



Cisco UCS X210c M7 Compute Node

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<https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-x-series-modular-system/datasheet-listing.html>

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OVERVIEW

The Cisco UCS X-Series Modular System simplifies your data center, adapting to the unpredictable needs of modern applications while also providing for traditional scale-out and enterprise workloads. It reduces the number of server types to maintain, helping to improve operational efficiency and agility as it helps reduce complexity. Powered by the Cisco Intersight™ cloud operations platform, it shifts your thinking from administrative details to business outcomes with hybrid cloud infrastructure that is assembled from the cloud, shaped to your workloads, and continuously optimized.

The Cisco UCS X210c M7 Compute Node is the computing device to integrate into the Cisco UCS X-Series Modular System. Up to eight compute nodes can reside in the 7-Rack-Unit (7RU) Cisco UCS X9508 Chassis, offering one of the highest densities of compute, IO, and storage per rack unit in the industry.

The Cisco UCS X210c M7 Compute Node harnesses the power of the latest Intel® Xeon® Scalable Processors, and offers the following:

- **CPU:**
 - Up to 2x 5th Generation Intel® Xeon® Scalable Processors with up to 64 cores per processor or
 - Up to 2x 4th Generation Intel® Xeon® Scalable Processors with up to 60 cores per processor.
- **Memory:**
 - Up to 8TB with 32 x 256GB DDR5-5600 DIMMs, in a 2-socket configuration with 5th Gen. Intel® Xeon® Scalable Processors or
 - Up to 8TB with 32 x 256GB DDR5-4800 DIMMs, in a 2-socket configuration with 4th Gen. Intel® Xeon® Scalable Processors.
- **Storage:** Up to 6 hot-pluggable, Solid-State Drives (SSDs), or Non-Volatile Memory Express (NVMe) 2.5-inch drives with a choice of enterprise-class Redundant Array of Independent Disks (RAID) or pass-through controllers with four lanes each of PCIe Gen 4 connectivity and up to 2 M.2 SATA or NVMe drives for flexible boot and local storage capabilities.
- **Optional Front Mezzanine GPU module:** The Cisco UCS Front Mezzanine GPU module is a passive PCIe Gen 4 front mezzanine option with support for up to two U.2 or U.3 NVMe drives and two GPUs.
- **mLOM virtual interface cards:**
 - Cisco UCS Virtual Interface Card (VIC) 15420 occupies the server's Modular LAN on Motherboard (mLOM) slot, enabling up to 50Gbps (2 x25Gbps) of unified fabric connectivity to each of the chassis Intelligent Fabric Modules (IFMs) for 100Gbps connectivity per server.
 - Cisco UCS Virtual Interface Card (VIC) 15231 occupies the server's Modular LAN on Motherboard (mLOM) slot, enabling up to 100Gbps of unified fabric connectivity to each of the chassis Intelligent Fabric Modules (IFM) for 200Gbps (2x 100Gbps) connectivity per server.
 - Cisco UCS Virtual Interface Card (VIC) 15230 occupies the server's modular LAN on motherboard (mLOM) slot, enabling up to 100 Gbps of unified fabric connectivity to each of the chassis Intelligent Fabric Modules (IFMs) for 100 Gbps connectivity per server with secure boot capability.
- **Optional Mezzanine card:**
 - Cisco UCS Virtual Interface Card (VIC) 15422 can occupy the server's mezzanine slot at the bottom rear of the chassis. An included bridge card extends this VIC's 100Gbps (4 x 25Gbps) of network connections through IFM connectors, bringing the total bandwidth to 100Gbps

- per VIC 15420 and 15422 (for a total of 200Gbps per server). In addition to IFM connectivity, the VIC 15422 I/O connectors link to Cisco UCS X-Fabric technology.
- Cisco UCS PCI Mezz card for X-Fabric can occupy the server's mezzanine slot at the bottom rear of the chassis. This card's I/O connectors link to Cisco UCS X-Fabric modules and enable connectivity to the X440p PCIe Node.
 - **Security:** Includes secure boot silicon root of trust FPGA, ACT2 anti-counterfeit provisions, and optional Trusted Platform Model (TPM).

Figure 1 on page 6 shows a front view of the Cisco UCS X210c M7 Compute Node.

Figure 1 Cisco UCS X210c M7 Compute Node

Front View with Drives



Front View with Drives and GPU



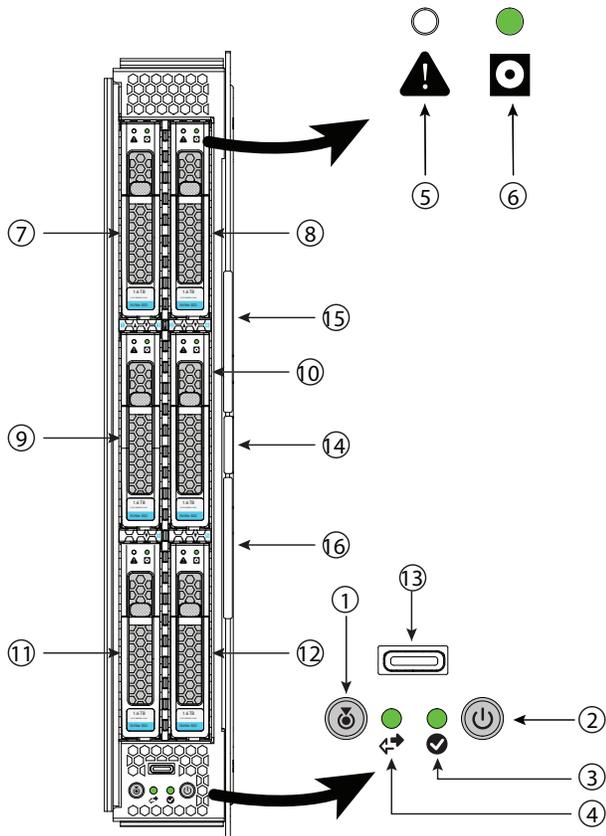
DETAILED VIEWS

Cisco UCS X210c M7 Compute Node Front View

Figure 2 & Figure 3 is a front view of the Cisco UCS X210c M7 Compute Node.

Figure 2 Cisco UCS X210c M7 Compute Node Front View (Drives option)

Storage Drives Option



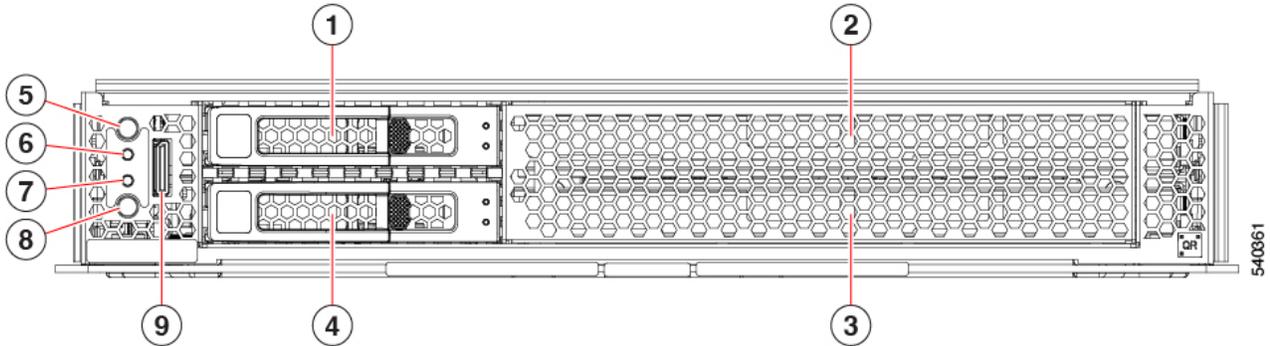
1	Locate button/LED	9	Drive Bay 3 (shown populated)
2	Power button/LED	10	Drive Bay 4 (shown populated)
3	Status LED	11	Drive Bay 5 (shown populated)
4	Network activity LED	12	Drive Bay 6 (shown populated)
5	Warning LED (one per drive)	13	OCuLink console port ¹
6	Disk drive activity LED (one per drive)	14	Ejector handle retention button
7	Drive Bay 1 (shown populated)	15	Upper ejector handle
8	Drive Bay 2 (shown populated)	16	Lower ejector handle

Notes:

1. An adapter cable (PID UCSX-C-DEBUGCBL) is required to connect the OCuLink port to the transition serial USB and video (SUV) octopus cable.

Figure 3 Cisco UCS X210c M7 Compute Node Front View (Drives and GPU option)

Storage Drives and GPU Option



1	U.2/U.3 NVMe drive slot 1	6	Activity LED
2	GPU slot 1	7	Health LED
3	GPU slot 2	8	Locator LED
4	U.2/U.3 NVMe drive slot 2	9	Console port
5	Power Button/LED	-	-

COMPUTE NODE STANDARD CAPABILITIES and FEATURES

Table 1 lists the capabilities and features of the base Cisco UCS X210c M7 Compute Node. Details about how to configure the compute node for a listed feature or capability (for example, number of processors, disk drives, or amount of memory) are provided in *CONFIGURING the Cisco UCS X210c M7 Compute Node on page 11*.

Table 1 Capabilities and Features

Capability/Feature	Description
Chassis	The Cisco UCS X210c M7 Compute Node mounts in a Cisco UCS X9508 chassis.
CPU	<ul style="list-style-type: none"> ■ One or two 5th Gen. Intel® Xeon® Scalable Processors or One or two 4th Gen. Intel® Xeon® Scalable Processors. ■ Each CPU has 8 channels with up to 2 DIMMs per channel, for up to 16 DIMMs per CPU. ■ UPI Links: Up to 4 at 20GT/s
Chipset	Intel® C741 series chipset
Memory	<ul style="list-style-type: none"> ■ 32 total DDR5-5600 MT/s DIMM slots with 5th Gen. Intel® Xeon® Scalable Processors (16 per CPU) or 32 total DDR5-4800 MT/s DIMM slots with 4th Gen. Intel® Xeon® Scalable Processors ■ Up to 8TB DDR5-5600 DIMM memory capacity (32x 256GB DIMMs) with 5th Gen. Intel® Xeon® Scalable Processors or Up to 8TB DDR5-4800 DIMM memory capacity (32x 256GB DIMMs) with 4th Gen. Intel® Xeon® Scalable Processors ■ 75% peak bandwidth increase over DDR4-3200, with on-die ECC; all densities are Registered DIMMs (RDIMMs)
Storage	Up to 6 hot-pluggable, Solid-State Drives (SSDs), or Non-Volatile Memory Express (NVMe) 2.5-inch drives with a choice of enterprise-class Redundant Array of Independent Disks (RAID) or pass-through controllers with four lanes each of PCIe Gen 4 connectivity and up to 2 M.2 SATA or NVMe drives for flexible boot and local storage capabilities.
Additional Storage	<ul style="list-style-type: none"> ■ Dual 80 mm SATA 3.0 M.2 cards (up to 960GB per card) on a boot-optimized hardware RAID controller ■ Dual 80 mm NVMe cards (up to 960GB per card) on a passthrough controller
Mezzanine Adapters (Front)	<p>One front mezzanine connector that supports:</p> <ul style="list-style-type: none"> ■ Up to 6 x 2.5-inch SAS and SATA RAID-compatible SSDs ■ Up to 6 x 2.5-inch NVMe PCIe drives ■ A mixture of up to six SAS/SATA or NVMe drives ■ A mixture of up to two GPUs and up to two NVMe drives <p> Note: Drives require a RAID or pass-through controller in the front mezzanine module slot or a front mezzanine GPU module.</p>

Table 1 Capabilities and Features (*continued*)

Capability/Feature	Description
Mezzanine Adapter (Rear)	<ul style="list-style-type: none"> ■ An optional Cisco UCS Virtual Interface Card 15422 can occupy the server's mezzanine slot at the bottom of the chassis. A bridge card extends this VIC's 2x 50Gbps of network connections up to the mLOM slot and out through the mLOM's IFM connectors, bringing the total bandwidth to 100Gbps per fabric—a total of 200Gbps per server. ■ An optional UCS PCIe Mezz card for X-Fabric is also supported in the server's mezzanine slot. This card's I/O connectors link to the Cisco UCS X-Fabric modules for UCS X-series Gen4 PCIe node access.
mLOM	<p>The modular LAN on motherboard (mLOM) cards (the Cisco UCS VIC 15231 and 15420) is located at the rear of the compute node.</p> <ul style="list-style-type: none"> ■ The Cisco UCS Virtual Interface Card VIC 15420 is a Cisco designed PCI Express (PCIe) based card that supports two 2x25G-KR network interfaces to provide Ethernet communication to the network by means of the Intelligent Fabric Modules (IFMs) in the Cisco UCS X9508 chassis. The Cisco UCS VIC 15420 mLOM can connect to the rear mezzanine adapter card with a bridge connector. ■ The Cisco UCS Virtual Interface Card (VIC) 15231 is a Cisco designed PCI Express (PCIe) based card that supports two 2x100G-KR network interfaces to provide Ethernet communication to the network by means of the Intelligent Fabric Modules (IFMs) in the Cisco UCS X9508 chassis ■ The Cisco UCS Virtual Interface Card (VIC) 15230 occupies the server's modular LAN on motherboard (mLOM) slot, enabling up to 100 Gbps of unified fabric connectivity to each of the chassis Intelligent Fabric Modules (IFMs) for 100 Gbps connectivity per server with secure boot capability.
Video	<p>Video uses a Matrox G200e video/graphics controller.</p> <ul style="list-style-type: none"> ■ Integrated 2D graphics core with hardware acceleration ■ DDR4 memory interface supports up to 512 MB of addressable memory (16 MB is allocated by default to video memory) ■ Supports display resolutions up to 1920 x 1200 32 bpp@ 60Hz ■ Video is available with an Oculink connector on the front panel. An adapter cable (PID UCSX-C-DEBUGCBL) is required to connect the OCuLink port to the transition serial USB and video (SUV) octopus cable.
Front Panel Interfaces	<p>OCuLink console port. Note that an adapter cable is required to connect the OCuLink port to the transition serial USB and video (SUV) octopus cable.</p>
Power subsystem	<p>Power is supplied from the Cisco UCS X9508 chassis power supplies. The Cisco UCS X210c M7 Compute Node consumes a maximum of 1300 W.</p>
Fans	<p>Integrated in the Cisco UCS X9508 chassis.</p>
Integrated management processor	<p>The built-in Cisco Integrated Management Controller enables monitoring of Cisco UCS X210c M7 Compute Node inventory, health, and system event logs.</p>
Baseboard Management Controller (BMC)	<p>ASPEED Pilot IV</p>
ACPI	<p>Advanced Configuration and Power Interface (ACPI) 6.5 Standard Supported. ACPI states S0 and S5 are supported. There is no support for states S1 through S4.</p>
Front Indicators	<ul style="list-style-type: none"> ■ Power button and indicator ■ System activity indicator ■ Location button and indicator

