

The background features a vibrant, multi-colored abstract design. On the left, there are overlapping, wavy bands of color in shades of red, orange, yellow, and green. On the right, a bright white light source emits a series of colorful rays in shades of blue, cyan, and yellow, creating a sunburst effect. The overall composition is dynamic and energetic.

cisco *Live!*

Let's go

#CiscoLive



The bridge to possible

# Transform Your Infrastructure and Operations with Cisco UCS Innovations

Sreeni Edula

Product Manager, UCS X-Series

PSOCLD-2086



#CiscoLive



# Cisco Webex App

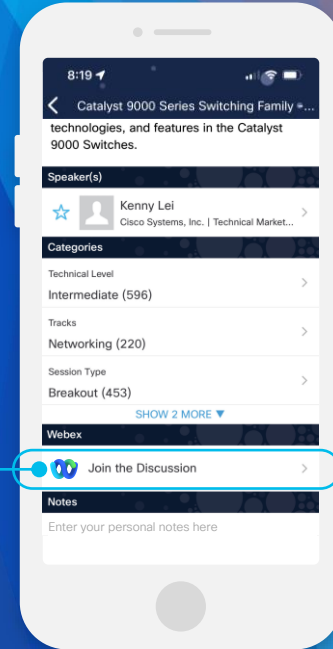
## Questions?

Use Cisco Webex App to chat with the speaker after the session

## How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 9, 2023.

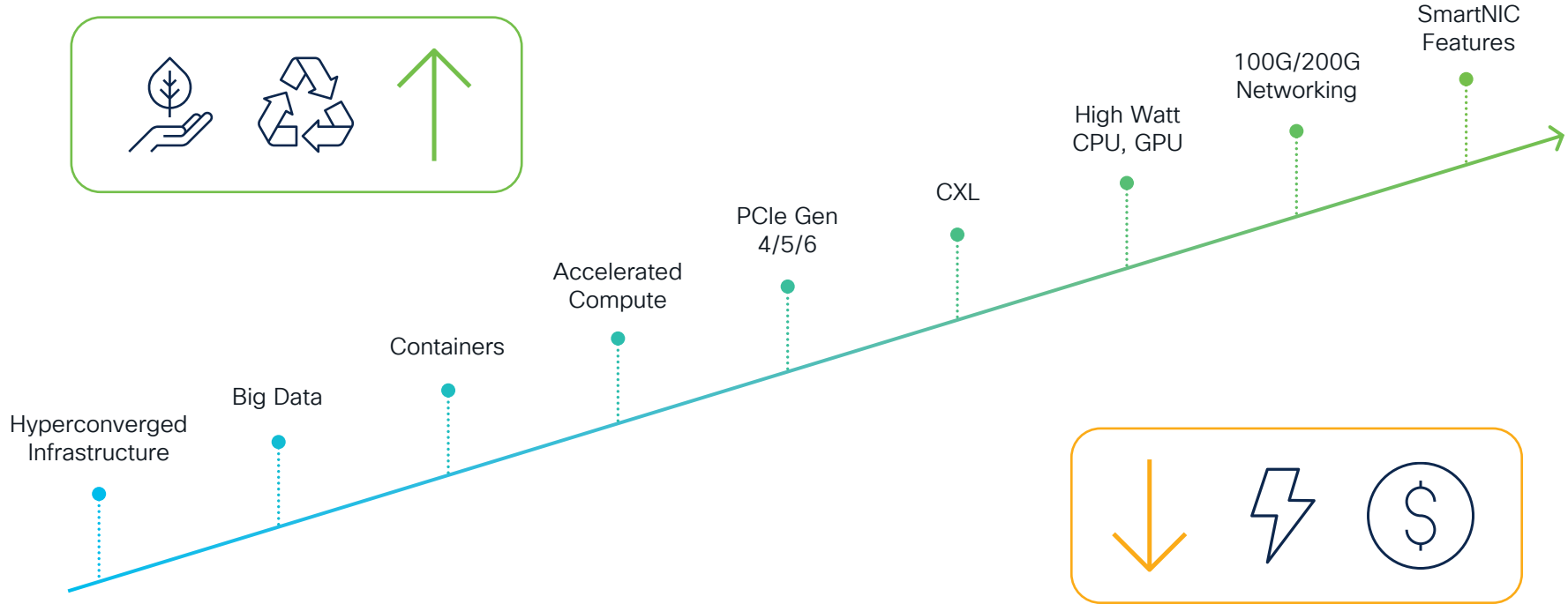
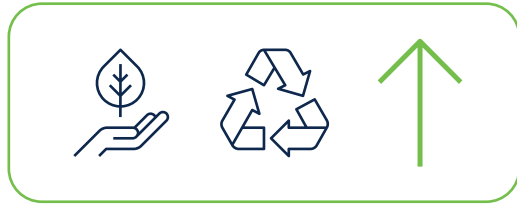


