



The bridge to possible

# Simplify Infrastructure and Operations with Cisco Compute Hyperconverged with Nutanix

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PSOCOM-1015

CISCO *Live!*

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# HCI and Cisco



## Focus

- Build the best servers
- Deliver the best management stack
- Integrate with the best partners



## Simplify

- Accelerate infra. deployments
- Operate at a global scale
- Resiliency through collaboration



## Opportunity

- Enterprise and cloud-native apps
- Emergence of edge and AI computing
- Hybrid cloud mobility

# Organizations are looking for hyperconvergence to:



## **Simplify IT operations**

by easily and quickly deploying infrastructure and applications across on-premises, edge, and cloud environments.



## **Eliminate complexity**

at every layer of infrastructure and operations.



## **Gain flexibility**

to address diverse apps and use cases.



## **Prevent downtime**

to focus exclusively on business outcomes.



## **Accelerate sustainability**

by reducing energy and material waste.

# Raising the bar for hyperconverged solutions

Cisco and Nutanix introduce the industry's most complete hyperconverged solution through expanded engineering, support, and go-to-market collaboration.



## Best-in-class compute, network, and SaaS-based infrastructure management

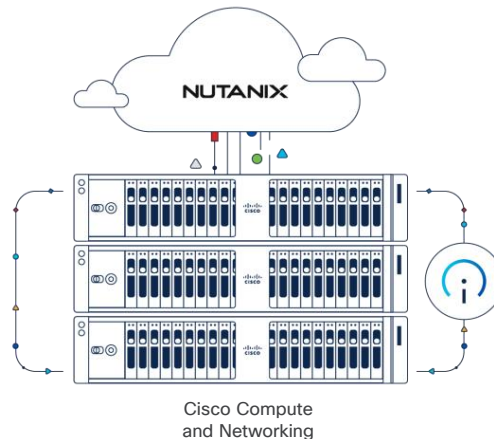
- Stateless, programmable policy-based systems
- See, control, and automate infrastructure from one place
- Proactive, automated health monitoring and support capabilities



**NUTANIX**

## Leader in hyperconverged software

- One unified platform enables seamless workload mobility
- A complete set of enterprise and cloud features
- Enterprise-grade disaster recovery and security capabilities



Simplify and accelerate the delivery of IT infrastructure

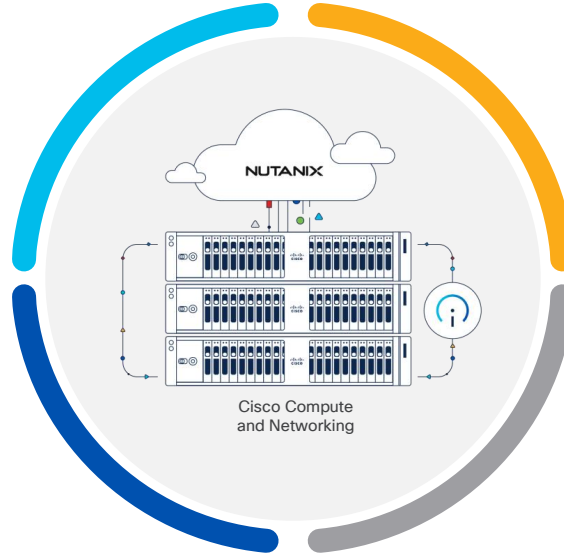
# A unique-to-the-market, 360-degree partnership

## Strategy

Complete roadmap leveraging the strengths of both companies in service of our customers

## Go-to-market

Combined, expert sales teams and buying process focused on simplifying the customer experience



## Engineering

A solution built, managed, and supported holistically for a seamless end-to-end experience

## Support

A joint augmented support model built for information-sharing to ensure our customers' success