Table 1 Capabilities and Features (*continued*)

Capability/Feature	Description
Management	<ul style="list-style-type: none"> ■ Cisco Intersight software (SaaS, Virtual Appliance and Private Virtual Appliance) ■ Starting with UCS Manager (UCSM) 4.3(2) or later
Fabric Interconnect	Compatible with the Cisco UCS 6454, 64108 and 6536 fabric interconnects
Chassis	Compatible with the Cisco UCS 9508 X-Series Server Chassis

CONFIGURING the Cisco UCS X210c M7 Compute Node

Follow these steps to configure the Cisco UCS X210c M7 Compute Node:

- *STEP 1 CHOOSE BASE CISCO UCS X210C M7 COMPUTE NODE SKU, page 12*
- *STEP 2 CHOOSE CPU(S), page 13*
- *STEP 3 CHOOSE MEMORY, page 19*
- *STEP 4 CHOOSE REAR mLOM ADAPTER, page 26*
- *STEP 5 CHOOSE OPTIONAL REAR MEZZANINE VIC/BRIDGE ADAPTERS, page 30*
- *STEP 6 CHOOSE OPTIONAL FRONT MEZZANINE ADAPTER, page 32*
- *STEP 7 CHOOSE OPTIONAL GPU PCIe NODE, page 33*
- *STEP 8 CHOOSE OPTIONAL GPUs, page 34*
- *STEP 9 CHOOSE OPTIONAL DRIVES, page 35*
- *STEP 10 ORDER M.2 SATA SSDs AND RAID CONTROLLER, page 38*
- *STEP 11 ORDER NVMe BOOT (OPTIONAL), page 39*
- *STEP 12 CHOOSE OPTIONAL TRUSTED PLATFORM MODULE, page 40*
- *STEP 13 CHOOSE OPERATING SYSTEM AND VALUE-ADDED SOFTWARE, page 41*
- *STEP 14 CHOOSE OPTIONAL OPERATING SYSTEM MEDIA KIT, page 44*
- *SUPPLEMENTAL MATERIAL, page 45*

STEP 1 CHOOSE BASE CISCO UCS X210C M7 COMPUTE NODE SKU

Top Level ordering product ID (PID) of the Cisco UCS X210c M7 Compute Node as shown in [Table 3](#)

Table 2 Top level ordering PID

Product ID (PID)	Description
UCSX-M7-MLB	UCSX M7 Modular Server and Chassis MLB

Select the product ID (PID) of the Cisco UCS X210c M7 Compute Node as shown in [Table 5](#).

Table 3 PID of the Base Cisco UCS X210c M7 Compute Node

Product ID (PID)	Description
UCSX-210C-M7	Cisco UCS X210c M7 Compute Node 2S Intel 4 th Gen CPU without CPU, memory, drive bays, drives, VIC adapter, or mezzanine adapters (ordered as a UCS X9508 chassis option)
UCSX-210C-M7-U	Cisco UCS X210c M7 Compute Node 2S Intel 4 th Gen CPU without CPU, memory, drive bays, drives, VIC adapter, or mezzanine adapters (ordered standalone)

A base Cisco UCS X210c M7 Compute Node ordered in [Table 3](#) does not include any components or options. They must be selected during product ordering.

Please follow the steps on the following pages to order components such as the following, which are required in a functional compute node:

- CPUs
- Memory
- Cisco storage RAID or passthrough controller with drives (or blank, for no local drive support)
- SAS, SATA, NVMe, M.2, or U.2/U.3 drives
- Cisco adapters (such as the 15000 series VIC or Bridge)

STEP 2 CHOOSE CPU(S)

The standard CPU features are:

- The 5th Gen Intel® Xeon® Scalable Processors are paired with Intel® C741 series chipset:
 - Up to 64 cores
 - Cache size of up to 320 MB
 - Power: Up to 350Watts
 - UPI Links: Up to 4 at 20GT/s
- The 4th Gen Intel® Xeon® Scalable Processors are paired with Intel® C741 series chipset:
 - Up to 60 cores
 - Cache size of up to 112.50 MB
 - Power: Up to 350Watts
 - UPI Links: Up to 4 at 16GT/s

Select CPUs

- The available 5th Gen Intel® Xeon® Scalable CPUs are listed in [Table 4](#). See [Table 6 on page 17](#) for CPU suffix notations.
- The available 4th Gen Intel® Xeon® Scalable CPUs are listed in [Table 5](#). See [Table 6 on page 17](#) for CPU suffix notations.



CAUTION: Normal operating temperature is limited to 35° C [95° F], for the 2U NVMe/SAS SKU, and is lowered to 28° C [82.4° F], with a fan fault. When rear drives are installed, the normal operating temperature is lowered to 30° C [86° F], and 26° C [78.8° F], respectively with a fan fault.

When GPUs are installed, CPU TDP is limited to 300W. With a single GPU installed, normal operating temperature is 32° C [89.6° F], lowered to 28° C [82.4° F], with a fan fault. With multiple GPU installed, normal operating temperature is 30° C [86° F], lowered to 25° C [77° F], with a fan fault.

Table 4 Available 5th Gen. Intel® Xeon® Scalable CPUs

Product ID (PID)	Segment/Workload	Maximum Socket (S)	Cores (C)	Clock Freq (GHz)	Power (W)	Cache Size (MB)	Highest DDR5 DIMM Clock Support (MT/s)
8000 Series Processors							
UCSX-CPU-I8592V	Cloud/SaaS/IaaS	2S	64	2.00	330	320.00	4800
UCSX-CPU-I8592+	2S Performance	2S	64	1.90	350	320.00	5600
UCSX-CPU-I8581V ¹	1-S Cloud/SaaS	1S	60	2.00	270	300.00	4800
UCSX-CPU-I8580	2S Performance	2S	60	2.00	350	300.00	5600
UCSX-CPU-I8571N ¹	1-S Networking	1S	52	2.40	300	300.00	4800

Table 4 Available 5th Gen. Intel® Xeon® Scalable CPUs

Product ID (PID)	Segment/Workload	Maximum Socket (S)	Cores (C)	Clock Freq (GHz)	Power (W)	Cache Size (MB)	Highest DDR5 DIMM Clock Support (MT/s)
UCSX-CPU-I8570	2S Performance	2S	56	2.10	350	300.00	5600
UCSX-CPU-I8568Y+	2S Performance	2S	48	2.30	350	300.00	5600
UCSX-CPU-I8562Y+	2S Performance	2S	32	2.80	300	60.00	5600
UCSX-CPU-I8558U ¹	1-Socket Optimized	1S	48	2.00	300	260.00	4800
UCSX-CPU-I8558P	Cloud/SaaS/aaS	2S	48	2.70	350	260.00	5600
UCSX-CPU-I8558	2S Mainline	2S	48	2.10	330	260.00	5200
6000 Series Processors							
UCSX-CPU-I6554S	Storage	2S	36	2.20	270	180.00	5200
UCSX-CPU-I6548Y+	2S Performance	2S	32	2.50	250	60.00	5200
UCSX-CPU-I6548N	Networking	2S	32	2.80	250	60.00	5200
UCSX-CPU-I6544Y	2S Performance	2S	16	3.60	270	45.00	5200
UCSX-CPU-I6542Y	2S Performance	2S	24	2.90	250	60.00	5200
UCSX-CPU-I6538Y+	2S Mainline	2S	32	2.20	225	60.00	5200
UCSX-CPU-I6538N	Networking	2S	32	2.10	205	60.00	5200
UCSX-CPU-I6534	2S Performance	2S	8	3.90	195	22.50	4800
UCSX-CPU-I6530	2S Mainline	2S	32	2.10	270	160.00	4800
UCSX-CPU-I6526Y	2S Performance	2S	16	2.80	195	37.50	5200
5000 Series Processors							
UCSX-CPU-I5520+	2S Mainline	2S	28	2.20	205	52.50	4800
UCSX-CPU-I5515+	2S Performance	2S	8	3.20	165	22.50	4800
UCSX-CPU-I5512U ¹	1-Socket Optimized	1S	28	2.10	185	52.50	4800
4000 Series Processors							
UCSX-CPU-I4516Y+	2S Mainline	2S	24	2.20	185	45.00	4400
UCSX-CPU-I4514Y	2S Mainline	2S	16	2.00	150	30.00	4400
UCSX-CPU-I4510T ²	EDGE (IOT)	2S	12	2.00	115	30.00	4400
UCSX-CPU-I4510 ²	2S Mainline	2S	12	2.40	150	30.00	4400
UCSX-CPU-I4509Y ²	2S Mainline	2S	8	2.60	125	22.50	4400
3000 Series Processors							
UCSX-CPU-I3508U ^{1,2}	1-Socket Optimized	1S	8	2.10	125	22.50	4400

Notes:

1. You cannot have two of these CPUs in a two-CPU configuration and you cannot later upgrade to a 2-CPU system with two of these CPUs.
2. Available post first customer ship (FCS).

Table 5 Available 4th Gen. Intel® Xeon® Scalable CPUs

Product ID (PID)	Segment/Workload	Maximum Socket (S)	Cores (C)	Clock Freq (GHz)	Power (W)	Cache Size (MB)	Highest DDR5 DIMM Clock Support (MT/s)
8000 Series Processors							
UCSX-CPU-I8490H	IMDB/Analytics	2S	60	1.90	350	112.50	4800
UCSX-CPU-I8480+	2S Performance	2S	56	2.00	350	105.00	4800
UCSX-CPU-I8471N ¹	5G/Networking	1S	52	1.80	300	97.50	4800
UCSX-CPU-I8470N	5G/Networking	2S	52	1.70	300	97.50	4800
UCSX-CPU-I8470	2S Performance	2S	52	2.00	350	105.00	4800
UCSX-CPU-I8468V	Cloud/SaaS/Media	2S	48	2.40	330	97.50	4800
UCSX-CPU-I8468H	IMDB/Analytics	2S	48	2.10	330	105.00	4800
UCSX-CPU-I8468	2S Performance	2S	48	2.10	350	105.00	4800
UCSX-CPU-I8462Y+	2S Performance	2S	32	2.80	300	60.00	4800
UCSX-CPU-I8461V ¹	Cloud/SaaS/Media	1S	48	2.20	300	97.50	4800
UCSX-CPU-I8460Y+	2S Performance	2S	40	2.00	300	105.00	4800
UCSX-CPU-I8460H	IMDB/Analytics	2S	40	2.20	330	105.00	4800
UCSX-CPU-I8458P	Cloud/SaaS/Media	2S	44	2.70	350	82.50	4800
UCSX-CPU-I8454H	IMDB/Analytics	2S	32	2.10	270	82.50	4800
UCSX-CPU-I8452Y	2S Mainline	2S	36	2.00	300	67.50	4800
UCSX-CPU-I8450H	IMDB/Analytics	2S	28	2.00	250	75.00	4800
UCSX-CPU-I8444H	IMDB/Analytics	2S	16	2.90	270	45.00	4800
6000 Series Processors							
UCSX-CPU-I6454S	Storage	2S	32	2.20	270	60.00	4800
UCSX-CPU-I6448Y	2S Performance	2S	32	2.10	225	60.00	4800
UCSX-CPU-I6448H	IMDB/Analytics	2S	32	2.40	250	60.00	4800
UCSX-CPU-I6444Y	2S Performance	2S	16	3.60	270	45.00	4800
UCSX-CPU-I6442Y	2S Performance	2S	24	2.60	225	60.00	4800
UCSX-CPU-I6438Y+	2S Mainline	2S	32	2.00	205	60.00	4800
UCSX-CPU-I6438N	5G/Networking	2S	32	2.00	205	60.00	4800

Table 5 Available 4th Gen. Intel® Xeon® Scalable CPUs

Product ID (PID)	Segment/Workload	Maximum Socket (S)	Cores (C)	Clock Freq (GHz)	Power (W)	Cache Size (MB)	Highest DDR5 DIMM Clock Support (MT/s)
UCSX-CPU-I6438M	Cloud/SaaS/Media	2S	32	2.20	205	60.00	4800
UCSX-CPU-I6434H	IMDB/Analytics	2S	8	3.70	195	22.50	4800
UCSX-CPU-I6434	2S Performance	2S	8	3.70	195	22.50	4800
UCSX-CPU-I6430	2S Mainline	2S	32	2.10	270	60.00	4400
UCSX-CPU-I6428N	5G/Networking	2S	32	1.80	185	60.00	4000
UCSX-CPU-I6426Y	2S Performance	2S	16	2.50	185	37.50	4800
UCSX-CPU-I6421N ¹	5G/Networking	1S	32	1.80	185	60.00	4400
UCSX-CPU-I6418H	IMDB/Analytics	2S	24	2.10	185	60.00	4800
UCSX-CPU-I6416H	IMDB/Analytics	2S	18	2.20	165	45.00	4800
UCSX-CPU-I6414U ¹	1S gen. purpose	1S	32	2.00	250	60.00	4800
5000 Series Processors							
UCSX-CPU-I5420+	2S Mainline	2S	28	2.00	205	52.50	4400
UCSX-CPU-I5418Y	2S Mainline	2S	24	2.00	185	45.00	4400
UCSX-CPU-I5418N	5G/Networking	2S	24	1.80	165	45.00	4000
UCSX-CPU-I5416S	Storage	2S	16	2.00	150	30.00	4400
UCSX-CPU-I5415+	2S Performance	2S	8	2.90	150	22.50	4400
UCSX-CPU-I5412U ¹	1S gen. purpose	1S	24	2.10	185	45.00	4400
UCSX-CPU-I5411N ¹	5G/Networking	1S	24	1.90	165	45.00	4400
4000 Series Processors							
UCSX-CPU-I4416+	2S Mainline	2S	20	2.00	165	37.50	4000
UCSX-CPU-I4410Y	2S Mainline	2S	12	2.00	150	30.00	4000
UCSX-CPU-I4410T	IOT	2S	10	2.70	150	26.25	4000
3000 Series Processors							
UCSX-CPU-I3408U ¹	1S gen. purpose	1S	8	1.80	125	22.50	4000

Notes:

1. You cannot have two of these CPUs in a two-CPU configuration and you cannot later upgrade to a 2-CPU system with two of these CPUs.