<https://ciscolive.ciscoevents.com/ciscolivebot/#PSOCLD-2086>

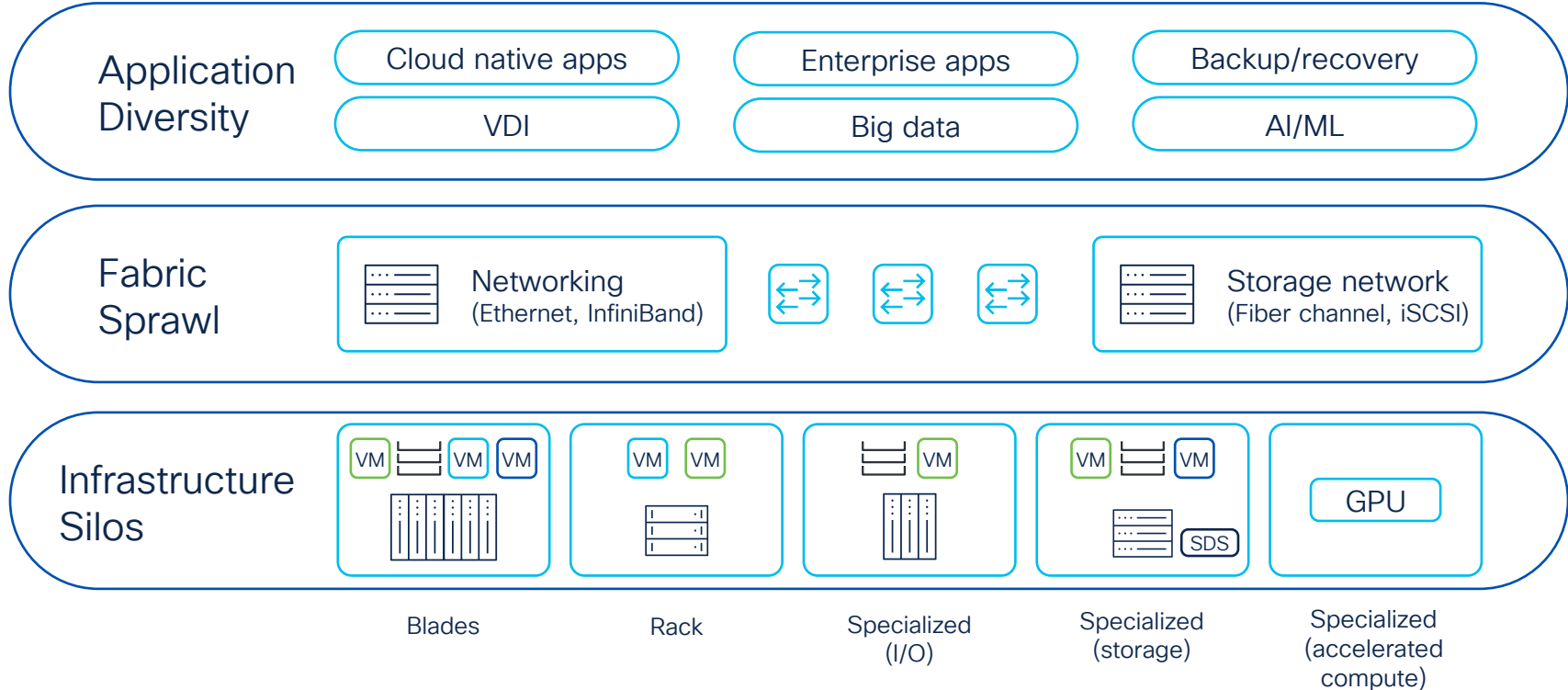
# Agenda

- Challenges
- The Solution
- UCS X-Series Deep dive
- UCS Portfolio – What's New
- UCS Solutions Portfolio