Operate  
at scale

More choice  
and flexibility

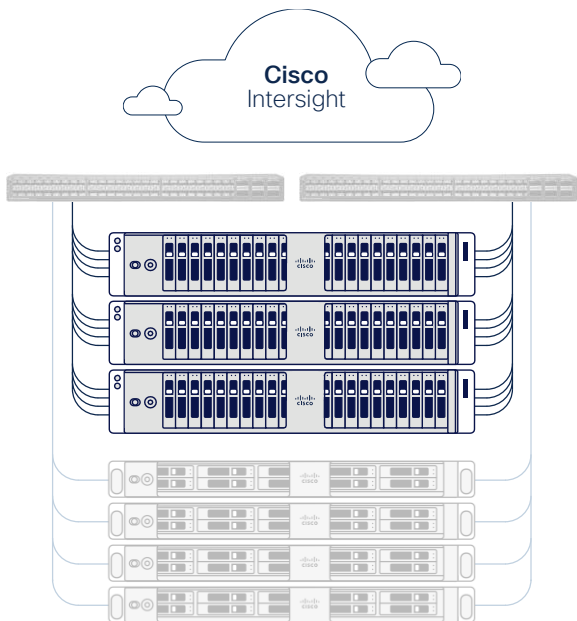
End-to-end  
security

Comprehensive  
support

Easy  
to buy

# 1: What Cisco brings to the table

## Cloud-connected, fabric-based compute



## Value

### SIMPLICITY

Global visibility, unified experience and connected support

### FLEXIBILITY

Address any use case with flexible deployment options and full programmability

### RESILIENCY

Built-in security, highly available, low-latency fabric and proactive support

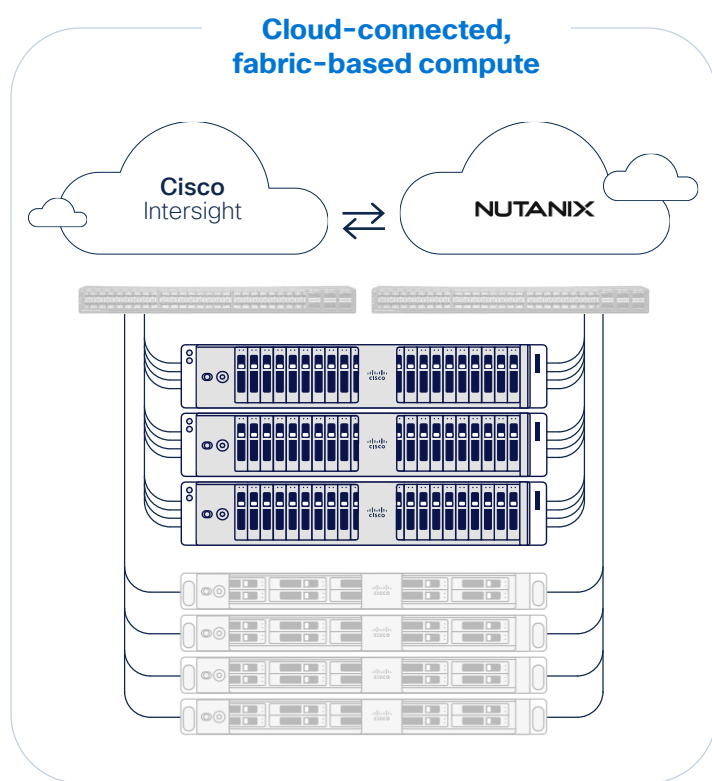
## Outcome

Do more with less time and cost

Do more with less waste and more efficiency

Protect your business with more uptime and reliability

