

c







## BASE SERVER STANDARD CAPABILITIES and FEATURES

*Table 1* lists the capabilities and features of the base server. Details about how to configure the server for a particular feature or capability (for example, number of processors, disk drives, or amount of memory) are provided in *CONFIGURING the SERVER on page 7*.

**NOTE:** NOTE: The B200 M4 blade server requires UCS Manager (UCSM) to operate as part of the UCS system.

- The B200 M4 with E5-2600 v3 and v4 CPUs requires UCSM 2.2(3a) or later.

Table 1 Capabilities and Features

Capability/Feature	Description
Chassis	The UCS B200 M4 Blade Server mounts in a Cisco UCS 5100 Series blade server chassis or UCS Mini blade server chassis.
CPU(server chassis or UCS cD.E: )T4 s requi2	















## STEP 3 CHOOSE MEMORY

The standard memory features are:

- DIMMs
  - Clock speed: 2400 or 2133 MHz

## Choose DIMMs and Memory Mirroring

---

Select the memory configuration and whether use DIMMs w t you wanemory configumg























## STEP 6 CHOOSE ADAPTERS

The adapter offerings are:

- Cisco Virtual Interface Cards (VICs)



**NOTE:** For environments with 6100 Series Fabric Interconnects, you must configure only the VIC 1240/1280 adapters (1200 Series) and not 1340/1380 (1300 Series). From an I/O connectivity standpoint, configure only the VIC 1200 Series with the 6100 Series Fabric Interconnects.

**NOTE:**

Choose a Mezzanine Adapter

The supported mezzanine adapters in the UCS B200 M4 are listed in [Table 9](#).

Table 9 Supported Mezzanine Adapters

Product ID (PID)	PID Description	Connector
<b>Virtual Interface Cards (VICs)</b>		
UCSB-MLOM-40G-03 <sup>1</sup>	Cisco UCS VIC 1340 modular LOM for blade servers	mLOM
UCSB-VIC-M83-8P <sup>1</sup>	Cisco UCS VIC 1380 mezzanine adapter	Mezzanine
UCSB-MLOM-40G-01 <sup>2</sup>	Cisco UCS VIC 1240 modular LOM for blade servers	mLOM
UCS-VIC-M82-8P	Cisco UCS VIC 1280 mezzanine adapter	Mezzanine
<b>Cisco Storage Accelerators<sup>3</sup></b>		
UCSB-F-FIO-1600MS	UCS 1600 GB Fusion ioMemory3 SX Scale line for B-Series	Mezzanine
UCSB-F-FIO-1300MP	UCS 1300 GB Fusion ioMemory3 PX Performance line for B-Series	Mezzanine
<b>Port Expander Card for VIC Option</b>		
UCSB-MLOM-PT-01	Cisco UCS Port Expander Card for VIC. This is a hardware option to enable an additional 4 ports of the VIC 1340 or VIC 1240, bringing the total capability of the VIC 1340 or VIC 1240 to a dual native 40G interface or a dual 4 x 10 GbE port-channelled interface, respectively.	Mezzanine
<b>Crypto Card</b>		
UCSB-MEZ-INT8955 <sup>4</sup>	Intel Crypto Mezz Card for B-Series	Mezzanine
<b>GPUs</b>		
UCSB-GPU-M6 <sup>5</sup>	UCS Blade Server M6 GPU - GRID 2.0 SW required for VDI	Mezzanine

Notes...

1. The VIC 1340/1380 are only supported with the 6200 and 6300 Series Fabric Interconnects. They are not supported with the 6100 Series Fabric Interconnects.
2. The VIC 1240/1280 are supported with the 6100, 6200, and 6300 Series Fabric Interconnects.
3. Do not mix Fusion io storage accelerator families. That is, do not mix "MP" or "MS" (ioMemory3) with "M" (ioDrive2) family cards.

## Supported Configurations

---

The supported configurations are listed in [Table 10](#). Choose one configuration. Refer to [B200 M4 Configured with 1 CPU on page 56](#) and [B200 M4 Configured with 2 CPUs on page 63](#) for more details.