Table 6 CPU Suffixes

CPU Suffix	Description	Features
P	Cloud (IaaS)	Designed for cloud IaaS environments to deliver higher frequencies at constrained TDPs
V	Cloud (SaaS)	Designed for high rack density, maximize VM/core, and lower power VM environment
M	Media Transcode	Designed for Media processing, AI, and HPC workloads
H	DB and Analytics	Designed for Data Analytics and Big Data usages
N	Network/5G/Edge (High TDP/Low latency)	Designed and optimized for a range of broadly-deployed network and 5G workload environments from Edge to the Data Center
S	Storage & HCI	Designed for Storage usages and workloads
T	Long-life Use/High Tcase	Designed for Network Environment-Building System (NEBS) and IoT market
U	1-Socket	Optimized for targeted platforms adequately served by the cores, memory bandwidth and IO capacity available from a single processor
Y	General SKU with SST-PP	Designator is used for general SKU stack to highlight SST-PP (Speed Select Technology Performance Profile) feature enabled
+	Feature Plus SKU	Designed to enable 1 instance of each DSA, IAA, QAT, DLB embedded accelerator

Supported Configurations

(1) DRAM configuration:

- Select one or two identical CPUs from [Table 4 on page 13](#) or [Table 5 on page 15](#)

(2) Configurations with NVMe PCIe drives:

- Select one or two identical CPUs from [Table 4 on page 13](#) or [Table 5 on page 15](#)

(3) Configurations with GPUs:

- Select one or two identical CPUs from [Table 4 on page 13](#) or [Table 5 on page 15](#)

(4) One-CPU Configuration

- Choose one CPU from any one of the rows of [Table 4 on page 13](#) or [Table 5 on page 15](#)

(5) Two-CPU Configuration

- Choose two identical CPUs from any one of the rows of [Table 4 on page 13](#) or [Table 5 on page 15](#)

STEP 3 CHOOSE MEMORY

The [Table 7](#) below describes the main memory DIMM features supported on Cisco UCS X210c M7 Compute Node.

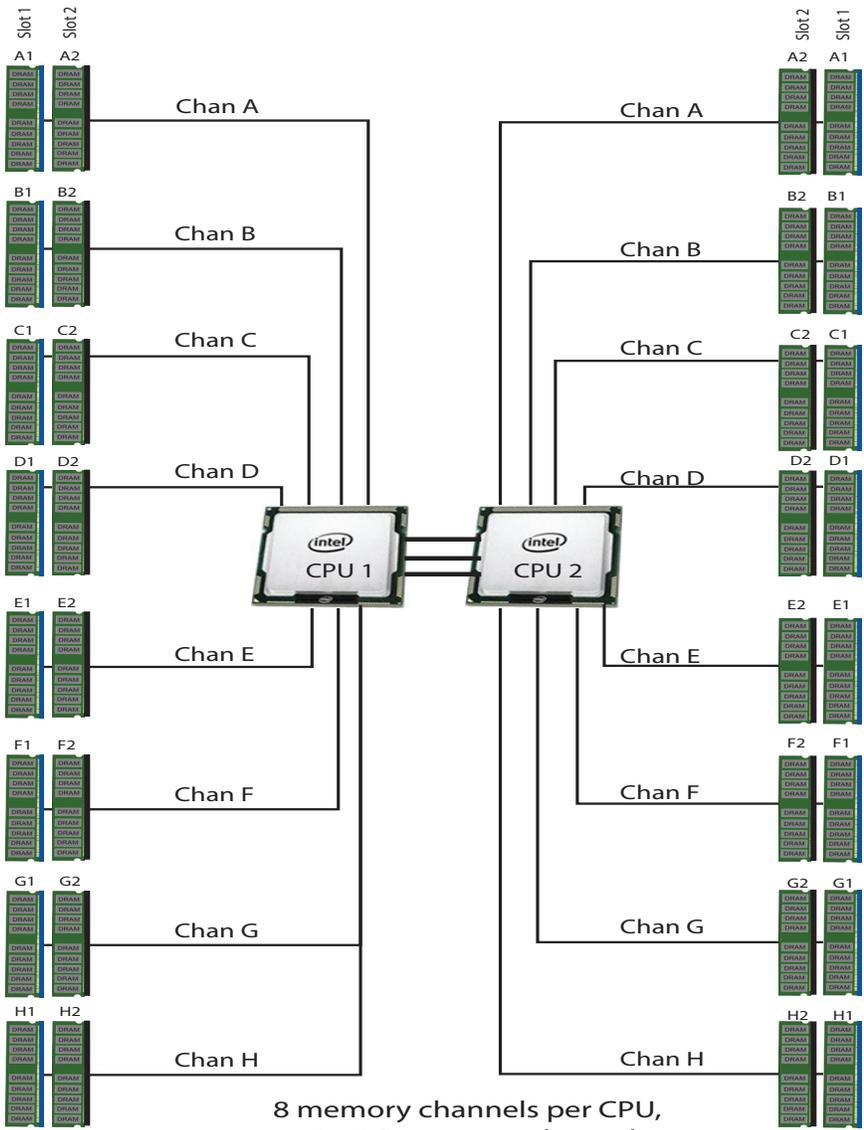


CAUTION: When populating 256GB DIMMs, the ambient temperature shall be limited to a maximum of 32°C.

Table 7 X210c M7 Main Memory Features

Memory DIMM server technologies	Description
DDR5 memory clock speed	4th Gen. CPU: Up to 4800MT/s 1DPC; Up to 4400MT/s 2DPC
	5th Gen. CPU: Up to 5600MT/s 1DPC; Up to 4400MT/s 2DPC
Operational voltage	1.1 Volts
DRAM fab density	16Gb and 24Gb
DRAM DIMM type	RDIMM (Registered DDR5 DIMM with on die ECC)
Memory DIMM organization	Eight memory DIMM channels per CPU; up to 2 DIMMs per channel
Maximum number of DRAM DIMM per server	32 (2-Socket)
DRAM DIMM Densities and Ranks	16GB 1Rx8, 32GB 1Rx4, 64GB 2Rx4, 128GB 4Rx4, 256GB 8Rx4
	48GB 1Rx4, 96GB 2Rx4 - 5th Gen. only
Maximum system capacity (DRAM DIMMs only)	8TB (32x256GB)

Figure 4 Cisco UCS X210c M7 Compute Node Memory Organization



8 memory channels per CPU,
 up to 2 DIMMs per channel
 32 DIMMS total (16 DIMMs per CPU)

Select DIMMs and Memory Mirroring

Select the memory configuration and whether or not you want the memory mirroring option. The available memory DIMMs and mirroring option are listed in [Table 8](#).



NOTE: When memory mirroring is enabled, the memory subsystem simultaneously writes identical data to two channels. If a memory read from one of the channels returns incorrect data due to an uncorrectable memory error, the system automatically retrieves the data from the other channel. A transient or soft error in one channel does not affect the mirrored data, and operation continues unless there is a simultaneous error in exactly the same location on a DIMM and its mirrored DIMM. Memory mirroring reduces the amount of memory available to the operating system by 50% because only one of the two populated channels provides data.

Table 8 Available DDR5 DIMMs

Product ID (PID)	PID Description
DDR5-4800MT/s PID list	
UCSX-MRX16G1RE1	16GB DDR5-4800 RDIMM 1Rx8 (16Gb)
UCSX-MRX32G1RE1	32GB DDR5-4800 RDIMM 1Rx4 (16Gb)
UCSX-MRX64G2RE1	64GB DDR5-4800 RDIMM 2Rx4 (16Gb)
UCSX-MR128G4RE1	128GB DDR5-4800 RDIMM 4Rx4 (16Gb)
UCSX-MR256G8RE1 ¹	256GB DDR5-4800 RDIMM 8Rx4 (16Gb)
DDR5-5600MT/s PID list²	
UCSX-MRX16G1RE3	16GB DDR5-5600 RDIMM 1Rx8 (16Gb)
UCSX-MRX32G1RE3	32GB DDR5-5600 RDIMM 1Rx4 (16Gb)
UCSX-MRX48G1RF3 ³	48GB DDR5-5600 RDIMM 1Rx4 (24Gb)
UCSX-MRX64G2RE3	64GB DDR5-5600 RDIMM 2Rx4 (16Gb)
UCSX-MRX96G2RF3	96GB DDR5-5600 RDIMM 2Rx4 (24Gb)
UCSX-MR128G4RE3	128GB DDR5-5600 RDIMM 4Rx4 (16Gb)
UCSX-MR256G8RE3 ^{1,3}	256GB DDR5-5600 RDIMM 8Rx4 (16Gb)
Memory Mirroring Option	
N01-MMIRRORD	Memory mirroring option
Accessories/spare included with Memory configuration:	
<ul style="list-style-type: none"> ■ UCS-DDR5-BLK⁴ is auto included for the unselected DIMMs slots 	

Notes:

1. If selecting 256GB DIMMs the ambient temperature shall be limited to a maximum of 32°C.
2. DDR5-5600 supported on Intel® Xeon® 5th generation only.
3. Available post first customer ship (FCS).

4. Any empty DIMM slot must be populated with a DIMM blank to maintain proper cooling airflow.

Memory configurations and mixing rules

- **Golden Rule:** Memory on every CPU socket shall be configured identically.
- System speed is dependent on the CPU DIMM speed support. Refer to [Available 4th Gen. Intel® Xeon® Scalable CPUs on page 15](#) and [Available 5th Gen. Intel® Xeon® Scalable CPUs on page 13](#) for DIMM speeds.
- For full details on supported memory configurations see the [M7 Memory Guide](#).
- DIMM Count Rules:

Table 9 Allowed DIMM Count for 1-CPU, 2-CPU

Allowed DIMM Count rules	Minimum Count	Maximum Count	Allowed Count	Not Allowed Count
16GB, 32GB, 64GB, 128GB, 256GB (4th and 5th Gen. CPUs)				
DIMM count for 1 CPU	1	16	1,2,4,6,8,12,16	3,5,7,9,10,11,13,14,15
DIMM count for 2-CPU	2	32	2,4,8,12,16,24,32	6,10,14,18,20,22,26,28,30
48GB (5th Gen. CPUs Only)				
DIMM count for 1 CPU	1	8	1,6,8	2,3,4,5,7,9,10,11,12,13,14,15,16
DIMM count for 2-CPU	2	16	2,12,16	4,6,8,10,14,18,20,22,24,26,28,30,32
96GB (5th Gen. CPUs Only)				
DIMM count for 1 CPU	1	16	1,6,8,12,16	2,3,4,5,7,9, 10,11,13,14,15
DIMM count for 2-CPU	2	32	2,12,16,24,32	4,6,8,10,14,18,20,22,26,28,30

NOTE(1): 12 DIMMs count for 1-CPU, 24 DIMMs count and for 2-CPU configurations are only allowed when all DIMMs have the same density.

- DIMM Population Rules:
 - Each channel has two memory slots (for example, channel A = slots A1 and A2). See [golden rule](#) above.
 - A channel can operate with one or two DIMMs installed.
 - If a channel has only one DIMM, populate slot 1 first (the blue slot).
 - When both CPUs are installed, populate the memory slots of each CPU identically. Fill the blue slots (slot 1) in the memory channels first according to the recommended DIMM populations in [Table 10.0](#), [Table 10.1](#) and [Table 10.2](#).

Table 10.0 M7 DIMM population order for 16GB, 32GB, 64GB, 128GB, 256GB

#DIMMs per CPU	DIMM Population - 16GB, 32GB, 64GB, 128GB, 256GB (4th and 5th Gen. CPUs) ¹	
	Slot 1 (Blue)	Slot 2 (Black)
1	A1	-
2	A1, G1	-
4	A1, C1, E1, G1	-
6	A1, C1, D1, E1, F1, G1	-
8	A1, B1, C1, D1, E1, F1, G1, H1	-
12 ²	A1, B1, C1, D1, E1, F1, G1, H1	A2, C2, E2, G2
16	A1, B1, C1, D1, E1, F1, G1, H1	A2, B2, C2, D2, E2, F2, G2, H2

Notes:

1. See [DIMM Mixing Rules](#) for allowed combinations across slots 1 and 2.
2. Only valid when DIMMs in blue and black slots are the same density.

Table 10.1 M7 DIMM population order for 48GB

#DIMMs per CPU	DIMM Population - 48GB (5th Gen. CPUs only) ^{1,2}	
	Slot 1 (Blue)	Slot 2 (Black)
1	A1	-
6	A1, C1, D1, E1, F1, G1	-
8	A1, B1, C1, D1, E1, F1, G1, H1	-

Notes:

1. 48GB DIMMs cannot be mixed with other DIMM capacities.
2. Only 1 DPC supported by 48GB.

Table 10.2 M7 DIMM population order for 96GB

#DIMMs per CPU	DIMM Population - 96GB (5th Gen. CPUs only) ¹	
	Slot 1 (Blue)	Slot 2 (Black)
1	A1	-
6	A1, C1, D1, E1, F1, G1	-
8	A1, B1, C1, D1, E1, F1, G1, H1	-
12 ²	A1, B1, C1, D1, E1, F1, G1, H1	A2, C2, E2, G2
16 ²	A1, B1, C1, D1, E1, F1, G1, H1	A2, B2, C2, D2, E2, F2, G2, H2

Notes:

1. 96GB DIMMs cannot be mixed with other DIMM capacities.
2. Only valid when DIMMs in blue and black slots are the same density.