# 1 + 1 = 3: What Cisco and Nutanix bring to the table



## Value

### SIMPLICITY

Global visibility, unified experience and connected support

### FLEXIBILITY

Address any use case with flexible deployment options and full programmability

### RESILIENCY

Built-in security, highly available, low-latency fabric and proactive support



### Nutanix unique features

Full-stack lifecycle management, with automated, out of the box configuration

Your choice of hypervisor, seamless scalability, and investment re-use

Business continuity, high-availability and an integrated support model

## Outcome

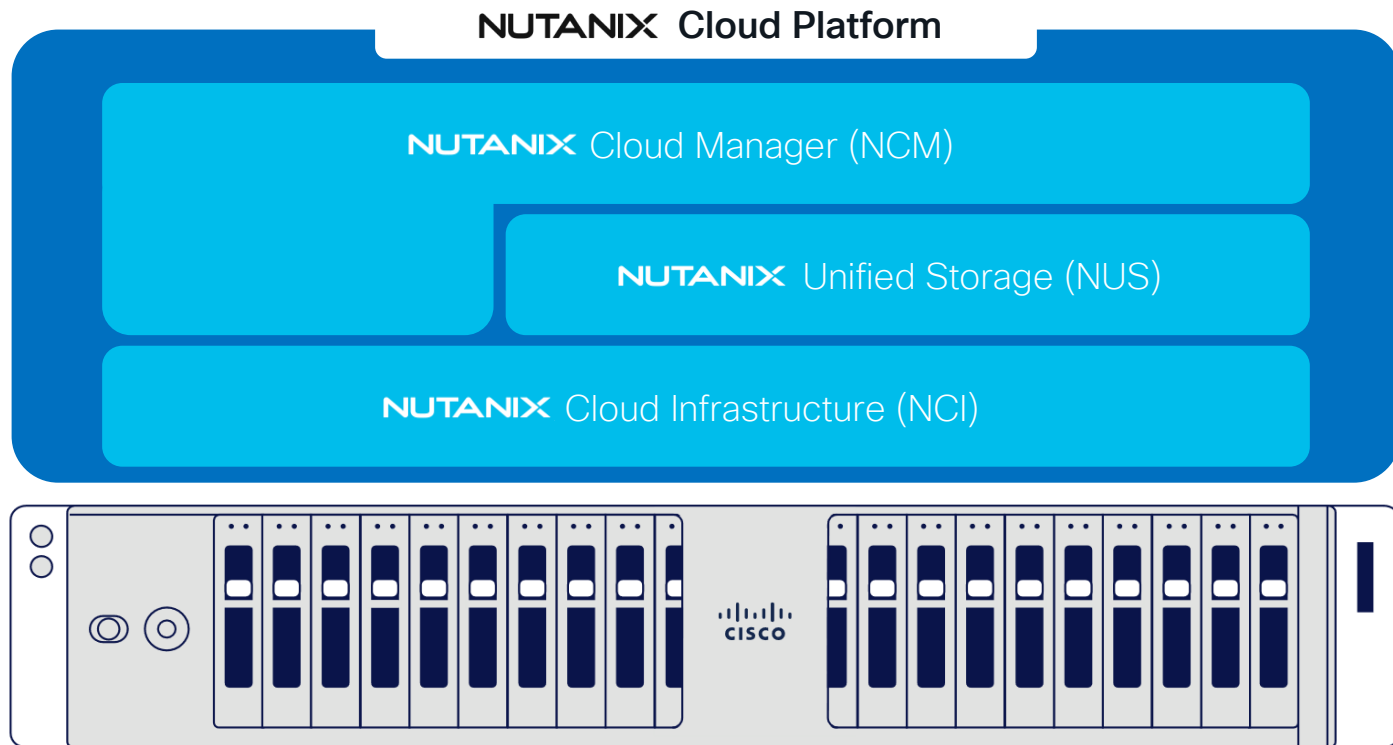
Do more with less time and cost

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Protect your business with more uptime and reliability

