Cisco Tech Club Days

# 7. Generace Serverů Cisco UCS je tady

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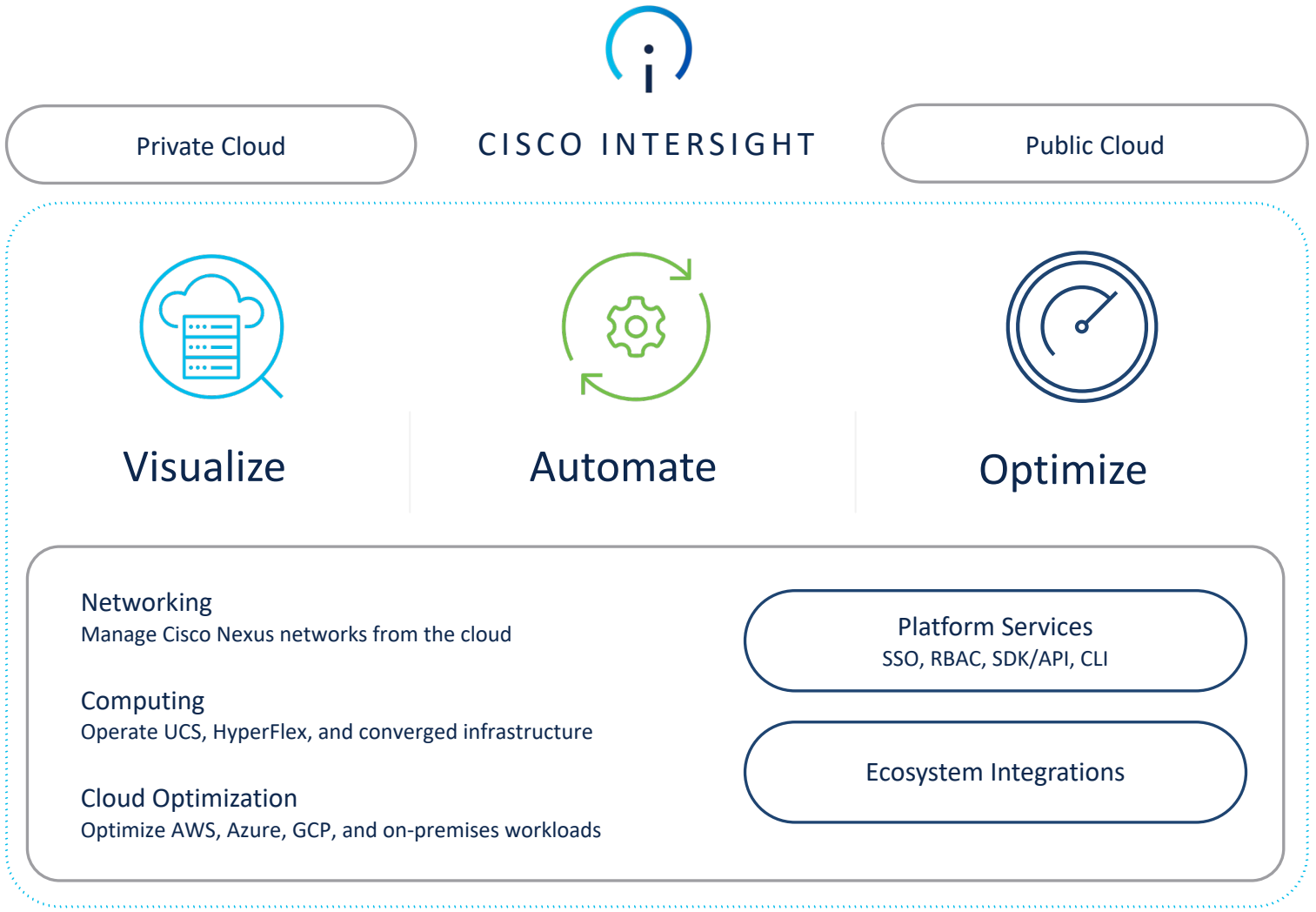
Cisco TSA
Date

# Cisco Intersight

Simplify IT operations



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# C220 Series

# Cisco UCS C220 M7 Rack Server

Dense 1RU form factor for a wide range of workloads, including virtualization, web, collaboration, cloud, and bare-metal applications