■ DIMM Mixing Rules:

- Higher rank DIMMs shall be populated on Slot 1.
- Mixing different DIMM densities in the same slot across channels is not supported. All populated slots of the same color must have the same DIMM density.
- Mixing X4 and X8 DIMMs is not allowed
- Mixing 16Gb DRAM based and 24Gb DRAM based DIMMs is not allowed. Therefore, 48GB and 96GB cannot be mixed with any other memory DIMMs
- 48GB supports 1 DIMM Per Channel (1DPC) only
- The DIMM mixing rules matrix is described in the [Table 11](#) and [Table 12](#), below

Table 11 Supported DIMM mixing and population across 2 slots in each channel - 16GB, 32GB, 64GB, 128GB, and 256GB DIMMs

Channel Mixing		DIMM Slot 2 (Black)				
DIMM Slot 1 (Blue)		16GB	32GB	64GB	128GB	256GB
		1Rx8	1Rx4	2Rx4	4Rx4	8Rx4
16GB	1Rx8	Yes ¹	No	No	No	No
32GB	1Rx4	No	Yes ¹	No	No	No
64GB	2Rx4	No	Yes ²	Yes ¹	No	No
128GB	4Rx4	No	No	No	Yes ¹	No
256GB	8Rx4	No	No	No	Yes ²	Yes ¹

Notes:

1. For 2,4,6, 8 DIMMs count, only populate slot 1 (Blue slot). see [Table 10.0](#) for details
2. When mixing two different DIMM densities, all 8 channels per CPU must be populated. Use of fewer than 8 channels (16 slots per CPU) is not supported.

Table 12 Supported DIMM mixing and population across 2 slots in each channel - 48GB and 96GB DIMMs

Channel Mixing		DIMM Slot 2 (Black)	
DIMM Slot 1 (Blue)		48GB	96GB
		1Rx4	2Rx4
48GB	1Rx4	No	No
96GB	2Rx4	No	Yes ¹

Notes:

1. For 6, 8 DIMMs count, only populate slot 1 (Blue slot). see [Table 10.2](#) for details

- Memory Limitations:
 - Memory on every CPU socket shall be configured identically.
 - Refer to [Table 10.0](#), [Table 10.1](#) and [Table 10.2](#), and [Table 11](#) and [Table 12](#), for DIMM population and DIMM mixing rules.
 - Cisco memory from previous generation servers (DDR3 and DDR4) is not supported with the M7 servers.
- For best performance, observe the following:
 - For optimum performance, populate at least one DIMM per memory channel per CPU. When one DIMM per channel is used, it must be populated in DIMM slot 1 (blue slot farthest away from the CPU) of a given channel.
 - The maximum 2 DPC speed is 4400 MT/s, refer to [Table 13.0](#) and [Table 13.1](#) for the details.

Table 13.0 DDR5-4800 DIMM 1DPC and 2DPC max speed matrix - 4th Gen. CPU

4th Gen. CPU Shelves and Memory Speed	1DPC	2DPC
	All RDIMMs	All RDIMMs
Platinum Series 8	4800 MT/s	4400 MT/s
Gold Series 6	4800 MT/s	4400 MT/s
Gold Series 5	4400 MT/s	4400 MT/s
Silver Series 4	4000 MT/s	4000 MT/s
Bronze Series 3	4000 MT/s	4000 MT/s

Table 13.1 DDR5-5600 DIMM 1DPC and 2DPC max speed matrix - 5th Gen. CPU

5th Gen. CPU Shelves and Memory Speed	1DPC	2DPC
	All RDIMMs	All RDIMMs
Platinum Series 8	5600 MT/s	4400 MT/s
Gold Series 6	5200 MT/s	4400 MT/s
Gold Series 5	4800 MT/s	4400 MT/s
Silver Series 4	4400 MT/s	4400 MT/s
Bronze Series 3	4400 MT/s	4400 MT/s



NOTE: For full details on supported memory configurations see the [M7 Memory Guide](#).

STEP 4 CHOOSE REAR mLOM ADAPTER

The Cisco UCS X210c M7 Compute Node must be ordered with a Cisco VIC mLOM Adapter. The adapter is located at the back and can operate in a single-CPU or dual-CPU configuration.

[Table 14](#) shows the mLOM adapter choices.

Table 14 mLOM Adapters

Product ID (PID)	Description	Connection type
UCSX-ML-V5D200G-D	Cisco UCS VIC 15231 2x100G mLOM for X Compute Node	mLOM
UCSX-MLV5D200GV2D	Cisco UCS VIC 15230 modular LOM w/Secure Boot X Compute Node	mLOM
UCSX-ML-V5Q50G-D	UCS VIC 15420 4x25G secure boot mLOM for X Compute Node	mLOM



NOTE:

- VIC 15420 are supported with both X9108-IFM-25G and X9108-IFM-100G. VIC 15420 will operate at 4x 25G with both X9108-IFM-25G and X9108-IFM-100G. While, VIC 15231/15230 will operate at 4x 25G with X9108-IFM-25G and at 2x 100G with X9108-IFM-100G.
- The mLOM adapter is mandatory for the Ethernet connectivity to the network by means of the IFMs and has x16 PCIe Gen4 connectivity with Cisco UCS VIC 15420 or x16 Gen4 connectivity with Cisco UCS VIC 15231/15230 towards the CPU1.
- There is no backplane in the Cisco UCS X9508 chassis; thus, the compute nodes directly connect to the IFMs using Orthogonal Direct connectors.
- [Figure 5](#) shows the location of the mLOM and rear mezzanine adapters on the Cisco UCS X210c M7 Compute Node. The bridge adapter connects the mLOM adapter to the rear mezzanine adapter.

Figure 5 Location of mLOM and Rear Mezzanine Adapters

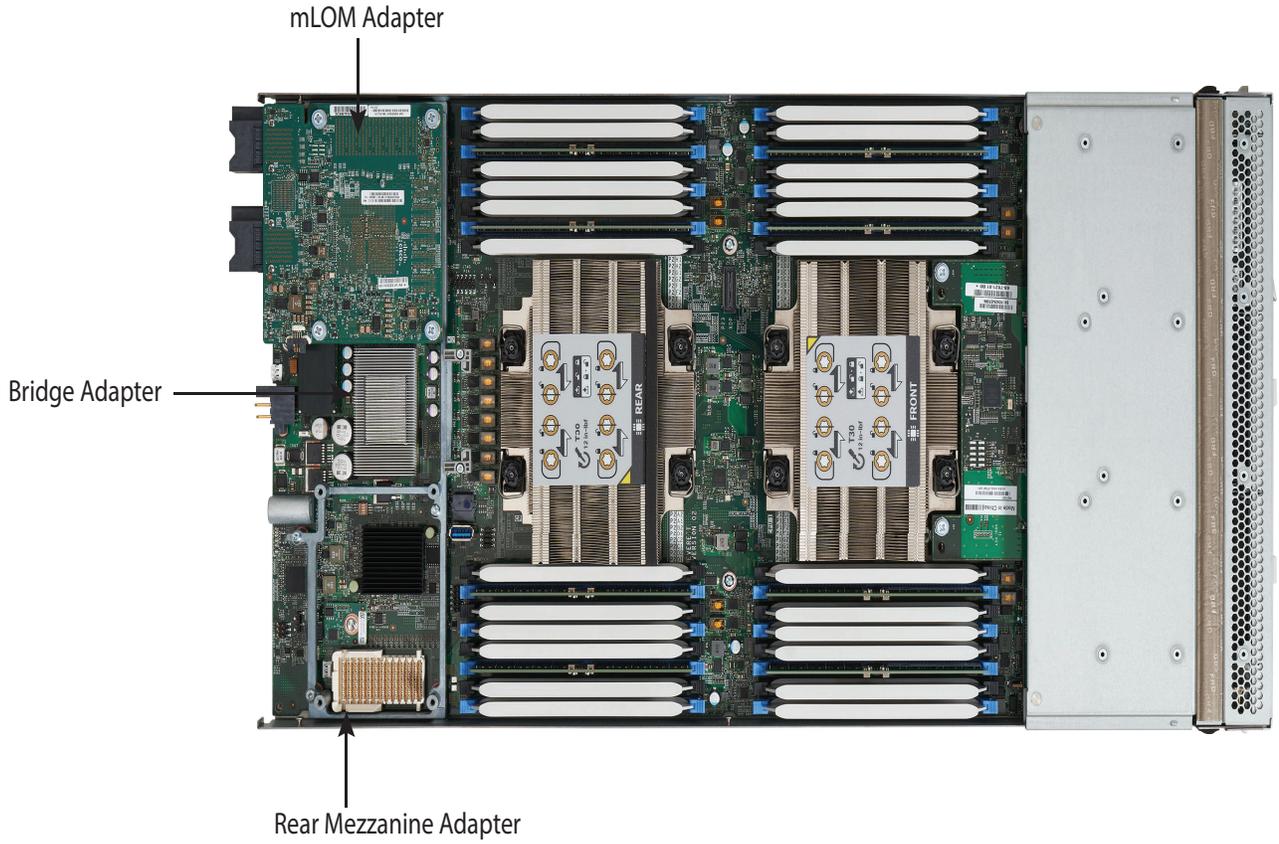


Figure 6 shows the network connectivity from the mLOM out to the 25G IFMs.

Figure 6 Network Connectivity 25G IFMs

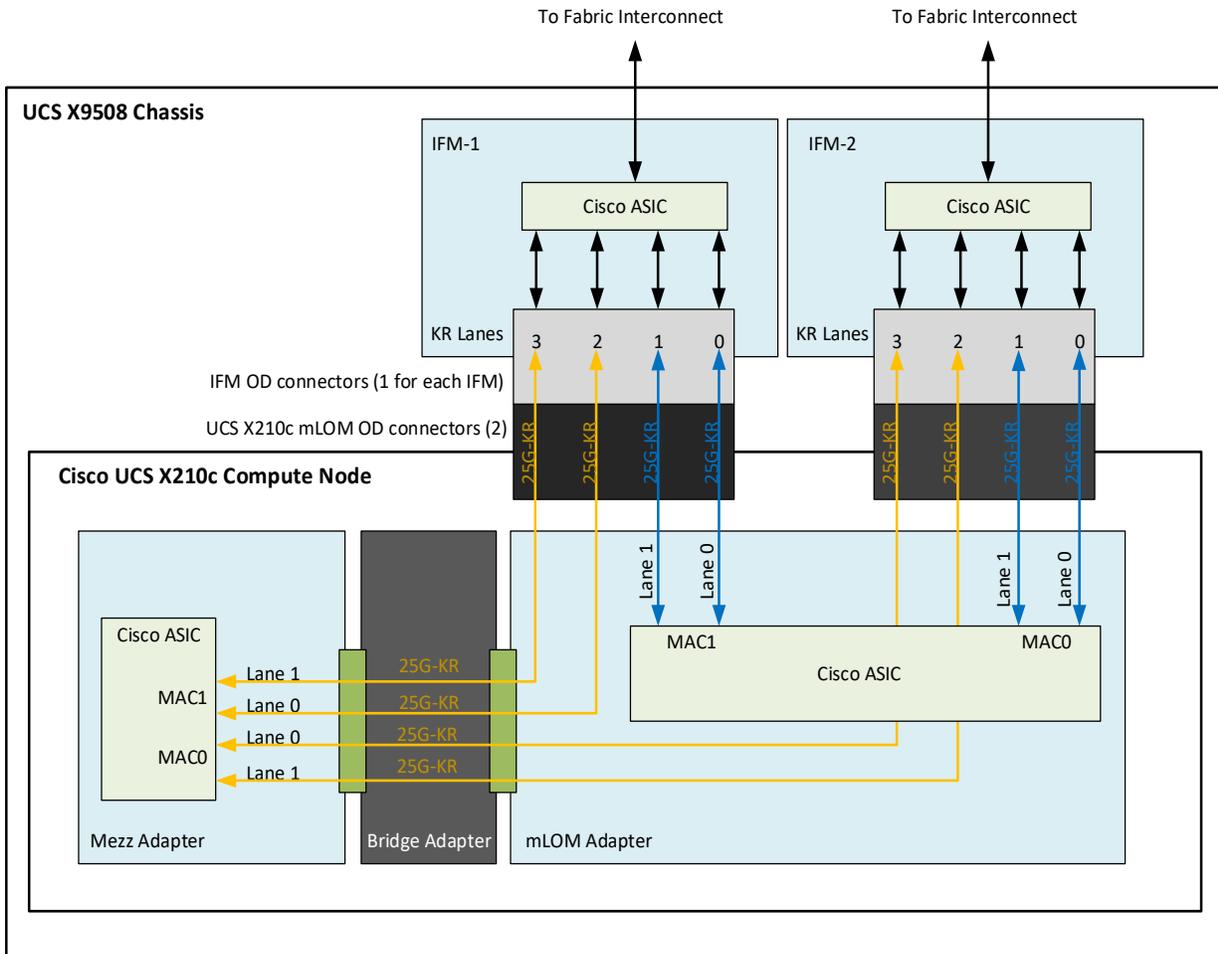
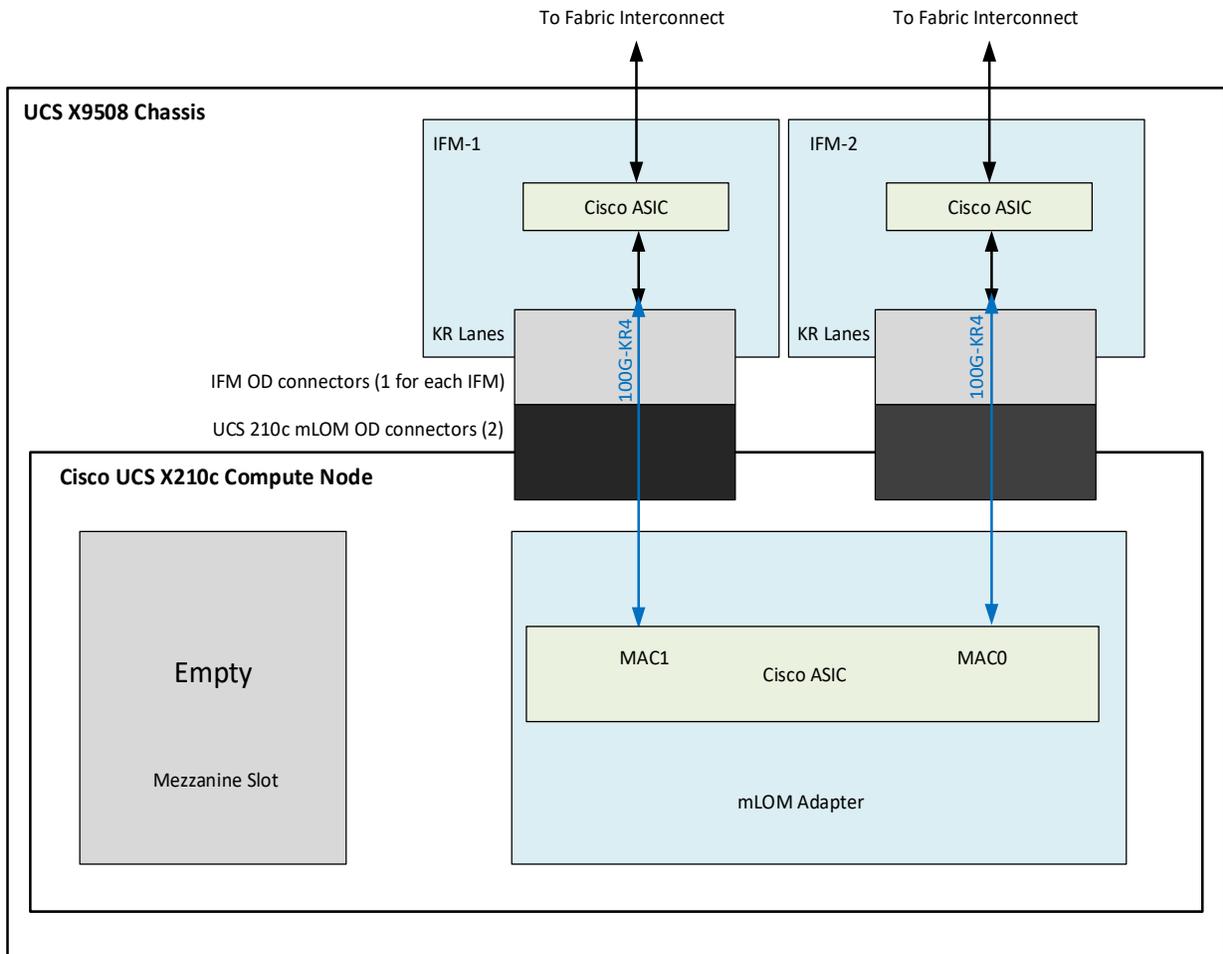