# A lot has changed... and continues to change

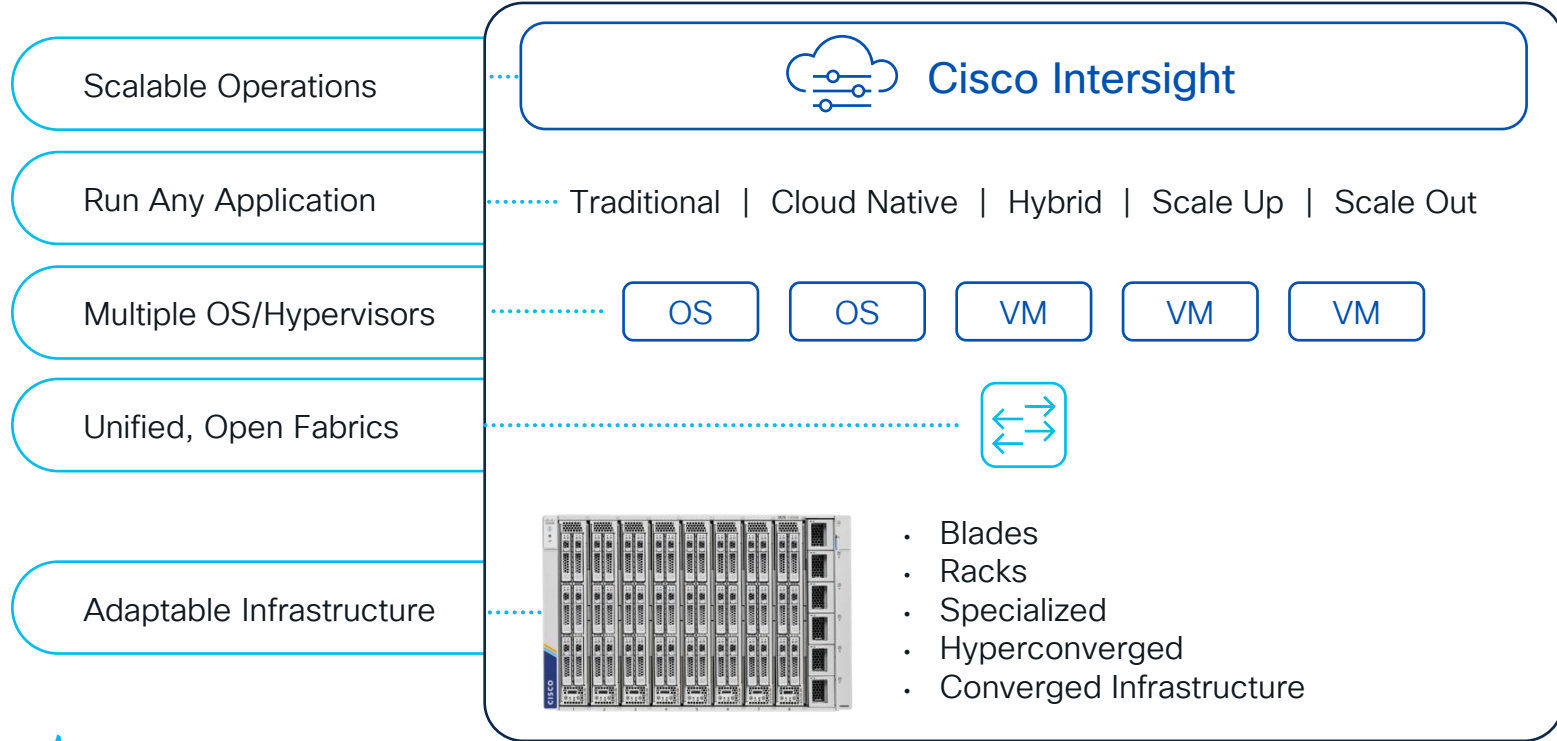


# Architectural Silos Drive complexity



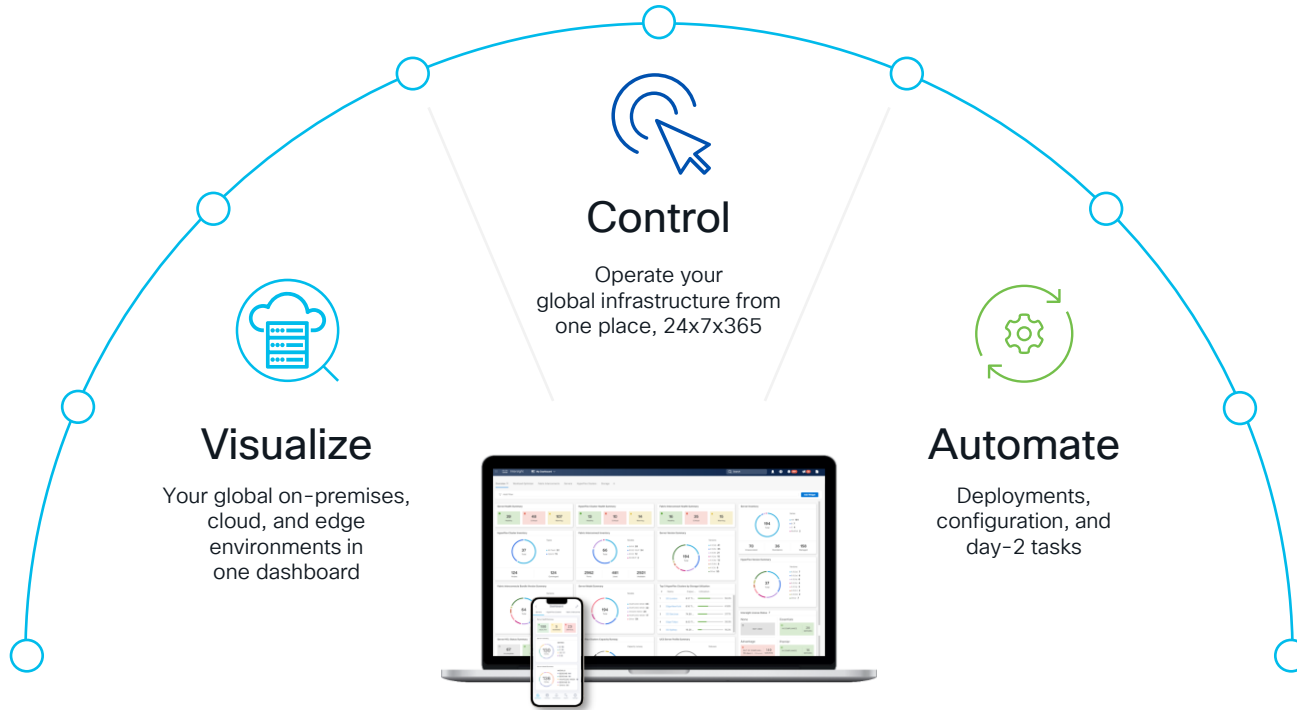
# Modern Hybrid Cloud Infrastructure

Simplify to scale, automate, and operate



# Modernize infrastructure management

## Cisco Intersight Infrastructure Service





# Cisco UCS X-Series Architecture

# UCS X9508 Modular Chassis

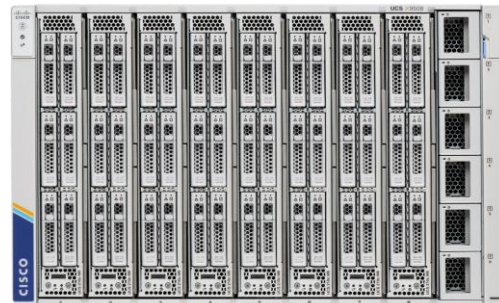
## Chassis

- 7 RU
- Midplane or Backplane less design



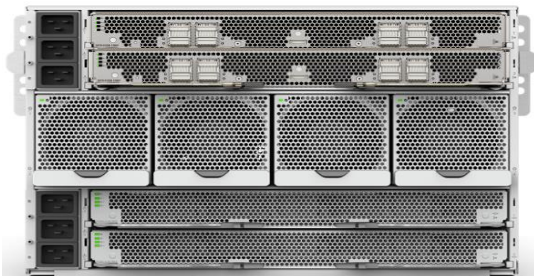
## 8 Nodes

- Compute Node
- PCIe Node for GPU
- 6x 2800W PSU

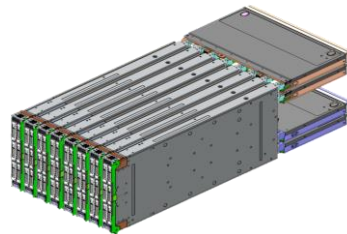


## Intelligent Fabric Modules

## Flexible X-Fabric



## Backplane-less design for fabric flexibility



## Power and Cooling Innovation!



# X-Series 54V Power Distribution

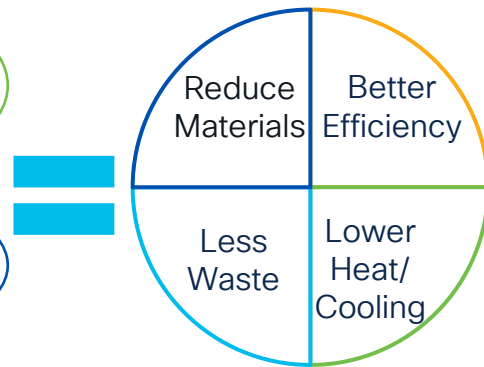
## What's the Big Deal?

Distribute same power with 80% less current

Reduces heat generation and lower cooling burden

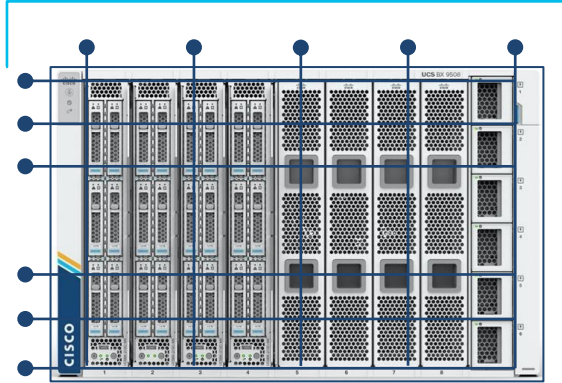
Improves DC-DC conversion efficiency

Less copper required to carry current  
Smaller server power distribution components

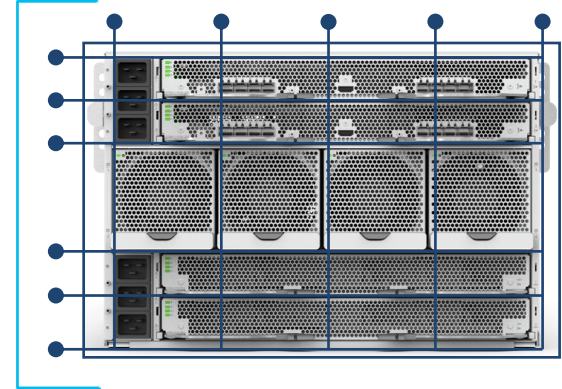


# Zoned Based Cooling: Chassis

Vertical  
Zones



Horizontal  
Zones



- Vertical and horizontal zones
- Independent fan speed control based on sensors participating in each zone