**Up to 104 Cores**

2 x Intel® 4th Gen Xeon® Scalable Processors

**Memory – up to 4TB**

32x 4800MHz DDR5 Up to 128G Per DIMM

**Up to 10 drives**

*Up to 10 NVMe (direct attach), or
10 SAS/SATA/NVMe (tri-mode)

**mLOM/OCP 3.0 and M.2 support**

**Choice of PCIe Options**

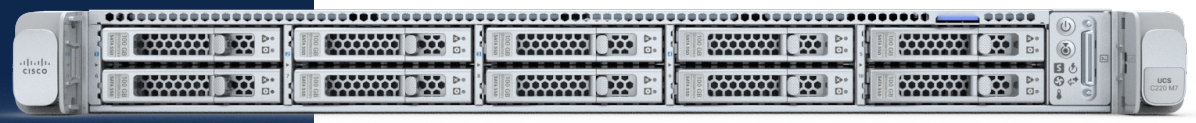
Up to 3 HHHL PCIe Cards or Up to 2 FHFL PCIe Cards

# System Specifications – C220 M7

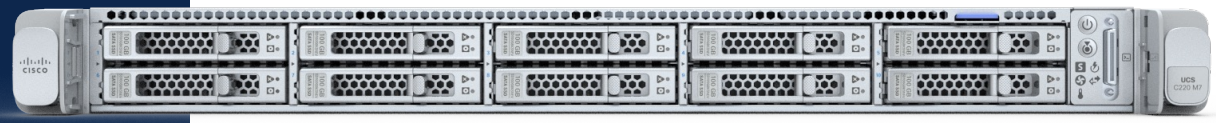
| M7 1U Rack Server System SPEC | |
|---|---|
| **CPU** | Up to 2* Sapphire Rapids processor (Socket E, LGA4677-X), Up to 300W<br>- 3* UPI 2.0 @ 16GT/s; 20 GT/s for EMR Ready |
| **Memory** | DDR5 Intel POR, RDIMM,<br>4800 MTS(1DPC) / 4400 MTS(2DPC)<br>Total 32* DDR5 DIMM Slots |
| **PCIe** | Up to 64 lanes PCIe lanes<br>- Gen4: 3 x16 PCIe Gen4 HHHL (Similar riser topologies as M6)<br>- Gen5: 2 x16 PCIe Gen5 HH slots on Riser 1&2; 1 x16 Gen4 HH Slot Riser 3<br>- Gen5: 2 x16 PCIe Gen5 FH slots on Riser 1&3 |
| **Chipset** | Intel Emmitsburg |
| **Server Management (BMC)** | ASPEED AST2600 (with secure boot support) |
| **Network Support** | 5$^{th}$ Gen VIC support<br>mLOM 4x10/25/50 Gbps, PCIe Gen4 x16<br>mLOM 2x40/100/200 Gbps, PCIe Gen4 x16<br>LOM: X710 OCP Dual 10GBase-T via mLOM interposer |
| **Fan** | 8*4056 |
| **PSU** | PSU AC: 770W & 1600W Platinum, 1200W & 2300W Titanium<br>PSU DC: 1050W |

# Cisco UCS C220 M7 backplane options

**UCSC-C220-M7S**
**x 10-HDD/SSD/NVMe backplane**
Up to 10 x 2.5-inch 24-Gbps HDDs or SSDs
(up to 4 NVMe PCIe SSDs)



**UCSC-C220-M7N**
**x 10 NVMe-optimized backplane**
Up to 10 x 2.5-inch NVMe PCIe SSDs



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# C240 Series

# Cisco UCS C240 M7 Rack Server

Exceptional performance for enterprise workloads, including big data analytics, collaboration, databases, virtualization, and high-performance applications

**Up to 120 Cores**

2 x Intel® 4th Gen Xeon® Scalable Processors

**Up to 8TB Memory**

32x 4800MHz DDR5 Up to 256GB Per DIMM

**Up to 28 SFF drives**

*Up to 28 NVMe (direct attach), or 28 SAS/SATA/NVMe (tri-mode)