NOTE:





N1K-VSG-UCS-BUN	Over half off N1K and VSG w/ purchase of UCS B/C Series
N1K-VLEM-UCS-1	Nexus 1000V License Paper Delivery (1 CPU) for bundles
VSG-VLEM-UCS-1	VSG License Paper Delivery (1 CPU) for bundles
<b>UCS Director</b>	
CUIC-PHY-SERV-BM-U	Cisco Cloupia Resource Lic - One Phy Server node bare metal
CUIC-PHY-SERV-U	Cisco Cloupia Resource Lic - One physical Server node
CUIC-TERM	Acceptance of Cisco Cloupia License Terms
<b>UCS Performance Manager</b>	
UCS-PM-IE	



















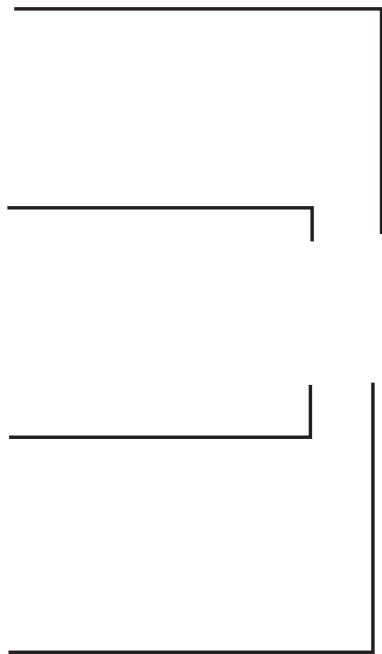


## CPUs and DIMMs

### Physical Layout

Memory is organized as shown in *Figure 8*.

Figure 8 UCS B200 M4 Memory Organization



Each CPU controls four memory channels (A, B, C, D) with three slots (1, 2, 3) within each channel:

- CPU1: Channels A, B, C, and D
  - Slot 1 - A1, B1, C1, and D1 (blue DIMM slots)
  - Slot 2 - A2, B2, C2, and D2 (black DIMM slots)
  - Slot 3 - A3, B3, C3, and D3 (white DIMM slots)
- CPU2: Channels E, F, G, and H
  - Slot 1 - E1, F1, G1, and H1 (blue DIMM slots)

- Slot 2 - E2, F2, G2, and H2 (black DIMM slots)
- Slot 3 - E3, F3, G3, and H3 (white DIMM slots)

The DIMM and CPU physical layout is shown in *Figure 7 on page 43*. The 12 DIMM slots at the left are controlled by CPU 1 and the 12 DIMM slots on the right are controlled by CPU 2.

## DIMM Population Rules

## DIMM Population Order

Populate the DIMMs for a CPU according to *Table*

## Recommended Memory Configuration

This section explains the recommended DIMM population order rules for the B200 M4 blades.

- All DIMMs must be DDR4 DIMMs.
- Do not mix:

## Additional DIMM Populations

The list in *Table 26*







## CPU Heat Sink Cleaning Kit

## NEBS Compliance











In









## Connectivity using the Cisco UCS 2104XP Fabric Extender

The option shown in [Figure 19](#) demonstrates how the UCS B200 M4 blade server connects to a UCS 2104XP Fabric Extender.

In [Figure 19](#)

## B200 M4 Configured with 2 CPUs

### Connectivity using the Cisco UCS 2304 Fabric Extender

The Cisco UCS 2304 is the third-generation Fabric Extender, and shares the same form factor as the current UCS 2100 and 2200 Series. The 2304 is backwards compatible with the UCS 5108 Blade server chassis.

The options shown in *Figure 20* through *Figure 23* demonstrate how the server uses these options:

- VIC 1340/1240 to 2304
- VIC 1340/1240 and VIC 1380/1280 to 2304
-

In *Figure 21*, two ports from the VIC 1340/1240 are channeled to 2304 Fabric Extender A and two are



In *Figure 23*, two ports from the VIC 1340 are connected to 2304 Fabric Extender A and two are connected to 2304 Fabric Extender B. The Port Expander Card for VIC installed in the mezzanine slot acts as a pass-through device to provide two additional ports to each of the port groups and thus create a native 40G interface to each of the Fabric Extenders.



In *Figure 25*, two ports from the VIC 1340/1240 are channeled to 2208XP Fabric Extender A and two are channeled to 2208XP Fabric Extender B. The VIC 1380/1280 installed in the mezzanine slot also channels two ports to each of the Fabric Extenders. The result is 40 Gbps of bandwidth to each Fabric Extender.

**Figure 25**    Option 2 - VIC 1340/1240 and VIC 1380/1280 to UCS 2208XP Fabric Extender

In *Figure 26*, two ports from the VIC 1340/1240 are channeled to 2208XP Fabric Extender A and two are channeled to 2208XP Fabric Extender B. The Port Expander Card for VIC installed in the mezzanine slot acts as a pass-through device to channel two ports to each of the Fabric Extenders. The result is 40 Gbps of bandwidth to each Fabric Extender.

**Figure 26**    Option 3 - VIC 1340/1240 and Port Expander Card for VIC to UCS 2208XP FEX