Figure 7 shows the network connectivity from the mLOM out to the 100G IFMs.

Figure 7 Network Connectivity 100G IFMs



STEP 5 CHOOSE OPTIONAL REAR MEZZANINE VIC/BRIDGE ADAPTERS

The Cisco UCS X210c M7 Compute Node has one rear mezzanine adapter connector which can have a UCS VIC 15422 Mezz card that can be used as a second VIC card on the compute node for network connectivity or as a connector to the X440p PCIe node via X-Fabric modules. The same mezzanine slot on the compute node can also accommodate a pass-through mezzanine adapter for X-Fabric which enables compute node connectivity to the X440p PCIe node. Refer to [Table 15](#) for supported adapters.

Table 15 Available Rear Mezzanine Adapters

Product ID(PID)	PID Description	CPUs Required	Connector Type
Cisco VIC Card			
UCSX-V4-PCIME-D ¹	UCS PCI Mezz Card for X-Fabric	2 CPUs required	Rear Mezzanine connector on motherboard
UCSX-ME-V5Q50G-D	UCS VIC 15422 4x25G secure boot mezz for X Compute Node	2 CPUs required	Rear Mezzanine connector on motherboard
Cisco VIC Bridge Card²			
UCSX-V5-BRIDGE-D	UCS VIC 15000 bridge to connect mLOM and mezz X Compute Node (This bridge to connect the Cisco VIC 15420 mLOM and Cisco VIC 15422 Mezz for the X210c M7 Compute Node)	2 CPUs required	One connector on Mezz card and one connector on mLOM card

Notes:

1. If this adapter is selected, then two CPUs are required and UCSX-ME-V5Q50G-D or UCSX-V4-PCIME-D is required.
2. Included with the Cisco VIC 15422 mezzanine adapter.



NOTE: The UCSX-V4-PCIME-D rear mezzanine card for X-Fabric has PCIe Gen4 x16 connectivity towards each CPU1 and CPU2. Additionally, the UCSX-V4-PCIME-D also provides two PCIe Gen4 x16 to each X-fabric. This rear mezzanine card enables connectivity from the X210c M7 Compute Node to the X440p PCIe node.

Table 16 Throughput Per UCS X210c M7 Server

X210c M7 Compute Node	FI-6536 + X9108-IFM-100G	FI-6536/6400 + X9108-IFM-25G	FI-6536 + X9108-IFM-25G/100G or FI-6400 + X9108-IFM-25G	FI-6536 + X9108-IFM-25G/100G or FI-6400 + X9108-IFM-25G	
X210c configuration	VIC 15231/15230	VIC 15231/15230	VIC 15420	VIC 15420 + VIC 15422	
Throughput per node	200G (100G per IFM)	100G (50G per IFM)	100G (50G per IFM)	200G (100G per IFM)	
vNICs needed for max BW	2	2	2	4	
KR connectivity from VIC to each IFM	1x 100GKR	2x 25GKR	2x 25GKR	4x 25GKR	
Single vNIC throughput on VIC	100G (1x100GKR)	50G (2x25G KR)	50G (2x25G KR)	50G (2x25G KR)	50G (2x25G KR)
Max Single flow BW per vNIC	100G	25G	25G	25G	25G
Single vHBA throughput on VIC	100G	50G	50G	50G	50G

Supported Configurations

- One of mLOM VIC from [Table 14](#) is always required.
- If a UCSX-ME-V5Q50G-D rear mezzanine VIC card is installed, a UCSX-V5-BRIDGE-D VIC bridge card is included and connects the mLOM to the mezzanine adapter.
- The UCSX-ME-V5Q50G-D rear mezzanine card has Ethernet connectivity to the IFM using the UCSX-V5-BRIDGE-D and has a PCIe Gen4 x16 connectivity towards CPU2. Additionally, the UCSX-ME-V5Q50G-D also provides two PCIe Gen4 x16 to each X-fabric.
- All the connections to Cisco UCS X-Fabric 1 and Cisco UCS X-Fabric 2 are through the Molex Orthogonal Direct (OD) connector on the mezzanine card.
- The rear mezzanine card has 32 x16PCIe lanes to each Cisco UCS X-Fabric for I/O expansion to enable resource consumption from the PCIe resource nodes.

STEP 6 CHOOSE OPTIONAL FRONT MEZZANINE ADAPTER

The Cisco UCS X210c M7 Compute Node has one front mezzanine connector that can accommodate one of the following mezzanine cards:

- Pass-through controller for up to 6 U.2/U.3 NVMe drives
- RAID controller (RAID levels 0, 1, 5, 6, 10, and 50) for 6 SAS/SATA/U.3 NVMe drives or up to 4 U.2 NVMe drives (drive slots 1-4) and SAS/SATA/U.3 NVMe (drive slots 5-6)
- GPU Front Mezz to Support up to 2 U.2/U.3 NVMe drives and 2 NVIDIA T4 GPUs.



NOTE:

- The Cisco UCS X210c M7 Compute Node can be ordered with or without the front mezzanine adapter. Refer to [Table 17 Available Front Mezzanine Adapters](#)
- Only one Front Mezzanine connector or Front GPU can be selected per Server.
- RAID with NVMe drives is only supported with the NVMe U.3 drives as they connect to the RAID controller and RAID is not supported with the U.2 NVME drives as they directly interface with the server via the PCIe bus.

Table 17 Available Front Mezzanine Adapters

Product ID(PID)	PID Description	Connector Type
UCSX-X10C-PT4F-D	Cisco UCS X210c M7 Compute Node compute pass through controller for up to 6 NVMe drives	Front Mezzanine
UCSX-X10C-RAIDF-D	Cisco UCS X210c M7 Compute Node RAID controller w/4GB Cache, with LSI 3900 for up to 6 SAS/SATA/NVMe drives (SAS/SATA and NVMe drives can be mixed)	Front Mezzanine
UCSX-X10C-GPUFM-D	UCS X10c Compute Node GPU Front Mezz	Front Mezzanine

STEP 7 CHOOSE OPTIONAL GPU PCIe NODE

Refer to [Table 18](#) for GPU PCIe Node

Table 18 GPU PCIe Node

Product ID(PID)	PID Description
UCSX-440P-D	UCS X-Series Gen4 PCIe node



NOTE:

- If UCSX-440P-D is selected, then rear mezzanine is required.
- Currently X440p (PCIe node will be only supported with intersight Managed Mode (IMM) only

STEP 8 CHOOSE OPTIONAL GPUS

Select GPU Options



NOTE: Windows Server 2019 is not supported with the Intel FLEX 140 & 170 GPUs

The available Compute node GPU options are listed in [Table 19](#)

Table 19 Available PCIe GPU Card supported on the Compute Node Front Mezz

GPU Product ID (PID)	PID Description
UCSX-GPU-T4MEZZ-D	NVIDIA T4 GPU PCIE 75W 16GB, MEZZ form factor
UCSX-GPU-FLX140MZ	Intel GPU Flex 140, Gen4x8, HHHL, 75W PCIe

The available PCIe node GPU options are listed in [Table 20](#).

Table 20 Available PCIe GPU Cards supported on the PCIe Node

GPU Product ID (PID)	PID Description	Maximum number of GPUs per node
UCSX-GPU-A16-D	NVIDIA A16 PCIE 250W 4X16GB	2
UCSX-GPU-A40-D	TESLA A40 RTX, PASSIVE, 300W, 48GB	2
UCSX-GPU-A100-80-D	TESLA A100, PASSIVE, 300W, 80GB	2
UCSX-GPU-H100-80	TESLA H100, PASSIVE, 350W, 80GB	2
UCSX-GPU-L4	NVIDIA L4 Tensor Core, 70W, 24GB	4
UCSX-GPU-L40	NVIDIA L40 300W, 48GB wPWR CBL	2
UCSX-GPU-L40S ²	NVIDIA L40S: 350W, 48GB, 2-slot FHFL GPU	2
UCSX-GPU-FLEX140 ³	Intel GPU Flex 140, Gen4x8, HHHL, 75W PCIe	4
UCSX-GPU-FLEX170 ³	Intel GPU Flex 170, Gen4x16, HHFL, 150W PCIe	2

Notes:

1. Required power cables are included with the riser cards in the X440p PCIe node.
2. If GPU L40S GPU is selected, then 4th Gen Processor required, can not select this GPU with the 5th Gen Processor.
3. Windows Server 2019 is not supported with the Intel Flex 140 & 170 GPUs.

STEP 9 CHOOSE OPTIONAL DRIVES

The Cisco UCS X210c M7 Compute Node can be ordered with or without drives. The drive options are:

- One to six 2.5-inch small form factor SAS/SATA SSDs or PCIe U.2/U.3 NVMe drives
 - Hot-pluggable
 - Sled-mounted

Select one or two drives from the list of supported drives available in [Table 21](#).

Table 21 Available Drive Options

Product ID (PID)	Description	Drive Type	Speed	Size
SAS/SATA SSDs^{1,2,3}				
Self-Encrypted Drives (SED)				
UCSX-SD38TBK9-D	3.8TB Enterprise Value SAS SSD (1X DWPD, SED)	SAS		3.8TB
UCSX-SD16TBK9-D	1.6TB Enterprise performance SAS SSD (3X DWPD, SED)	SAS		1.6TB
UCSXSD960GBK9-D	960GB 2.5" Enterprise value 12G SAS SSD (1X endurance, FIPS)	SAS	12G	960GB
UCSXSD800GBK9-D	800GB Enterprise performance SAS SSD (3X DWPD, SED)	SAS		800GB
UCSX-SD16TBK9D	1.6TB 2.5in Enter Perf 12G SAS Kioxia G2 SSD (3X SED-FIPS)	SAS	12G	1.6TB
UCSX-SD38TBK9D	3.8TB 2.5in Enter Value 12G SAS Kioxia G2 SSD (SED-FIPS)	SAS	12G	3.8TB
UCSX-SD76TBK9D	7.6TB 2.5in Enter Value 12G SAS Kioxia G2 SSD (SED-FIPS)	SAS	12G	7.6TB
UCSX-SD960GM2K9D	960GB 2.5in Enter Value 6G SATA Micron G2 SSD (SED)	SATA	6G	960GB
UCSX-SD19TEM2K9D	1.9TB 2.5in Enter Value 6G SATA Micron G2 SSD (SED)	SATA	6G	800GB
UCSX-SD38TEM2K9D	3.8TB 2.5in Enter Value 6G SATA Micron G2 SSD (SED)	SATA	6G	1.6TB
UCSX-SD76TEM2K9D	7.6TB 2.5in Enter Value 6G SATA Micron G2 SSD (SED)	SATA	6G	3.8TB
Enterprise Performance SSDs (high endurance, supports up to 3X DWPD (drive writes per day))				
UCSXSD800GK3XEP-D	800GB 2.5in Enterprise Performance 12G SAS SSD (3X endurance)	SAS	12G	800GB
UCSX-SD16TK3XEP-D	1.6TB 2.5in Enterprise Performance 12G SAS SSD (3X endurance)	SAS	12G	1.6TB
UCSX-SD16TKA3XEPD	1.6TB 2.5in Enter Perf 12G SAS Kioxia G2 SSD (3X)	SAS	12G	1.6TB
UCSXSD32TKA3XEP-D	3.2TB 2.5in Enter Perf 12G SAS Kioxia G2 SSD (3X)	SAS	12G	3.2TB
UCSX-SD19T63XEP-D	1.9TB 2.5 inch Enterprise performance 6G SATA SSD (3X endurance)	SATA	6G	1.9TB
UCSXSD480G63XEP-D	480GB 2.5in Enterprise performance 6G SATA SSD (3X endurance)	SATA	6G	480GB
UCSXSD960G63XEP-D	960GB 2.5 inch Enterprise performance 6G SATA SSD (3X endurance)	SATA	6G	960GB
UCSX-SD38T63XEP-D	3.8TB 2.5 in Enterprise performance 6G SATA SSD (3X endurance)	SATA	6G	3.8TB
UCSXSD480GBM3XEPD	480GB 2.5in Enter Perf 6G SATA Micron G2 SSD (3X)	SATA	6G	480GB