**mLOM / OCP 3.0 and M.2 support**

**Choice of PCIe Options**

Up to 6 FHFL + Up to 2 FL 3/4L PCIe Cards

Or

Up to 2 FHFL + 2 FL 3/4L + 4 2.5 SFF Drives

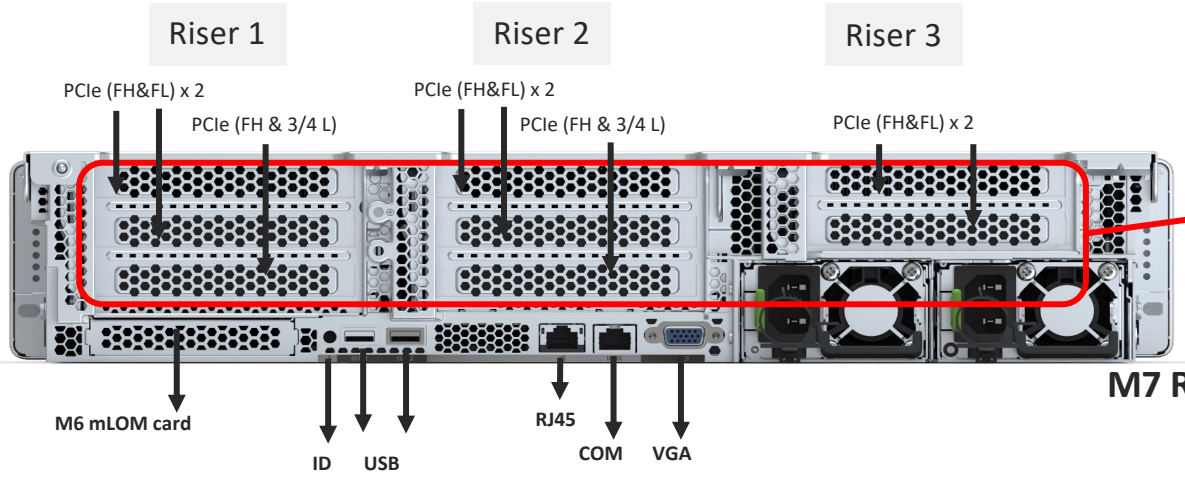
| M7 2U Rack Server System SPEC | |
|---|---|
| **CPU** | Up to 2* Sapphire Rapids processors (Socket E, LGA4677-X), Up to 350W (Air-cool SKUs)<br>- 4 UPI 2.0 @ 16GT/s, 20 GT/s for EMR Ready |
| **Memory** | DDR5 Intel POR, RDIMM,<br>4800 MTS(1DPC) / 4400 MTS(2DPC)<br>Total 32* DDR5 DIMM Slots |
| **PCIe** | Up to 72 PCIe lanes<br>- Gen4: Similar Riser topologies as C240M6<br>- Gen5: Support 4 x16 PCIe Gen5 slots (Riser 1 & Riser 2) |
| **Chipset** | Intel Emmitsburg |
| **Server Management (BMC)** | ASPEED AST2600 (with secure boot support) |
| **Network Support** | 5th Gen VIC<br>mLOM 4x10/25/50 Gbps, PCIe Gen4 x16<br>mLOM 2x40/100/200 Gbps, PCIe Gen4 x16<br>LOM: X710 OCP Dual 10GBase-T via mLOM interposer<br>mLOM slot Gen5 ready |
| **Fan** | 6*6056 |
| **PSU** | PSU AC: 1600W Platinum, 1200W & 2300W Titanium<br>PSU DC: 1050W |

# Cisco UCS C240 M7 backplane options

**UCSC-C240-M7SX**
**x 28 HDD/SSD/NVMe backplane**
Up to 24 x 2.5-inch 24-Gbps OR NVMe RAID Front load HDDs or SSDs and 4 rear hot-swappable 2.5-inch drives (up to 8 direct attach NVMe SSDs)