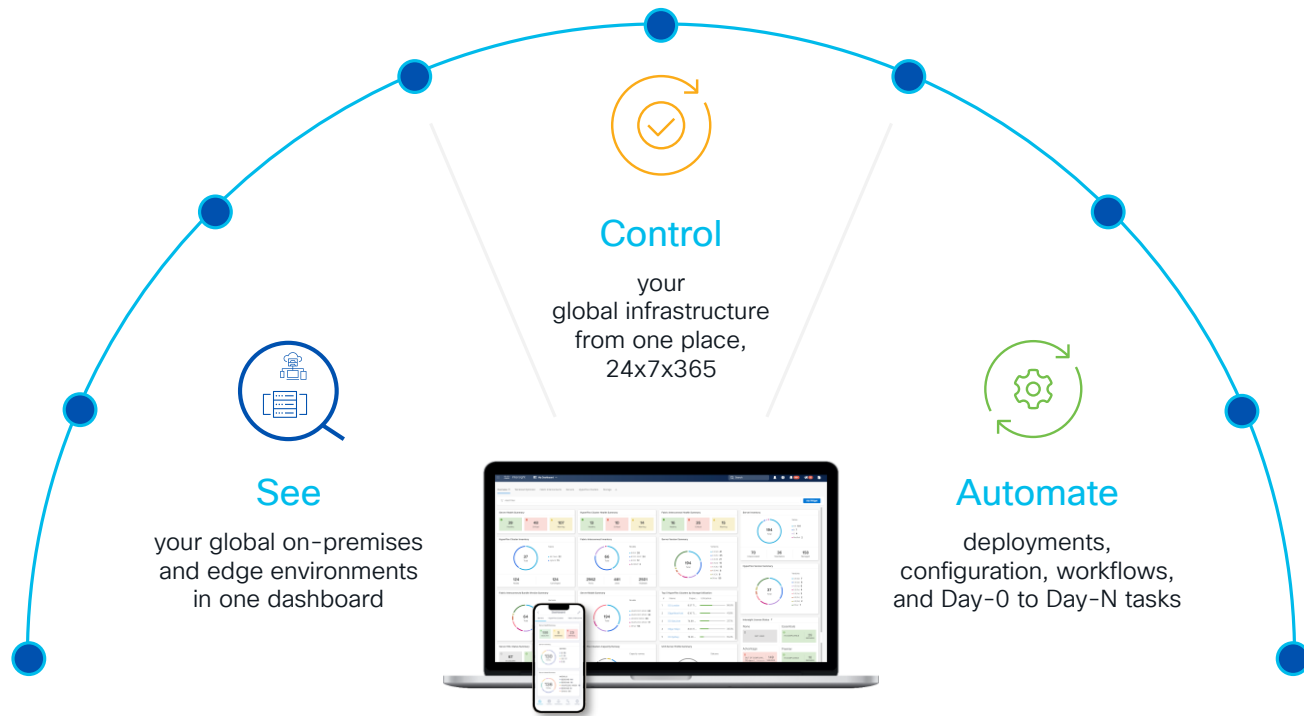


# Solution components



# IT operations. Simplified

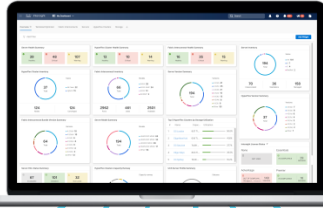
## Cisco Intersight® Infrastructure Service



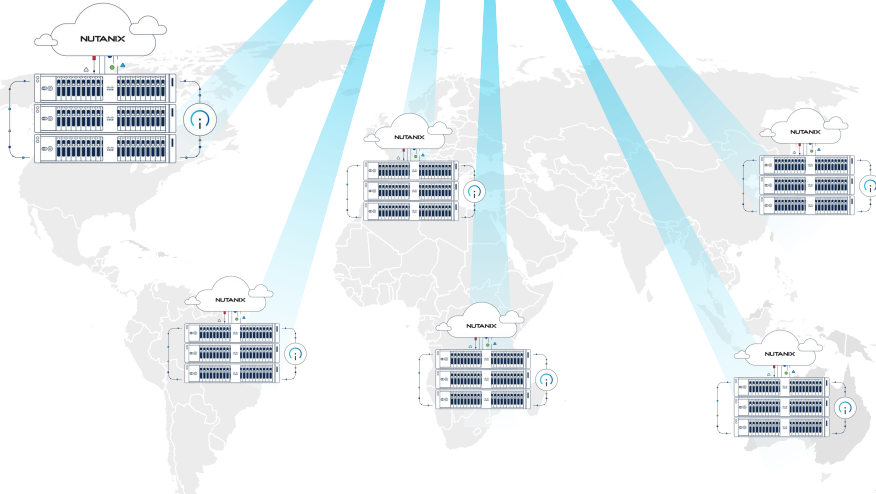
# Cisco Intersight



Cisco Intersight

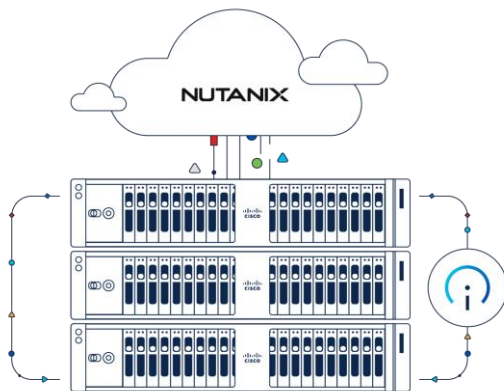


SaaS-based management platform providing global visibility and fleet management for all Cisco Compute Hyperconverged with Nutanix nodes



- Nutanix personality in Intersight
- Connected TAC
- Proactive RMA
- Hardware contract status, EoL notices, security advisories and field notices
- Server faults/alerts
- Basic server management—KVM, cross launch UCSM