Table 21 Available Drive Options (continued)

Product ID (PID)	Description	Drive Type	Speed	Size
UCSXSD960GBM3XEPD	960GB 2.5in Enter Perf 6G SATA Micron G2 SSD (3X)	SATA	6G	960GB
UCSX-SD19TBM3XEPD	1.9TB 2.5in Enter Perf 6G SATA Micron G2 SSD (3X)	SATA	6G	1.9TB
Enterprise Value SSDs (Low endurance, supports up to 1X DWPD (drive writes per day))				
UCSXSD38T6I1XEVD	3.8TB 2.5 inch Enterprise Value 6G SATA SSD	SATA	6G	3.8TB
UCSXSD19T6S1XEVD	1.9TB 2.5 inch Enterprise Value 6G SATA SSD	SATA	6G	1.9TB
UCSXSD38T6S1XEVD	3.8TB 2.5 inch Enterprise Value 6G SATA SSD	SATA	6G	3.8TB
UCSXSD76T6S1XEVD	7.6TB 2.5 inch Enterprise Value 6G SATA SSD	SATA	6G	7.6TB
UCSXS480G6I1XEVD	480 GB 2.5 inch Enterprise Value 6G SATA Intel SSD	SATA	6G	480GB
UCSXS960G6I1XEVD	960GB 2.5 inch Enterprise Value 6G SATA Intel SSD	SATA	6G	960GB
UCSXS960G6S1XEVD	960GB 2.5 inch Enterprise Value 6G SATA Samsung SSD	SATA	6G	960GB
UCSXSD240GBM1XEVD	240GB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	6G	240GB
UCSXSD480GBM1XEVD	480 GB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	6G	480GB
UCSXSD960GBM1XEVD	960GB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	6G	960GB
UCSX-SD16TBM1XEVD	1.6TB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	6G	1.6TB
UCSX-SD19TBM1XEVD	1.9TB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	6G	1.9TB
UCSX-SD38TBM1XEVD	3.8TB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	6G	3.8TB
UCSX-SD76TBM1XEVD	7.6TB 2.5in Enter Value 6G SATA Micron G2 SSD	SATA	6G	7.6TB
UCSX-SD19TM1XEVD	1.9TB 2.5in Enter Value 6G SATA Micron G1 SSD	SATA	6G	1.9TB
UCSXSD960GK1XEVD	960GB 2.5in Enter Value 12G SAS Kioxia G1 SSD	SAS	12G	960GB
UCSX-SD19TK1XEVD	1.9TB 2.5in Enter Value 12G SAS Kioxia G1 SSD	SAS	12G	1.9TB
UCSX-SD19TKA1XEVD	1.9TB 2.5in Enter Value 12G SAS Kioxia G2 SSD	SAS	12G	1.9TB
UCSXSD38TKA1XEVD	3.8TB 2.5in Enter Value 12G SAS Kioxia G2 SSD	SAS	12G	3.8TB
UCSX-SD76TKA1XEVD	7.6TB 2.5in Enter Value 12G SAS Kioxia G2 SSD	SAS	12G	7.6TB
UCSX-SD15TKA1XEVD	15.3TB 2.5in Enter Value 12G SAS Kioxia G2 SSD	SAS	12G	15.3TB
NVMe^{4, 5,6}				
UCSX-NVME4-15360D	15.3TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	U.2	15.3TB
UCSX-NVME4-1600-D	1.6TB 2.5in U.2 P5620 NVMe High Perf High Endurance	NVMe	U.2	1.6TB
UCSX-NVME4-1920-D	1.9TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	U.2	1.9TB
UCSX-NVME4-3200-D	3.2TB 2.5in U.2 P5620 NVMe High Perf High Endurance	NVMe	U.2	3.2TB
UCSX-NVME4-3840-D	3.8TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	U.2	3.8TB
UCSX-NVME4-6400-D	6.4TB 2.5in U.2 P5620 NVMe High Perf High Endurance	NVMe	U.2	6.4TB
UCSX-NVME4-7680-D	7.6TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	U.2	7.6TB
UCSX-NVMEXPI400-D	400GB 2.5in U.2 Intel P5800X Optane NVMe Extreme Perform SSD	NVMe	U.2	400GB
UCSX-NVMEXPI800-D	800GB 2.5in U.2 Intel P5800X Optane NVMe Extreme Perform SSD	NVMe	U.2	800GB
UCSX-NVMEG4M1536D	15.3TB 2.5in U.3 Micron 7450 NVMe High Perf Medium Endurance	NVMe	U.3	15.3TB
UCSX-NVMEG4M1600D	1.6TB 2.5in U.3 Micron 7450 NVMe High Perf High Endurance	NVMe	U.3	1.6TB

Table 21 Available Drive Options (*continued*)

Product ID (PID)	Description	Drive Type	Speed	Size
UCSX-NVMEG4M1920D	1.9TB 2.5in U.3 Micron 7450 NVMe High Perf Medium Endurance	NVMe	U.3	1.9TB
UCSX-NVMEG4M3200D	3.2TB 2.5in U.3 Micron 7450 NVMe High Perf High Endurance	NVMe	U.3	3.2TB
UCSX-NVMEG4M3840D	3.8TB 2.5in U.3 Micron 7450 NVMe High Perf Medium Endurance	NVMe	U.3	3.8TB
UCSX-NVMEG4M6400D	6.4TB 2.5in U.3 Micron 7450 NVMe High Perf High Endurance	NVMe	U.3	6.4TB
UCSX-NVMEG4M7680D	7.6TB 2.5in U.3 Micron 7450 NVMe High Perf Medium Endurance	NVMe	U.3	7.6TB
UCSX-NVMEG4-M960D	960GB 2.5in U.3 Micron 7450 NVMe High Perf Medium Endurance	NVMe	U.3	960GB

NOTE: Cisco uses solid state drives from several vendors. All solid state drives are subject to physical write limits and have varying maximum usage limitation specifications set by the manufacturer. Cisco will not replace any solid state drives that have exceeded any maximum usage specifications set by Cisco or the manufacturer, as determined solely by Cisco.

Notes:

1. SSD drives require the **UCSX-X10C-RAIDF-D** front mezzanine adapter
2. For SSD drives to be in a RAID group, two identical SSDs must be used in the group.
3. If SSDs are in JBOD Mode, the drives do not need to be identical.
4. NVMe drives require a front mezzanine the UCSX-X10C-PT4F-D pass through controller or UCSX-X10C-RAIDF-D RAID controller for RAID support
5. A maximum of 6x NVMe drives can be ordered with RAID controller.
6. A maximum of 2x NVMe drives can be ordered with Front Mezzanine GPU module.

STEP 10 ORDER M.2 SATA SSDs AND RAID CONTROLLER

- **Cisco 6GB/s SATA Boot-Optimized M.2 RAID Controller (included):** Boot-Optimized RAID controller (UCSX-M2-HWRD-FPS) for hardware RAID across two SATA M.2 storage modules. The Boot-Optimized RAID controller plugs into the motherboard and the M.2 SATA drives plug into the Boot-Optimized RAID controller.



NOTE:

- The UCSX-M2-HWRD-FPS is auto included with the server configuration
- The UCSX-M2-HWRD-FPS controller supports RAID 1 and JBOD mode and is available only with 240GB, 480GB, and 960GB M.2 SATA SSDs.
- Cisco IMM is supported for configuring of volumes and monitoring of the controller and installed SATA M.2 drives
- Hot-plug replacement is not supported. The compute node must be powered off to replace.
- The Boot-Optimized RAID controller supports VMware, Windows, and Linux Operating Systems

Table 22 Boot-Optimized RAID controller (auto included)

Product ID (PID)	PID Description
UCSX-M2-HWRD-FPS	UCSX Front panel with M.2 RAID controller for SATA drives

- **Select Cisco M.2 SATA SSDs:** Order one or two matching M.2 SATA SSDs. This connector accepts the boot-optimized RAID controller (see [Table 22](#)). Each boot-optimized RAID controller can accommodate up to two SATA M.2 SSDs shown in [Table 23](#).



NOTE:

- Each boot-optimized RAID controller can accommodate up to two SATA M.2 SSDs shown in [Table 23](#). The boot-optimized RAID controller plugs into the motherboard.
- It is recommended that M.2 SATA SSDs be used as boot-only devices.
- The SATA M.2 drives can boot in UEFI mode only. Legacy boot mode is not supported.

Table 23 M.2 SATA SSDs

Product ID (PID)	PID Description
UCSX-M2-240G-D	240GB 2.5in M.2 SATA Micron G2 SSD
UCSX-M2-480G-D	480GB 2.5in M.2 SATA Micron G2 SSD
UCSX-M2-960G-D	960GB 2.5in M.2 SATA Micron G2 SSD
UCSX-M2-I240GB-D	240GB SATA M.2 SSD
UCSX-M2-I480GB-D	480GB SATA M.2 SSD

STEP 11 ORDER NVMe BOOT (OPTIONAL)

Table 24 NVMe BOOT

Product ID (PID)	PID Description
UCSX-M2-PT-FPN	UCSX Front Panel w/M.2 Pass Through Controller for NVMe Drv

Table 25 M.2 NVMe

Product ID (PID)	PID Description
UCSX-NVM2-400GB	400GB M.2 Boot NVMe
UCSX-NVM2-960GB	960GB M.2 Boot NVMe

STEP 12 CHOOSE OPTIONAL TRUSTED PLATFORM MODULE

Trusted Platform Module (TPM) is a computer chip or microcontroller that can securely store artifacts used to authenticate the platform or Cisco UCS X210c M7 Compute Node. These artifacts can include passwords, certificates, or encryption keys. A TPM can also be used to store platform measurements that help ensure that the platform remains trustworthy. Authentication (ensuring that the platform can prove that it is what it claims to be) and attestation (a process helping to prove that a platform is trustworthy and has not been breached) are necessary steps to ensure safer computing in all environments.

Table 26 Available TPM Option

Product ID (PID)	Description
UCSX-TPM-002C-D	Trusted Platform Module 2.0, FIPS140-2 Compliant, UCS M7 server
UCSX-TPM-OPT-OUT ¹	OPT OUT, TPM 2.0, TCG, FIPS140-2, CC EAL4+ Certified

Notes:

1. Please note Microsoft certification requires a TPM 2.0 for bare-metal or guest VM deployments. Opt-out of the TPM 2.0 voids the Microsoft certification.



NOTE:

- The TPM module used in this system conforms to TPM v2.0 as defined by the Trusted Computing Group (TCG).
- TPM installation is supported after-factory. However, a TPM installs with a one-way screw and cannot be replaced, upgraded, or moved to another compute node. If a Cisco UCS X210c M7 Compute Node with a TPM is returned, the replacement Cisco UCS X210c M7 Compute Node must be ordered with a new TPM. If there is no existing TPM in the Cisco UCS X210c M7 Compute Node, you can install a TPM 2.0. Refer to the following document for Installation location and instructions:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/x/hw/210c-m6/install/b-cisco-ucs-x210c-m7-install.html

STEP 13 CHOOSE OPERATING SYSTEM AND VALUE-ADDED SOFTWARE

- Cisco Software ([Table 27](#))
- Operating System ([Table 28](#))



NOTE:

- See this link for operating system guidance: <https://ucshcltool.cloudapps.cisco.com/public/>
- VMware is on Compliance Hold. Contact the Compute-Vmware-Hold@cisco.com mailer to see if you are allowed to receive VMware Licenses

Table 27 OEM Software

Product ID (PID)	PID Description
VMware vCenter	
VMW-VCS-STD-D1A	VMware vCenter 7 Server Standard, 1 yr support required
VMW-VCS-STD-D3A	VMware vCenter 7 Server Standard, 3 yr support required
VMW-VCS-STD-D5A	VMware vCenter 7 Server Standard, 5 yr support required
VMW-VCS-FND-D1A	VMware vCenter Server 7 Foundation (4 Host), 1 yr supp reqd
VMW-VCS-FND-D3A	VMware vCenter Server 7 Foundation (4 Host), 3 yr supp reqd
VMW-VCS-FND-D5A	VMware vCenter Server 7 Foundation (4 Host), 5 yr supp reqd

Table 28 Operating System

Product ID (PID)	PID Description
Microsoft Windows Server	
MSWS-22-ST16CD	Windows Server 2022 Standard (16 Cores/2 VMs)
MSWS-22-ST16CD-NS	Windows Server 2022 Standard (16 Cores/2 VMs) - No Cisco SVC
MSWS-22-DC16CD	Windows Server 2022 Data Center (16 Cores/Unlimited VMs)
MSWS-22-DC16CD-NS	Windows Server 2022 DC (16 Cores/Unlim VMs) - No Cisco SVC
MSWS-19-ST16CD	Windows Server 2019 Standard (16 Cores/2 VMs)
MSWS-19-ST16CD-NS	Windows Server 2019 Standard (16 Cores/2 VMs) - No Cisco SVC
MSWS-19-DC16CD	Windows Server 2019 Data Center (16 Cores/Unlimited VMs)
MSWS-19-DC16CD-NS	Windows Server 2019 DC (16 Cores/Unlim VMs) - No Cisco SVC
Red Hat	

Table 28 Operating System (continued)