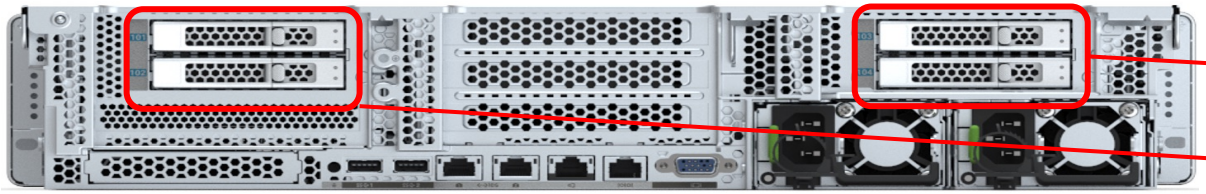
**UCSC-C240-M7SN**
**x 28 ALL NVME backplane**
Up to 24 x 2.5-inch Front load NVMe and 4 rear hot-swappable NVMe

# UCS C240 M7 System Placement | Rear View

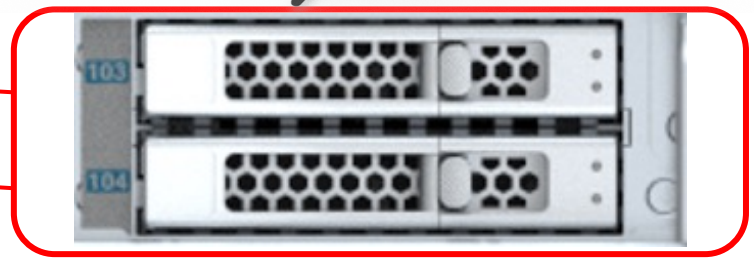




M7 Rear View - PCIe Risers



PCIe Storage Riser Option - Rear View




PCIe Storage Riser Close-up - Rear View

**Platinum Rated PSUs:**

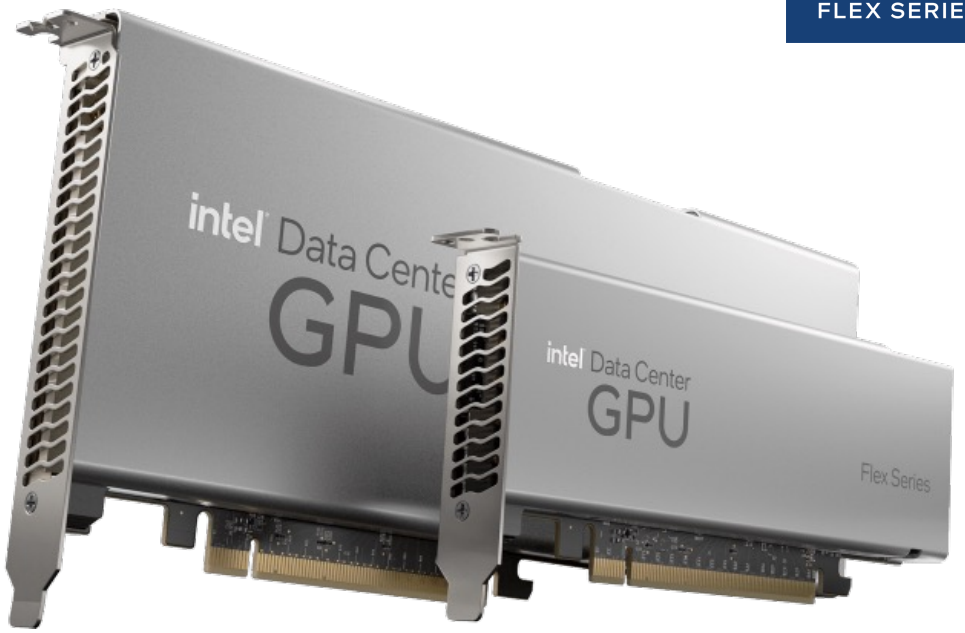
- 1050W DC PSU
- 1600W AC PSU

**Titanium Rated PSUs:**

- 1200W AC PSU
- 2300W AC PSU

# Intel Flex 140 and 170 GPU

- Main use cases
  - VDI
  - Video transcode
- Secondary use cases
  - Rendering
  - AI/ML
- C220M7 with Flex 140
  - HHHL, 75W
- C240M7 with Flex 170
  - FHFL, 150W