- Reduces fan power consumption by right-sizing air flow on a per-zone basis, and increases overall power efficiency

# X-Series Provides Simplified Connectivity



Intelligent, Intuitive interconnects technology



## Benefits

New, Intelligent modules provide ultimate connectivity choice

High-speed interconnects enable modularity of IO and collapses fabrics

**No forklift upgrades to update and change topologies**

Full Intersight management support and policy control

Moving away from traditional modes

Eliminates complex rules and up-front decisions

# 5<sup>th</sup> Generation UCS Fabric



6536 Fabric Interconnect



9108-100G IFM



VIC 15000 Series

## Simplify

- Cloud-operated infrastructure management
- Reduces adapters and cables
- Lowers server and network TCO
- One VIC replaces multiple NICs, HBAs, and Mgmt adapters

## Scalable and Resilient

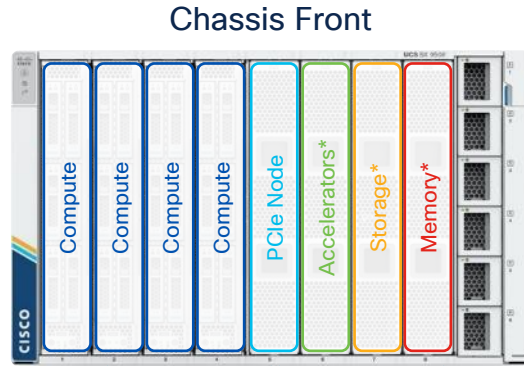
- Converged fabric for modern applications
- Single-fabric for Mgmt, Data, Storage (FC, iSCSI, NFS/SMB, NVMeOF-ROCEv2, NVMeoF/FC, NVMeoF/TCP)
- Flexible Blade/Rack connectivity at 10/25/40/100-Gbps

## Future-Ready

- Industry-first End-to-End 100G fabric for blades
- Enables High N/W workloads (BigData, SDS, HCI, CloudNative etc.)
- Single-flow 32G FC and 100G Ethernet
- 14.8 Tbps bandwidth per UCS domain
- 1.6 Tbps bandwidth per X9508 Chassis