# Flexible Options & Scalability



Cisco Compute  
Hyperconverged with Nutanix

## Node expansion options



### HCI

Adds CPU, memory  
and disk capacity  
resources to a cluster



### Storage-Only\*

Adds only disk  
capacity resources  
to a cluster

## Hypervisor options

**NUTANIX**

AHV  
Hypervisor

min 1 max 32  
nodes per cluster



vSphere  
Hypervisor (ESXi)

min 1 max 48  
nodes per cluster

## Networking options



UCSM  
Mode

with 4th and  
5th Gen Fabric  
Interconnect



Intersight  
Standalone  
Mode

with existing ToR

**NUTANIX**  
Cloud Infrastructure (NCI)

Max raw capacity per node  
\*depends on node type

216TB



Mixed Drive  
Support



Mixed Node  
Support

## Cisco Compute Hyperconverged node options



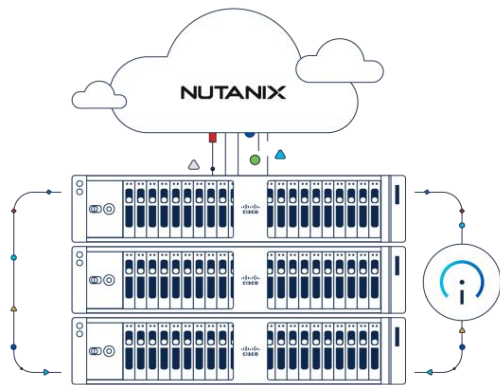
1RU and 2RU C-Series **Rack** form-factors



**Modular X-Series** form-factor

NOTE: See solution documentation for all caveats, limitations and compatibility information

# Cluster lifecycle operations



Cisco Compute Hyperconverged  
with Nutanix

## Integrated and automated lifecycle operations

### Cluster installation

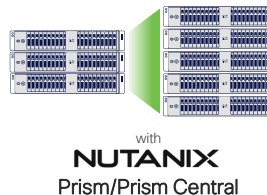


Fully integrated cluster installation automation across Cisco UCS and Nutanix Cloud Infrastructure, driven from Nutanix Foundation.

#### Operational summary

- Inventory Cisco UCS servers
- Create Cisco UCS service profiles
- Perform hypervisor imaging
- Deploy Nutanix storage controller VM (CVM)
- Create new hypervisor and storage cluster

### Cluster expansion

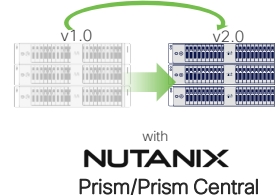


Fully integrated cluster expansion automation across Cisco UCS and Nutanix Cloud Infrastructure, driven from Nutanix Prism or Prism Central.

#### Operational summary

- Inventory new Cisco UCS servers
- Create Cisco UCS service profiles for new nodes
- Perform hypervisor imaging
- Deploy Nutanix storage controller VM (CVM) on new nodes
- Join new nodes to existing hypervisor and storage clusters

### Cluster upgrade

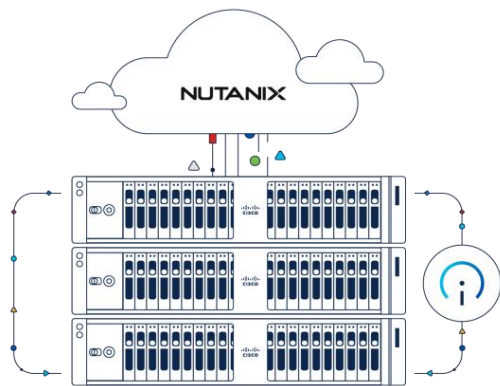


Fully integrated end-to-end cluster software and firmware upgrades with Nutanix Prism or Prism Central Life Cycle Manager (LCM).

#### Operational summary

- Upgrade of Cisco UCS infrastructure and server firmware
- Upgrade of hypervisor software, VMware ESXi, and/or Nutanix AHV
- Upgrade of Nutanix Cloud Infrastructure software

# Integrated networking

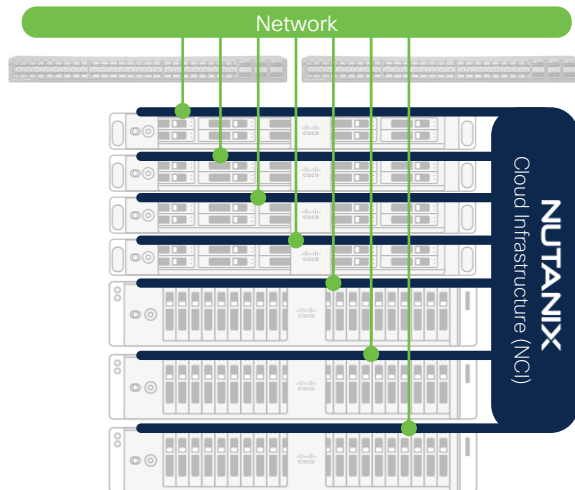


Cisco Compute Hyperconverged  
with Nutanix

## Value of integrated networking



Full-stack HCI solution with end-to-end  
network automation



Automation creates all  
physical and virtual  
networking

Cisco and Nutanix  
remove the risk and  
simplify the entire  
network configuration