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# X Series

# Radically simplified hybrid cloud infrastructure

Simplify with
cloud-operated infrastructure

Simplify with a system designed for
modern applications

Simplify with a system engineered for
the future


UCS X-Series

# Future-ready design

Engineered for the next decade

2030+

- Liquid-cooling
- Silicon photonics
- Next gen. fabrics
- Power and cooling capacity
- Future accelerators
- Intel/AMD roadmap

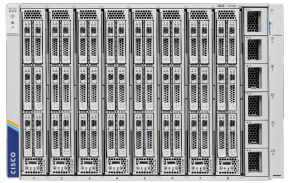
## Protect investments

and focus on innovation

2022

# What’s new?

## Greater flexibility and more performance for modern workloads



7th Gen UCS X-Series Compute Nodes

## Application acceleration without compromises

intel DATA CENTER GPU FLEX SERIES

New GPUs
with UCS X-Fabric

Cisco Intersight

Transforming infrastructure and operations

# UCS X210c M7 Compute Node

Flexible server for all your workloads

- Two-socket modular server
  - 4th Gen Intel® Xeon® Scalable CPUs with 50% more cores than M6
- Up to 8 TB of capacity using 256 GB DDR5 DIMMs
- Up to six SAS/SATA/NVMe drives (H/W NVMe RAID)
- Up to 200 Gbps Unified Fabric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# UCS X210c M6/M7 Compute Node – GPU

## Run modern apps in less space

- High-density form factor supports a wide range of workloads
- Up to two Nvidia T4 GPUs for AI inferencing, data analytics, and graphics
- Up to 2 X 140 Intel Data Center GPUs for VDI and video transcoding


# UCS X410c M7 Compute Node

Designed for scale up applications

- Four-socket modular server
  - 4th Gen Intel® Xeon® Scalable CPUs
- Up to 16 TB of capacity using 256 GB DDR5 DIMMs
- Up to six SAS/SATA/NVMe drives
- Up to 200 Gbps Unified Fabric
- Connect up to 2x X440p PCIe nodes

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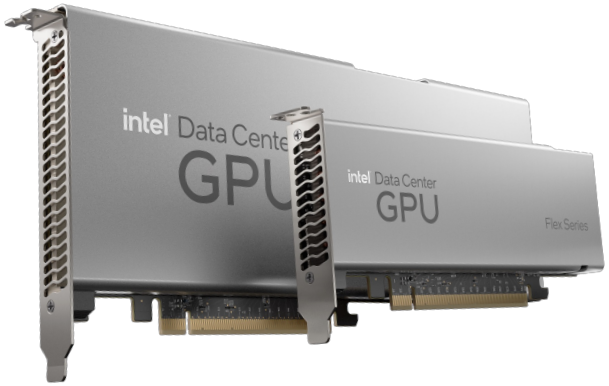
# New GPUs options with UCS X-Fabric

Modular design enables flexibility and choice

Intel Data Center GPU Flex Series 140 and 170

- Outstanding compute density and energy efficiency
- Main use cases: VDI and video transcode
- Secondary use cases: Rendering and AI/ML
- Up to 4x Intel Flex 140 or up to 2x Intel Flex 170