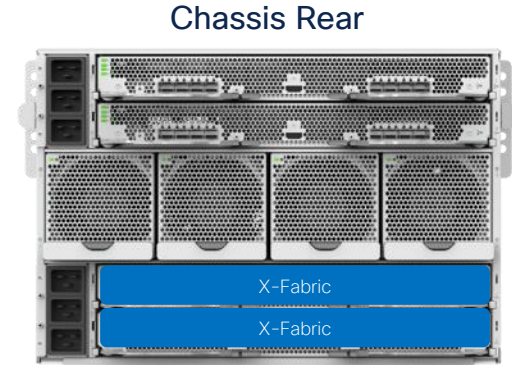
# UCS X-Fabric Technology

## Shape infrastructure resources to applications



### UCS X-Fabric Technology

Internal Fabric interconnects nodes  
Industry standard PCIe, CXL Traffic  
No backplane or cables = Easily upgrades



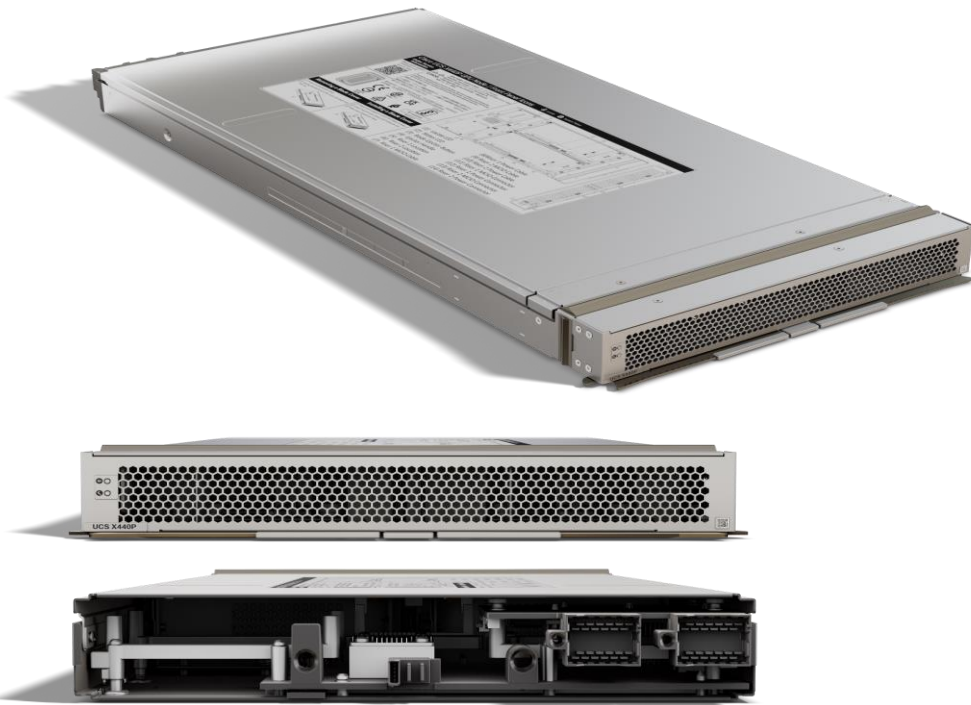
\* Roadmap items – subject to change

Run modern apps by assembling  
modules into systems

Simple policy-based definition  
of resources from Intersight

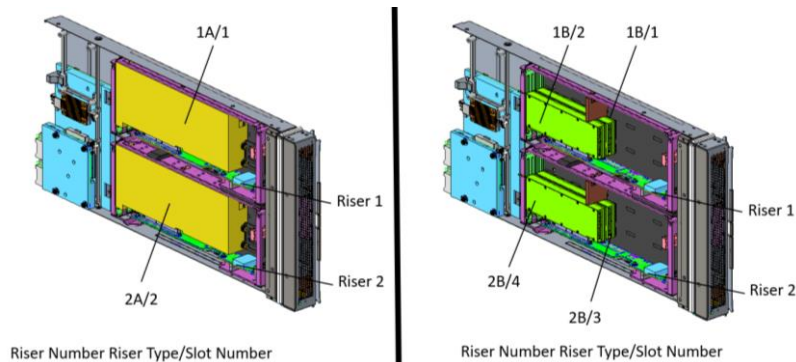
Engineered to accommodate  
future technologies

# X440p PCIe Node



## Off-the-shelf PCIe GPUs

- Up to two FHFL width GPUs
  - NVIDIA A16, A40, A100, L40\*, or H100\*
- Up to four HHHH GPUs
  - NVIDIA T4 or L4\*, Intel Flex 140\*
- Up to 6x T4s supported today when combined with compute node



\* Will be available 2nd Half CY23



# 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 or L4\* GPUs for AI inferencing, data analytics, and graphics
- Up to 2 X Intel Flex140\* Intel Data Center GPUs for VDI and video transcoding



\* Will be available 2nd Half CY23

# Cisco UCS What's New

# New 7<sup>th</sup> Gen UCS Servers and GPU support

Jan 2023

## X-Series Compute Nodes



UCS X210C M7  
(2-socket)



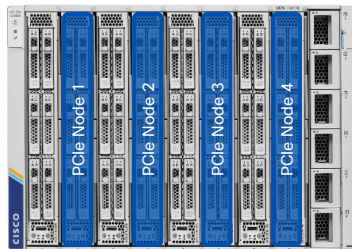
UCS X410c M7  
(4-socket)

