-L	16GB DDR3-1333MHz RDIMM/PC3-10600/2x8GB 2R Kit/Low-Dual Voltage	
Total capacity (1 CPU)	CPU 1	CPU 2	Total capacity (2 CPU)
8	1 x (8GB/2x4GB 2R)	1 x (8GB/2x4GB 2R)	16
8	1 x (8GB/2x4GB 2R Low-Dual)	1 x (8GB/2x4GB 2R Low-Dual)	16
8	1 x (8GB/2x4GB 1R Low-Dual)	1 x (8GB/2x4GB 1R Low-Dual)	16
16	2 x (8GB/2x4GB 2R)	2 x (8GB/2x4GB 2R)	32
16	2 x (8GB/2x4GB 2R Low-Dual)	2 x (8GB/2x4GB 2R Low-Dual)	32
16	2 x (8GB/2x4GB 1R Low-Dual)	2 x (8GB/2x4GB 1R Low-Dual)	32
24	3 x (8GB/2x4GB 2R)	3 x (8GB/2x4GB 2R)	48
24	3 x (8GB/2x4GB 2R Low-Dual)	3 x (8GB/2x4GB 2R Low-Dual)	48
24	3 x (8GB/2x4GB 1R Low-Dual)	3 x (8GB/2x4GB 1R Low-Dual)	48
32	4 x (8GB/2x4GB 2R)	4 x (8GB/2x4GB 2R)	64
32	4 x (8GB/2x4GB 2R Low-Dual)	4 x (8GB/2x4GB 2R Low-Dual)	64
32	4 x (8GB/2x4GB 1R Low-Dual)	4 x (8GB/2x4GB 1R Low-Dual)	64
40	5 x (8GB/2x4GB 2R)	5 x (8GB/2x4GB 2R)	80
40	5 x (8GB/2x4GB 2R Low-Dual)	5 x (8GB/2x4GB 2R Low-Dual)	80
40	5 x (8GB/2x4GB 1R Low-Dual)	5 x (8GB/2x4GB 1R Low-Dual)	80
48	6 x (8GB/2x4GB 2R)	6 x (8GB/2x4GB 2R)	96
48	6 x (8GB/2x4GB 2R Low-Dual)	6 x (8GB/2x4GB 2R Low-Dual)	96
48	6 x (8GB/2x4GB 1R Low-Dual)	6 x (8GB/2x4GB 1R Low-Dual)	96
64	8 x (8GB/2x4GB 2R)	8 x (8GB/2x4GB 2R)	128
64	8 x (8GB/2x4GB 2R Low-Dual)	8 x (8GB/2x4GB 2R Low-Dual)	128
64	8 x (8GB/2x4GB 1R Low-Dual)	8 x (8GB/2x4GB 1R Low-Dual)	128

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72	9 x (8GB/2x4GB 2R)	9 x (8GB/2x4GB 2R)	144
72	9 x (8GB/2x4GB 2R Low-Dual)	9 x (8GB/2x4GB 2R Low-Dual)	144
72	9 x (8GB/2x4GB 1R Low-Dual)	9 x (8GB/2x4GB 1R Low-Dual)	144
80	10 x (8GB/2x4GB 2R)	10 x (8GB/2x4GB 2R)	160
80	10 x (8GB/2x4GB 2R Low-Dual)	10 x (8GB/2x4GB 2R Low-Dual)	160
80	10 x (8GB/2x4GB 1R Low-Dual)	10 x (8GB/2x4GB 1R Low-Dual)	160
96	12 x (8GB/2x4GB 2R)	12 x (8GB/2x4GB 2R)	192
96	12 x (8GB/2x4GB 2R Low-Dual)	12 x (8GB/2x4GB 2R Low-Dual)	192
96	12 x (8GB/2x4GB 1R Low-Dual)	12 x (8GB/2x4GB 1R Low-Dual)	192
96	6 x (16GB/2x8GB 2R)	6 x (16GB/2x8GB 2R)	192
96	6 x (16GB/2x8GB 2R Low-Dual)	6 x (16GB/2x8GB 2R Low-Dual)	192
128	8 x (16GB/2x8GB 2R Low-Dual)	8 x (16GB/2x8GB 2R Low-Dual)	256
128	8 x (8GB/2x4GB 2R) AND 4 x (16GB/2x8GB 2R)	8 x (8GB/2x4GB 2R) AND 4 x (16GB/2x8GB 2R)	256
128	8 x (8GB/2x4GB 2R Low-Dual) AND 4 x (16GB/2x8GB 2R Low-Dual)	8 x (8GB/2x4GB 2R Low-Dual) AND 4 x (16GB/2x8GB 2R Low-Dual)	256
128	8 x (8GB/2x4GB 1R Low-Dual) AND 4 x (16GB/2x8GB 2R Low-Dual)	8 x (8GB/2x4GB 1R Low-Dual) AND 4 x (16GB/2x8GB 2R Low-Dual)	256
160	4 x (8GB/2x4GB 2R) AND 8 x (16GB/2x8GB 2R)	4 x (8GB/2x4GB 2R) AND 8 x (16GB/2x8GB 2R)	320
160	4 x (8GB/2x4GB 2R Low-Dual) AND 8 x (16GB/2x8GB 2R Low-Dual)	4 x (8GB/2x4GB 2R Low-Dual) AND 8 x (16GB/2x8GB 2R Low-Dual)	320
160	4 x (8GB/2x4GB 1R Low-Dual) AND 8 x (16GB/2x8GB 2R Low-Dual)	4 x (8GB/2x4GB 1R Low-Dual) AND 8 x (16GB/2x8GB 2R Low-Dual)	320
192	12 x (16GB/2x8GB 2R)	12 x (16GB/2x8GB 2R)	384
192	12 x (16GB/2x8GB 2R Low-Dual)	12 x (16GB/2x8GB 2R Low-Dual)	384