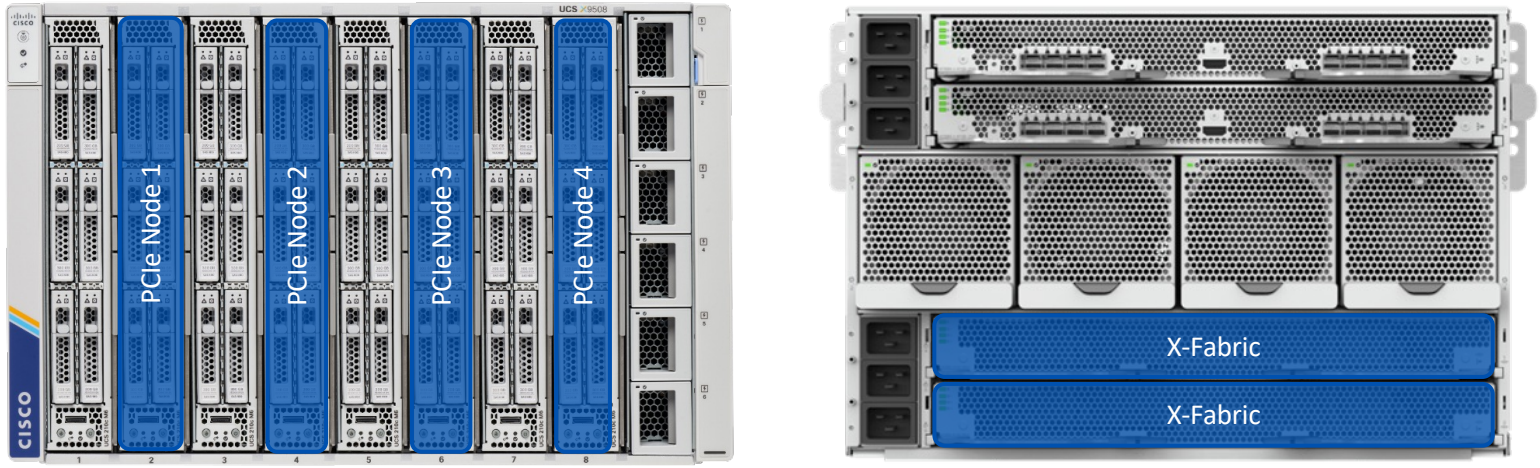



intel
Data Center
GPU

# UCS X-Fabric Technology and PCIe Nodes with GPU

PCIe node supports up to

- 4x Intel Data Center GPU Flex 140
- 2 x Intel Data Center GPU Flex 170
- 2x Nvidia A16
- 2x Nvidia A40
- 4x Nvidia T4
- 2x Nvidia A100




UCS X-Fabric Technology

- ✓ Based on native PCIe Gen. 4
- ✓ Provides GPU acceleration to enterprise application
- ✓ No backplane or cables = Easily upgrades