Run any app with  
adaptable system

## PCIe Nodes with Intel Data Center Flex Series GPU and UCS X-Fabric Technology



- Nvidia H100, L4 and L40 GPUs
- Intel Flex 140 and 170 GPUs



Accelerate  
modern apps

## UCS C-Series Servers



UCS C220 M7 Rack Server



UCS C240 M7 Rack Server

Run more apps  
in a familiar form factor

# UCS X210c M7 Compute Node

Flexible Server for all 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)

Plus 2 SATA / NVMe internal boot drives

Up to 200 Gbps Unified Fabric

# 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

Plus 2 SATA / NVMe internal boot drives

Up to 200 Gbps Unified Fabric

Connect up to 2x X440p PCIe nodes\*

\* Will be available 2nd Half CY23

# 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® 4<sup>th</sup> 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

# 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® 4<sup>th</sup> Gen Xeon® Scalable Processors

## 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

# Cisco UCS Compute Solutions



# Solutions powered portfolio

## Broad Range of Ecosystem Partners

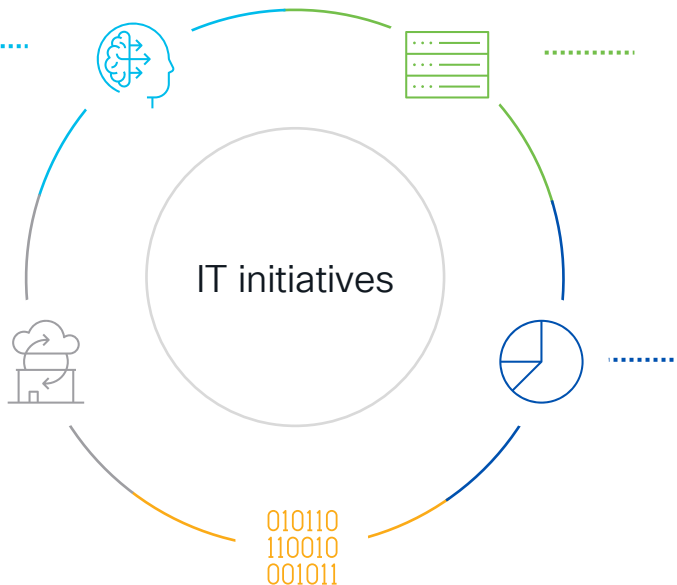
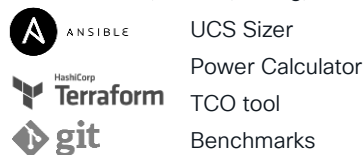
### Hybrid Cloud Solutions