Product ID (PID)	PID Description
RHEL-2S2V-D1A	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 1-Yr Support Req
RHEL-2S2V-D3A	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 3-Yr Support Req
RHEL-2S2V-D5A	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 5-Yr Support Req
RHEL-VDC-2SUV-D1A	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 1 Yr Supp Req
RHEL-VDC-2SUV-D3A	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 3 Yr Supp Req
RHEL-VDC-2SUV-D5A	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 5 Yr Supp Req
Red Hat Ent Linux/ High Avail/ Res Strg/ Scal	
RHEL-2S2V-D1S	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); Prem 1Yr SnS Reqd
RHEL-2S2V-D3S	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); Prem 3Yr SnS Reqd
RHEL-2S-HA-D1S	RHEL High Availability (1-2 CPU); Premium 1-yr SnS Reqd
RHEL-2S-HA-D3S	RHEL High Availability (1-2 CPU); Premium 3-yr SnS Reqd
RHEL-2S-RS-D1S	RHEL Resilent Storage (1-2 CPU); Premium 1-yr SnS Reqd
RHEL-2S-RS-D3S	RHEL Resilent Storage (1-2 CPU); Premium 3-yr SnS Reqd
RHEL-VDC-2SUV-D1S	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 1 Yr SnS Reqd
RHEL-VDC-2SUV-D3S	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 3 Yr SnS Reqd
Red Hat SAP	
RHEL-SAP-2S2V-D1S	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 1-Yr SnS Reqd
RHEL-SAP-2S2V-D3S	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 3-Yr SnS Reqd
RHEL-SAPSP-D3S	RHEL SAP Solutions Premium - 3 Years
RHEL-SAPSS-D3S	RHEL SAP Solutions Standard - 3 Years
VMware	
VMW-VSP-STD-D1A	VMware vSphere 7 Std (1 CPU, 32 Core) 1-yr, Support Required
VMW-VSP-STD-D3A	VMware vSphere 7 Std (1 CPU, 32 Core) 3-yr, Support Required
VMW-VSP-STD-D5A	VMware vSphere 7 Std (1 CPU, 32 Core) 5-yr, Support Required
VMW-VSP-EPL-D1A	VMware vSphere 7 Ent Plus (1 CPU, 32 Core) 1Yr, Support Reqd
VMW-VSP-EPL-D3A	VMware vSphere 7 Ent Plus (1 CPU, 32 Core) 3Yr, Support Reqd
VMW-VSP-EPL-D5A	VMware vSphere 7 Ent Plus (1 CPU, 32 Core) 5Yr, Support Reqd
SUSE	
SLES-2S2V-D1A	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 1-Yr Support Req

Table 28 Operating System (*continued*)

Product ID (PID)	PID Description
SLES-2S2V-D3A	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 3-Yr Support Req
SLES-2S2V-D5A	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 5-Yr Support Req
SLES-2SUVM-D1A	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; 1Y Supp Req
SLES-2SUVM-D3A	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; 3Y Supp Req
SLES-2SUVM-D5A	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; 5Y Supp Req
SLES-2S-LP-D1A	SUSE Linux Live Patching Add-on (1-2 CPU); 1yr Support Req
SLES-2S-LP-D3A	SUSE Linux Live Patching Add-on (1-2 CPU); 3yr Support Req
SLES-2S2V-D1S	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 1-Yr SnS
SLES-2S2V-D3S	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 3-Yr SnS
SLES-2S2V-D5S	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 5-Yr SnS
SLES-2SUVM-D1S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 1Y SnS
SLES-2SUVM-D3S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 3Y SnS
SLES-2SUVM-D5S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 5Y SnS
SLES-2S-HA-D1S	SUSE Linux High Availability Ext (1-2 CPU); 1yr SnS
SLES-2S-HA-D3S	SUSE Linux High Availability Ext (1-2 CPU); 3yr SnS
SLES-2S-HA-D5S	SUSE Linux High Availability Ext (1-2 CPU); 5yr SnS
SLES-2S-GC-D1S	SUSE Linux GEO Clustering for HA (1-2 CPU); 1yr SnS
SLES-2S-GC-D3S	SUSE Linux GEO Clustering for HA (1-2 CPU); 3yr SnS
SLES-2S-GC-D5S	SUSE Linux GEO Clustering for HA (1-2 CPU); 5yr SnS
SLES-2S-LP-D1S	SUSE Linux Live Patching Add-on (1-2 CPU); 1yr SnS Required
SLES-2S-LP-D3S	SUSE Linux Live Patching Add-on (1-2 CPU); 3yr SnS Required
SLES and SAP	
SLES-SAP-2S2V-D1S	SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 1-Yr SnS
SLES-SAP-2S2V-D3S	SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 3-Yr SnS
SLES-SAP-2S2V-D5S	SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 5-Yr SnS
SLES-SAP-2S2V-D1A	SLES for SAP Apps w/ HA (1-2 CPU, 1-2 VM); 1-Yr Support Reqd
SLES-SAP-2S2V-D3A	SLES for SAP Apps w/ HA (1-2 CPU, 1-2 VM); 3-Yr Support Reqd
SLES-SAP-2S2V-D5A	SLES for SAP Apps w/ HA (1-2 CPU, 1-2 VM); 5-Yr Support Reqd

STEP 14 CHOOSE OPTIONAL OPERATING SYSTEM MEDIA KIT

Select the optional operating system media listed in [Table 29](#).

Table 29 OS Media

Product ID (PID)	PID Description
MSWS-19-ST16CD-RM	Windows Server 2019 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-19-DC16CD-RM	Windows Server 2019 DC (16Cores/Unlim VM) Rec Media DVD Only
MSWS-22-ST16CD-RM	Windows Server 2022 Stan (16 Cores/2 VMs) Rec Media DVD Only
MSWS-22-DC16CD-RM	Windows Server 2022 DC (16Cores/Unlim VM) Rec Media DVD Only

SUPPLEMENTAL MATERIAL

Simplified Block Diagram

A simplified block diagram of the Cisco UCS X210c M7 Compute Node system board is shown in [Figure 8](#).

Figure 8 Cisco UCS X210c M7 Compute Node Simplified Block Diagram (VIC 25G with Drives)

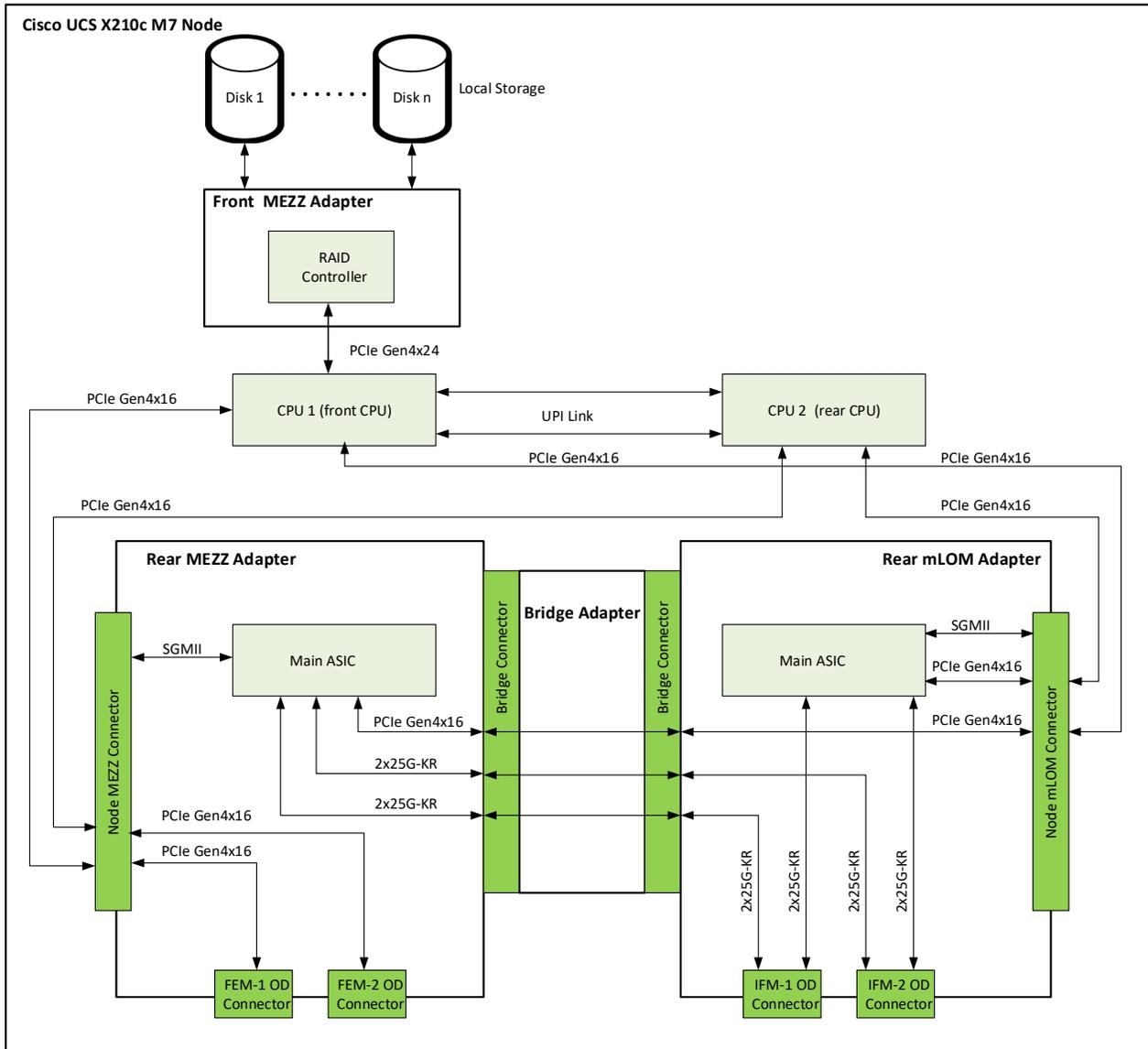


Figure 9 Cisco UCS X210c M7 Compute Node Simplified Block Diagram (VIC 100G with Drives)

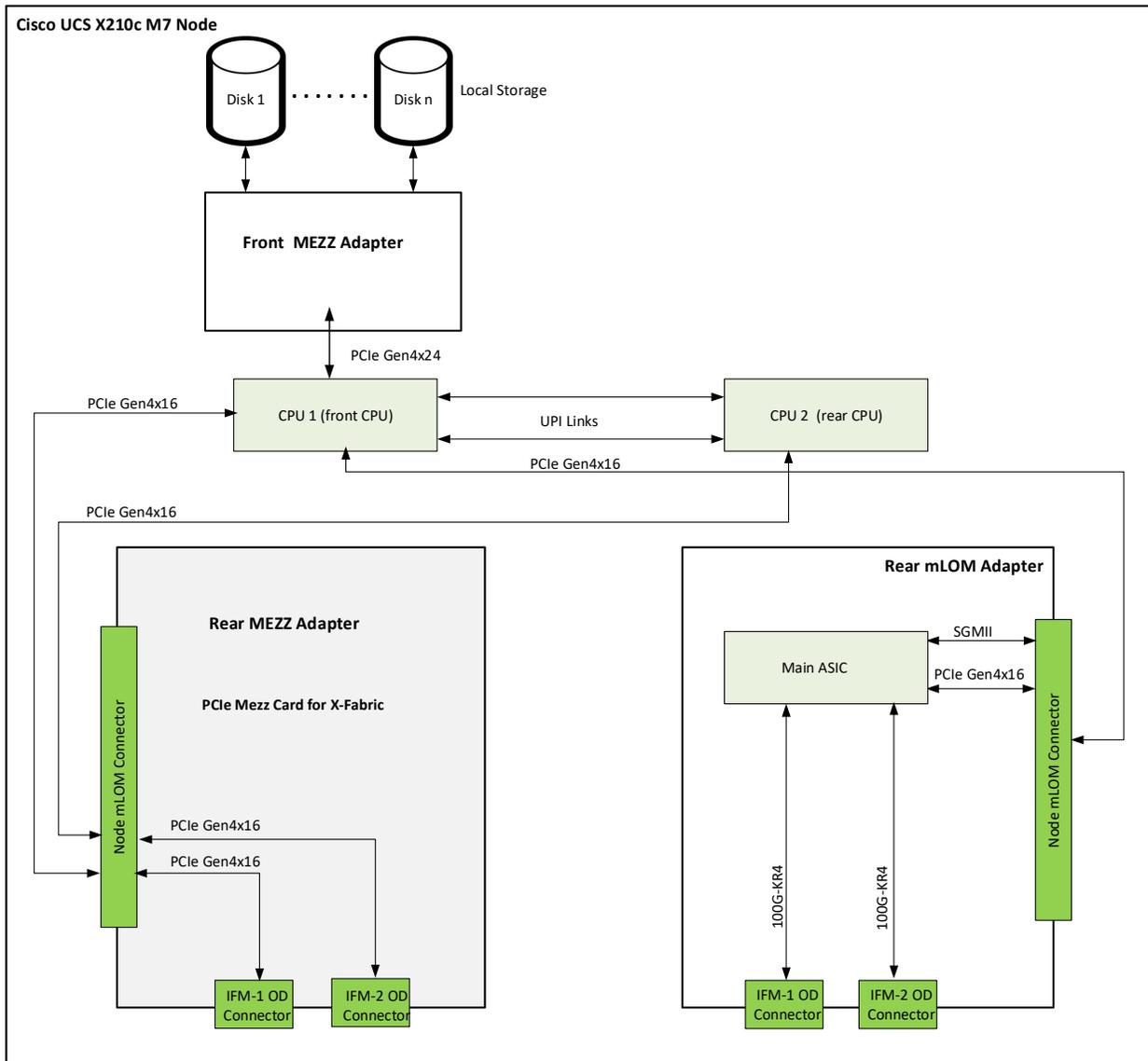


Figure 10 Cisco UCS X210c M7 Compute Node Simplified Block Diagram (VIC 25G with Drives and GPUs)