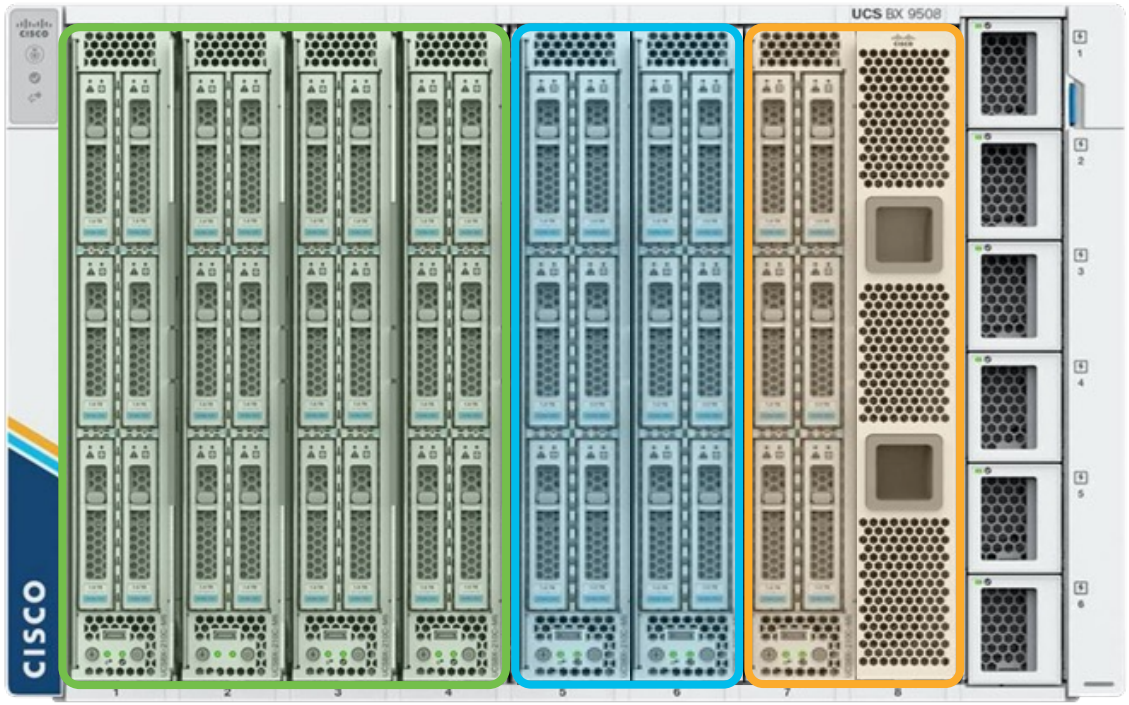
# UCS X-Series with X-Fabric

Consolidate Rack Workloads

- AI/ML
- Accelerated VDI
- Big Data, SDS, Containers

+

Traditional Blade Workloads




**Up to 960**
Cores
per Chassis
(M6 or M7)

**24**
GPUs
per Chassis

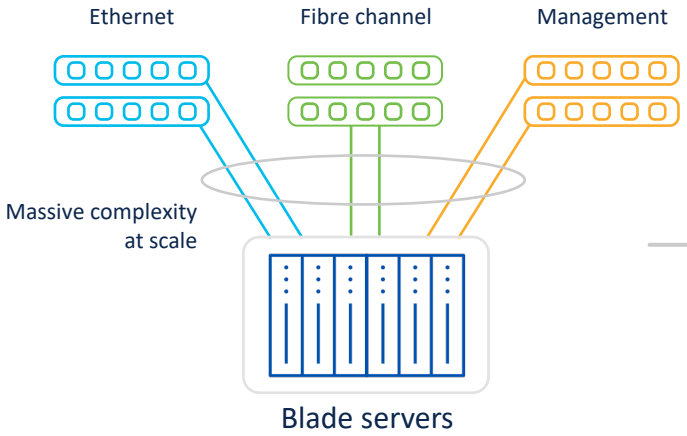
**200G**
Bandwidth to
compute node

**1 PB**
of storage

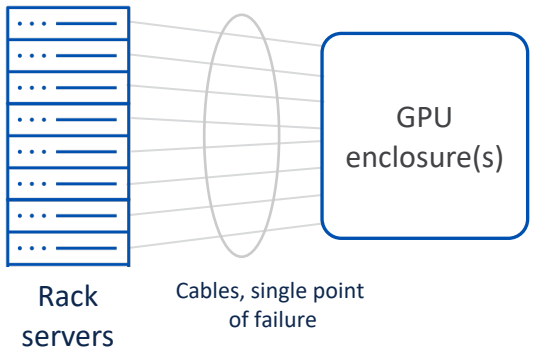
# Industry-leading simplicity

## Conventional approaches

### 1 | Silos of multiple ethernet and SAN fabrics and adapters




### 2 | Complex PCIe connectivity to external accelerators




## Cisco solution

UCS X-Series

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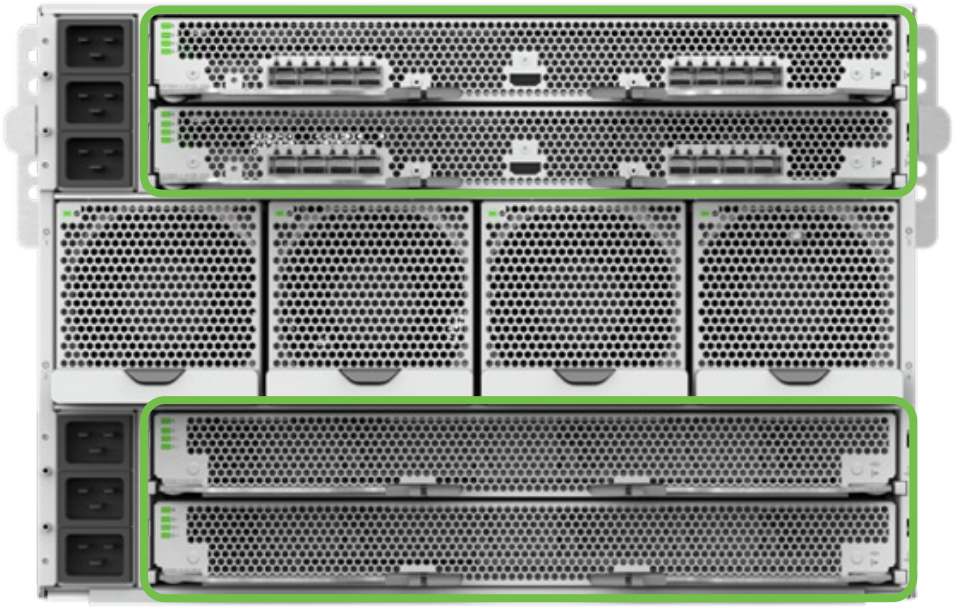