Business Continuity, App Modernization, HA & DR



### Automation and Tools

Infra-as-code, Github, Sizing, TCO



### Data Center Modernization

Converged and HyperConverged Infrastructure



### Application Modernization

Traditional, Cloud-Native, AI/ML, Edge



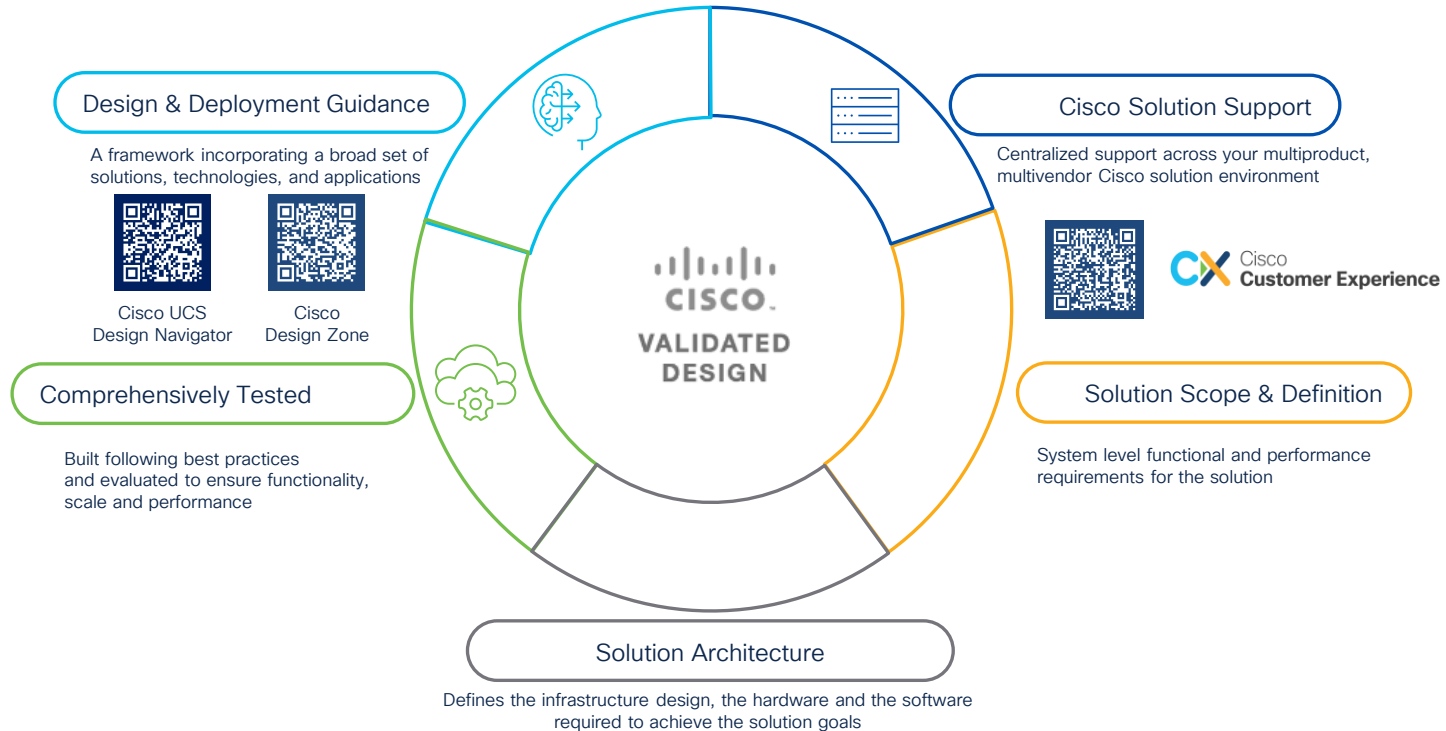
### Data intensive solutions

BigData, Data Protection, SDS, Operation Analytics



# Cisco Validated Design Program

Successful Technology Deployments Addressing Business Initiatives



# Fill Out Your Session Surveys!



Attendees who fill out a minimum of four session surveys and the overall event survey will get **Cisco Live-branded socks** (while supplies last)!



Attendees will also earn 100 points in the **Cisco Live Challenge** for every survey completed.



These points help you get on the leaderboard and increase your chances of winning daily and grand prizes

# Continue your education



- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](https://www.CiscoLive.com/on-demand)

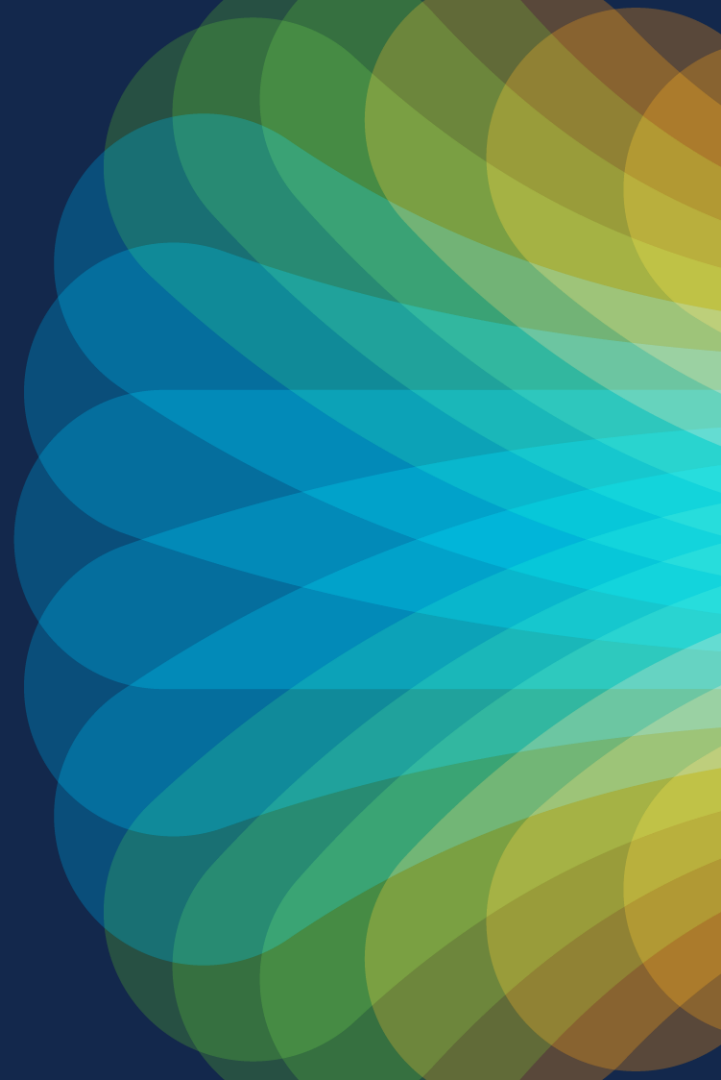


The bridge to possible

# Thank you

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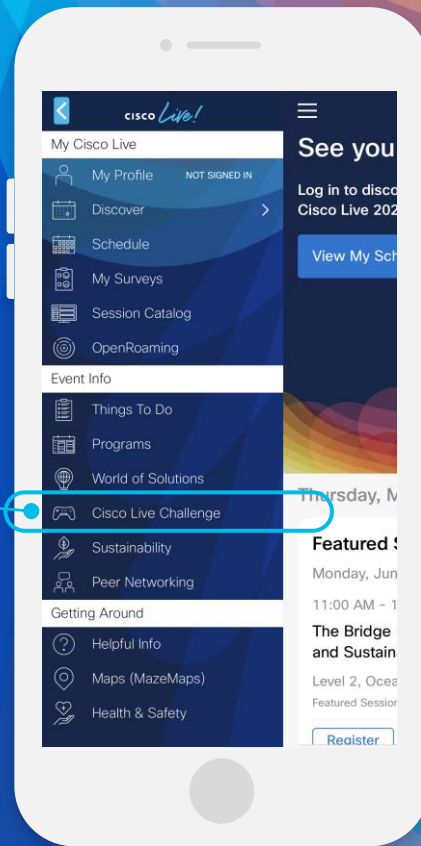
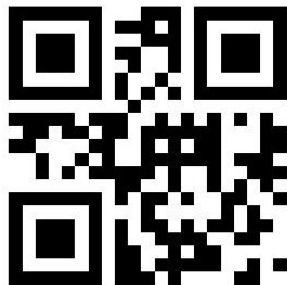


# Cisco Live Challenge

Gamify your Cisco Live experience!  
Get points for attending this session!