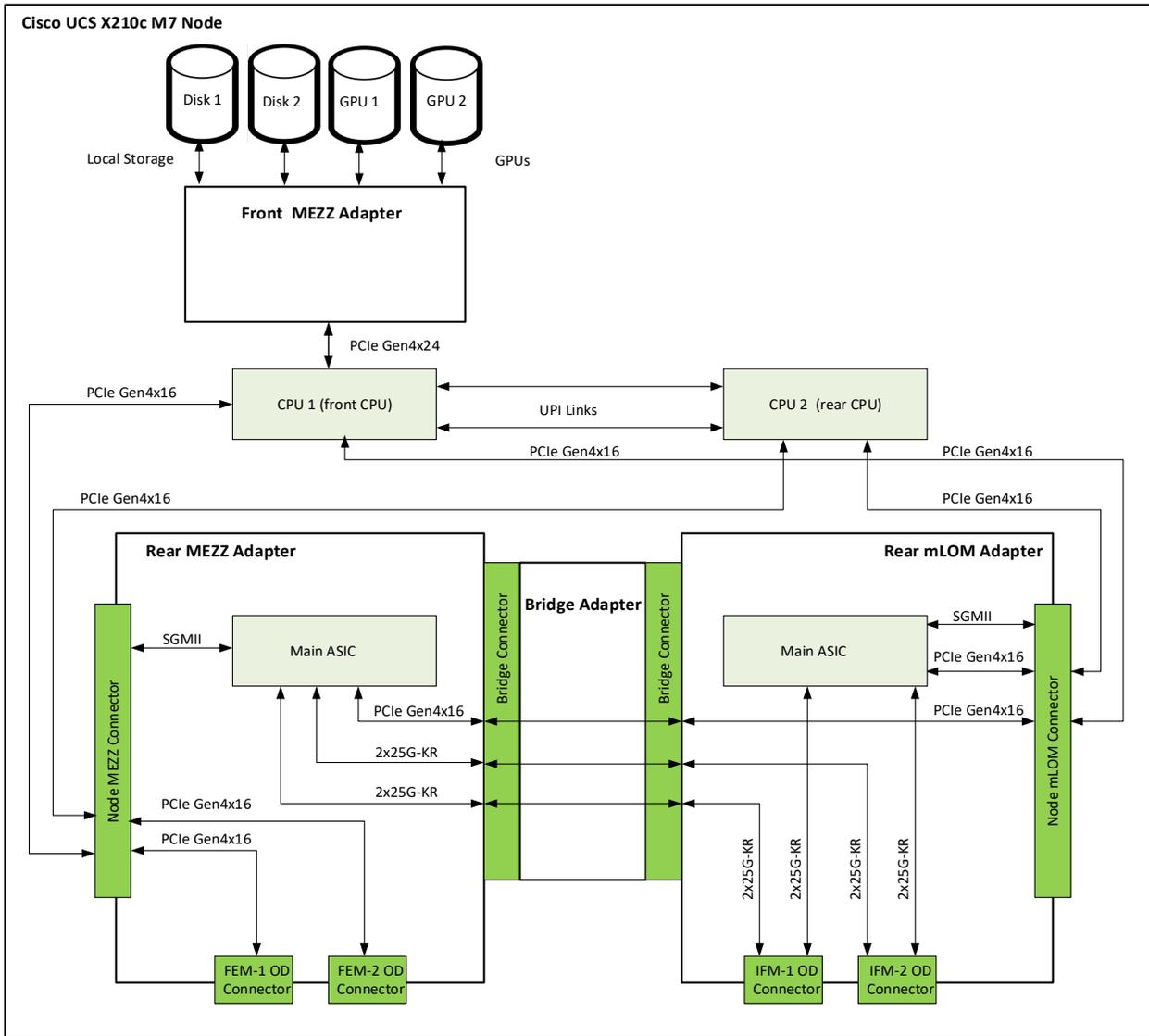
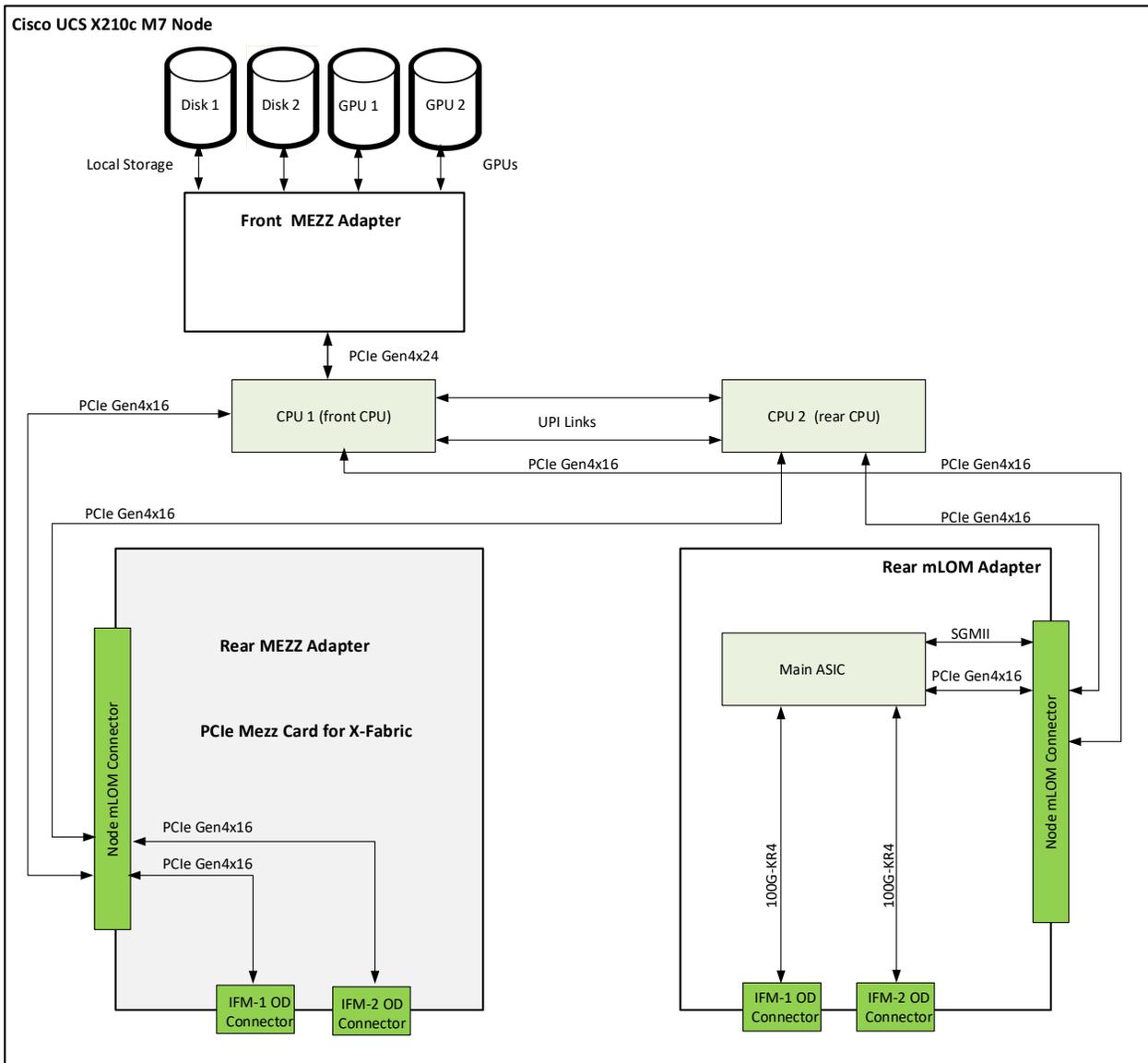


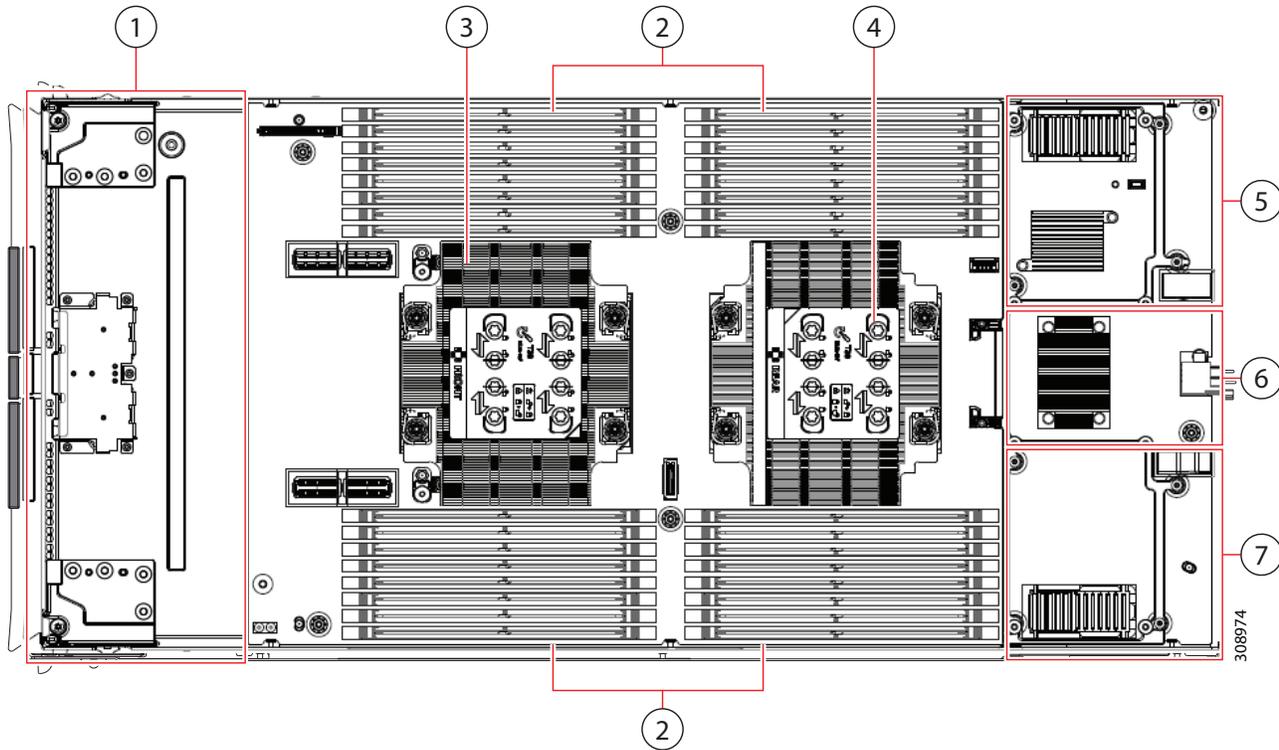
Figure 11 Cisco UCS X210c M7 Compute Node Simplified Block Diagram (VIC 100G with Drives and GPUs)



System Board

A top view of the Cisco UCS X210c M7 Compute Node system board is shown in [Figure 12](#).

Figure 12 Cisco UCS X210c M7 Compute Node System Board



1	Front mezzanine slot for SAS/SATA or NVMe drives and M.2 Controllers.	5	Rear mezzanine slot, which supports a mezzanine card with standard or extended mLOM. If an extended mLOM slot is used, it occupies this slot, such that no rear mezzanine card can be installed.
2	DIMM slots (32 maximum)	6	Bridge adapter (for connecting the mLOM to the rear mezzanine card)
3	CPU 1 slot (shown populated)	7	mLOM slot for a standard or extended mLOM
4	CPU 2 slot (shown populated)	-	-

Please refer to the [Cisco UCS X210c M7 Compute Node Installation Guide](#) for installation procedures.

UPGRADING or REPLACING CPUs and Memory

- Refer to [Cisco UCS X210c M7 Server Installation and Service Guide](#) to upgrading or replacing the CPUs
- Refer to [Cisco UCS X210c M7 Server Installation and Service Guide](#) to upgrading or replacing the Memory

TECHNICAL SPECIFICATIONS

Dimensions and Weight

Table 30 Cisco UCS X210c M7 Compute Node Dimensions and Weight

Parameter	Value
Height	1.80 in. (45.7 mm)
Width	11.28 in. (286.5 mm)
Depth	23.7 in. (602 mm)
Weight	<ul style="list-style-type: none"> ■ Minimally configured node weight = 12.84 lbs. (5.83 kg) ■ Fully configured compute node weight = 25.1 lbs. (11.39 kg)

Environmental Specifications

Table 31 Cisco UCS X210c M7 Compute Node Environmental Specifications

Parameter	Value
Operating temperature	50° to 95° F (10° to 35° C)
Non-operating temperature	-40° to 149° F (-40° to 65° C)
Operating humidity	5% to 90% noncondensing
Non-operating humidity	5% to 93% noncondensing
Operating altitude	0 to 10,000 ft (0 to 3000m); maximum ambient temperature decreases by 1° C per 300m
Non-operating altitude	40,000 ft (12,000m)

For configuration-specific power specifications, use the Cisco UCS Power Calculator at:

<http://ucspowercalc.cisco.com>



NOTE: The Cisco UCS X210c Server Node has a power cap of 1300 Watts for all combinations of components (CPUs, DIMMs, drives, and so on). Also, the ambient temperature must be less than 35 °C (95 °F).

DISCONTINUED EOL PRODUCTS

Below is the list of parts were previously available for this product and are no longer sold. Please refer to the EOL Bulletin Links via table below to determine if still supported.

Table 32 EOS

Product ID	Description	EOL/EOS link
Drives		
UCSX-M2-240GB-D	240GB 2.5in M.2 SATA Micron G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/unified-computing-accessories-eol.html
UCSX-M2-960GB-D	960GB 2.5in M.2 SATA Micron G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/unified-computing-accessories-eol.html
UCSX-SD76TM1XEVD	7.6TB 2.5in Enter Value 6G SATA Micron G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/unified-computing-accessories-eol.html
UCSXSD240GM1XEVD	240GB 2.5in Enter Value 6G SATA Micron G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/unified-computing-accessories-eol.html
UCSXSD480GM1XEVD	480 GB 2.5in Enter Value 6G SATA Micron G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/unified-computing-accessories-eol.html
UCSX-SD16TM1XEVD	1.6TB 2.5in Enter Value 6G SATA Micron G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/unified-computing-accessories-eol.html
UCSX-SD38TM1XEVD	3.8TB 2.5in Enter Value 6G SATA Micron G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/unified-computing-accessories-eol.html
UCSX-NVME-W6400-D	6.4TB 2.5in U.2 WD SN840 NVMe Extreme Perf. High Endurance	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-c-series-rack-servers/unified-computing-accessories-eol.html
UCSX-SD32TK3XEP-D	3.2TB 2.5in Enter Perf 12G SAS Kioxia G1 SSD (3X)	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-ucs-accessories-eol.html
UCSX-SD38TK1XEVD	3.8TB 2.5in Enter Value 12G SAS Kioxia G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-ucs-accessories-eol.html
UCSX-SD76TBKNK9-D	7.6TB 2.5in Enter Value 12G SAS Kioxia G1 SSD (SED-FIPS)	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-ucs-accessories-eol.html
UCSX-SD76TK1XEVD	7.6TB 2.5in Enter Value 12G SAS Kioxia G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-ucs-accessories-eol.html
UCSXNVMEI4I6400-D	6.4TB 2.5in U.2 Intel P5600 NVMe High Perf High Endurance	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-ucs-accessories-eol.html
UCSX-SD15TK1XEVD	15.3TB 2.5in Enter Value 12G SAS Kioxia G1 SSD	https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-b-series-blade-servers/select-ucs-accessories-eol.html



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