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Memory Mirroring			
Min 2/Max 8 per CPU, see table below for valid Memory configurations			
If 2 CPUs selected, memory configuration must be identical on both CPUs.			
Cannot Mix Low Voltage Memory with non-Low Voltage Memory			
Total Memory	CPU 1	CPU 2	
16	2 x (8GB/2x4GB 2R)	2 x (8GB/2x4GB 2R)	32
16	2 x (8GB/2x4GB 2R Low-Dual)	2 x (8GB/2x4GB 2R Low-Dual)	32
16	2 x (8GB/2x4GB 1R Low-Dual)	2 x (8GB/2x4GB 1R Low-Dual)	32
32	4 x (8GB/2x4GB 2R)	4 x (8GB/2x4GB 2R)	64
32	4 x (8GB/2x4GB 2R Low-Dual)	4 x (8GB/2x4GB 2R Low-Dual)	64
32	4 x (8GB/2x4GB 1R Low-Dual)	4 x (8GB/2x4GB 1R Low-Dual)	64
64	8 x (8GB/2x4GB 2R)	8 x (8GB/2x4GB 2R)	128
64	8 x (8GB/2x4GB 2R Low-Dual)	8 x (8GB/2x4GB 2R Low-Dual)	128
64	8 x (8GB/2x4GB 1R Low-Dual)	8 x (8GB/2x4GB 1R Low-Dual)	128
64	4 x (16GB/2x8GB 2R)	4 x (16GB/2x8GB 2R)	128
64	4 x (16GB/2x8GB 2R Low-Dual)	4 x (16GB/2x8GB 2R Low-Dual)	128
128	8 x (16GB/2x8GB 2R)	8 x (16GB/2x8GB 2R)	256
128	8 x (16GB/2x8GB 2R Low-Dual)	8 x (16GB/2x8GB 2R Low-Dual)	256

For More Information

Please visit <http://www.cisco.com/go/ucs>.

Technical Specifications

Physical Dimensions and Specifications

Table 3. Physical Dimension Specifications for the Cisco UCS B250 M2 Blade Server

Specification	Value
Height	1.95 inches (50 mm)
Width	16.50 inches (419.1 mm)
Depth	24.4 inches (620 mm)
Weight	25 lbs (11.34 kg) *

* **Note:** The system weight listed above is an estimate for a fully configured system and will vary depending on configuration of options.

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Power Specifications

For configuration specific power specifications, utilize the Cisco UCS Power Calculator, which can be found at: http://www.cisco.com/assets/cdc_content_elements/flash/dataCenter/cisco_ucs_power_calculator/.

Environmental Specifications

Table 4. Environmental Specifications for the Cisco UCS B250 M2 Blade 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: Nonoperating	40,000 ft (12,000m)
Humidity	5-93% non condensing
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



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