## How:

- 1 Open the Cisco Events App.
- 2 Click on 'Cisco Live Challenge' in the side menu.
- 3 Click on View Your Badges at the top.
- 4 Click the + at the bottom of the screen and scan the QR code:



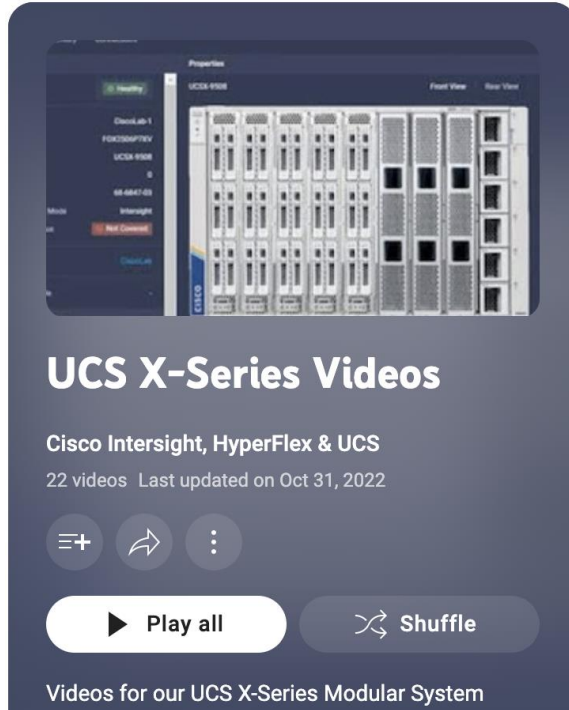
The background is a vibrant, abstract graphic. It features a central bright white light source from which numerous colorful rays emanate, creating a sunburst or starburst effect. The rays transition through a spectrum of colors including yellow, orange, red, and various shades of blue and green. Overlaid on this are several large, semi-transparent, wavy shapes in similar color tones, giving the overall image a sense of motion and energy.

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Let's go

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# Link of YouTube Videos



[https://www.youtube.com/playlist?list=PLIIKAL\\_0d4Eyl6UMPkuJFml-Hx7zWQgwt](https://www.youtube.com/playlist?list=PLIIKAL_0d4Eyl6UMPkuJFml-Hx7zWQgwt)

- 3  **VDI to accelerated VDI in under 7 minutes!**  
Cisco Intersight, HyperFlex & UCS • 198 views • 3 months ago
- 4  **X-Series Automation with Intersight and Ansible**  
Cisco Intersight, HyperFlex & UCS • 160 views • 2 months ago
- 5  **Deploy Red Hat OpenShift OCP on UCS-X Series Modular System compute nodes**  
Cisco Intersight, HyperFlex & UCS • 114 views • 2 months ago
- 6  **Oracle on UCS X-Series with local NVMe storage**  
Cisco Intersight, HyperFlex & UCS • 74 views • 2 months ago



# X-Series white papers

- [Cisco UCS X-Series Quick Start Guide](#)
- [Cisco UCS X210c M6 Compute Node Disk I/O Characterization](#)
- [Deploy Cisco UCS X210c Compute Node with Cisco Intersight Management Mode for VDI](#)
- [FlashStack with Cisco UCS X-Series and Cisco Intersight](#)
- [FlexPod Datacenter with Cisco UCS X-Series and Cisco Intersight](#)
- [Power SAP HANA with the Cisco UCS X-Series Certified by SAP](#)
- [Deploy SAP HANA Scale-Up Appliance with UCS X-Series](#)
- [Cisco UCS and Intel SGX with Fortanix Confidential Computing Manager](#)
- [Deploy a High-Performance Standalone Oracle Database Solution: Oracle 19c on Cisco UCS X-Series](#)
- [FlexPod Datacenter with Citrix VDI and VMware vSphere 7 for up to 2500 Seats](#)
- [FlexPod XCS Solution with Cisco Intersight Platform Tech Preview](#)
- [Red Hat OpenShift Container Platform with OpenShift Data Foundation on Cisco UCS X-Series](#)
- [Cisco UCS X-Series Servers with Intel Optane Persistent Memory for Virtual Desktop Infrastructure White Paper](#)
- [Get Answers from Your Data with Cisco UCS Integrated Infrastructure for Splunk Enterprise](#)

## Accelerate your cloud transformation successfully with Cisco CX

CX expertise can help you design, develop, and deploy a hybrid cloud or multicloud strategy built for you – no matter where you are in your journey



Visit CX Cloud to learn more

### How we can help

#### Intersight Services

**Intersight Planning and Onboarding**  
Cisco UCS, HyperFlex, and 3<sup>rd</sup> party endpoints

**Intersight Application Quick Start**

#### Unified Computing Services X-Series

- **Migration assessment**
- **Quick Standup**
- **Deployment**
- **Migration**

#### Hyperflex Startup Services

**Advanced Services Implementation**

- New HX Implementation
- Custom HX Implementation
- Intersight Planning and Onboarding
- Intersight Applications Onboarding

**Success Tracks**

- Ask-the-Expert: Getting started-Intersight and Intersight simplified operation – Hyperflex HXDP
- Accelerators: Hyperconverged Infrastructure (HCI) use case

You don't have to do it alone.  
For more insight, visit the Cisco CX Booth (#3310) in the World of Solutions for Lightning Talks and Demos