Unified fabric

X-Fabric + PCIe nodes

# Computing for the next decade

Technology partnerships

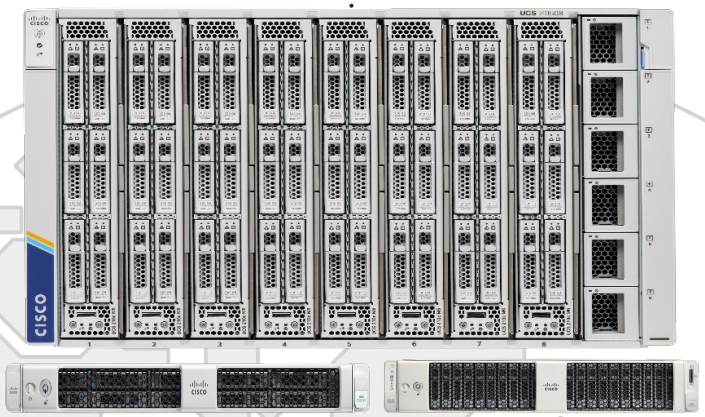
Cisco CX services

Converged Infrastructures

Validated designs

Cisco Plus

TCO and sizing tools



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Virtual infrastructures | Hybrid cloud | Enterprise applications | AI/ML | Containers | SAP HANA | Desktop virtualization | Data protection

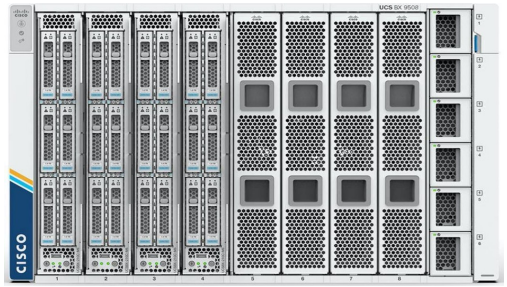
Cisco Solution portfolio

# Cisco UCS Compute Portfolio

## Mainstream Enterprise Servers

UCS X-Series
X9508 Chassis

IFM Module



UCS X210c M7

New

UCS X410c M7

New

UCS X210c M6

UCS B200 M6

UCS B480 M5

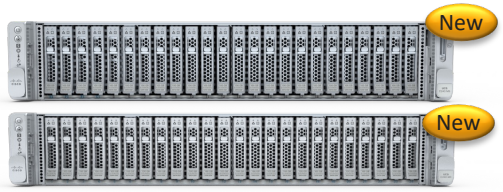
UCS C480 M5

UCS C240 M7SX
28 HDD/SDD/NVMe

New

UCS C240 M7SN
28 NVMe

New



UCS C240 M6S
14 SSD/HDD
Media drive

UCS C240 M6N
14 NVMe
Media Drive

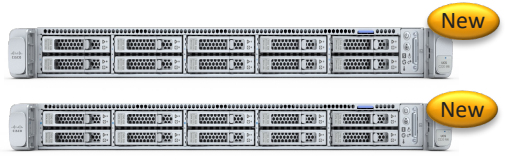
UCS C240 M6L
16 LFF + 4 SFF

UCS C220 M7S
10 HDD/SSD/NVMe

New

UCS C220 M7N
10 NVMe

New



UCS C245 M6SX
28 HDD/SDD


UCS C225 M6S
10 HDD/SSD


UCS C225 M6N
10 NVMe

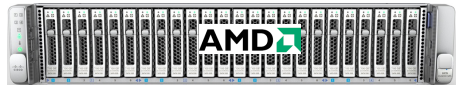

## Specialized Servers

UCS C890 M5
8-Socket
96 DIMMS

UCS S3260
60 LFF Drives
Storage

UCS C240 M5 SD
Edge

UCS C4200 chassis
UCS C125 Node
Multi-Node




# Děkuji za pozornost