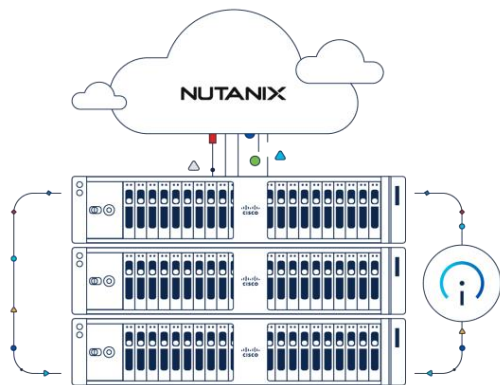
Applies consistent  
procedures for HCI  
networking to  
eliminate manual  
setup errors

Clusters require  
network switching  
which requires many  
cables, adapters,  
switch ports, and  
additional complexity

Network faults are the  
main cause of cluster  
install failures

Supportability  
becomes an issues  
and leads to finger  
pointing

# Security and governance



Cisco Compute Hyperconverged with Nutanix

## Secure data and network

### Security monitoring

- Prism security dashboard
- Cisco Intersight security advisories
- CVE monitoring for AOS clusters and UCS infrastructure

### Ransomware protection

- Data lens: file analytics, anomaly detection, audit trails
- Write-Once-Read-Many protection for files and objects
- Integrated snapshots; backup and recovery

### Secure networks

- Flow network segmentation
- Cisco ACI integration
- Cisco Secure Firewall virtual support

## Secure platform

### IAM and security baseline

- MFA via SAML
- RBAC and audit logging
- Factory-applied baselines
- Automated security configuration
- STIG hardening

### Data protection

- Data-in-flight and at-rest encryption (SW and SEDs)
- Encryption key management
- FIPS 140-2 encryption modules
- Replication and recovery planning

### Compliance

- Support compliance of regulatory policies
- HIPAA, PCI DSS, NIST, GDPR and more
- Certifications: FIPS 140-2, Common Criteria, DoDIN APL

## Secure compute

### Trustworthy platform

- Multi-point secure boot and Trust Anchor module
- Prevents malicious firmware and BIOS from booting

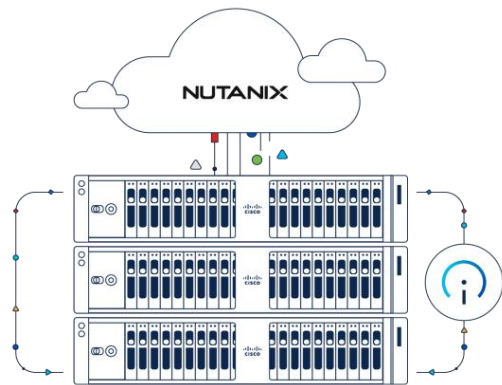
### Authentic HW & FW

- Cisco signed firmware and immutable hardware identity
- Hardware and firmware handshakes provide continuous verification of authenticity

### Secure development

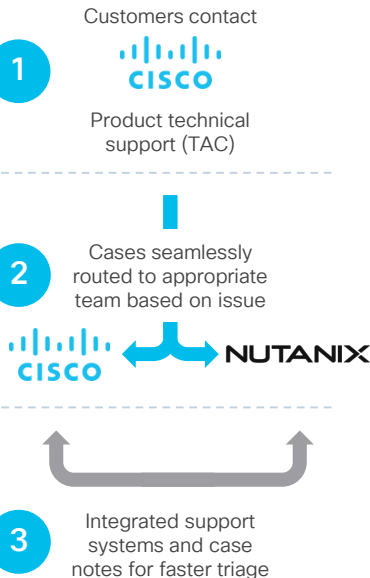
- Rigorous Cisco Secure development lifecycle
- Dedicated teams for threat modeling, vulnerability management, pen testing

# Global support



Cisco Compute Hyperconverged  
with Nutanix

## Seamless integrated support model



## Case-generation options

### Manual



User initiated

### Automated

**NUTANIX**  
Insights

for hardware and  
software alerts



**Intersight**  
for hardware alerts

Customers can contact TAC to open a case and/or have intelligent software do it for them with features such as Proactive RMA.

## Minimizing support burden on customers

**NUTANIX**  
Insights

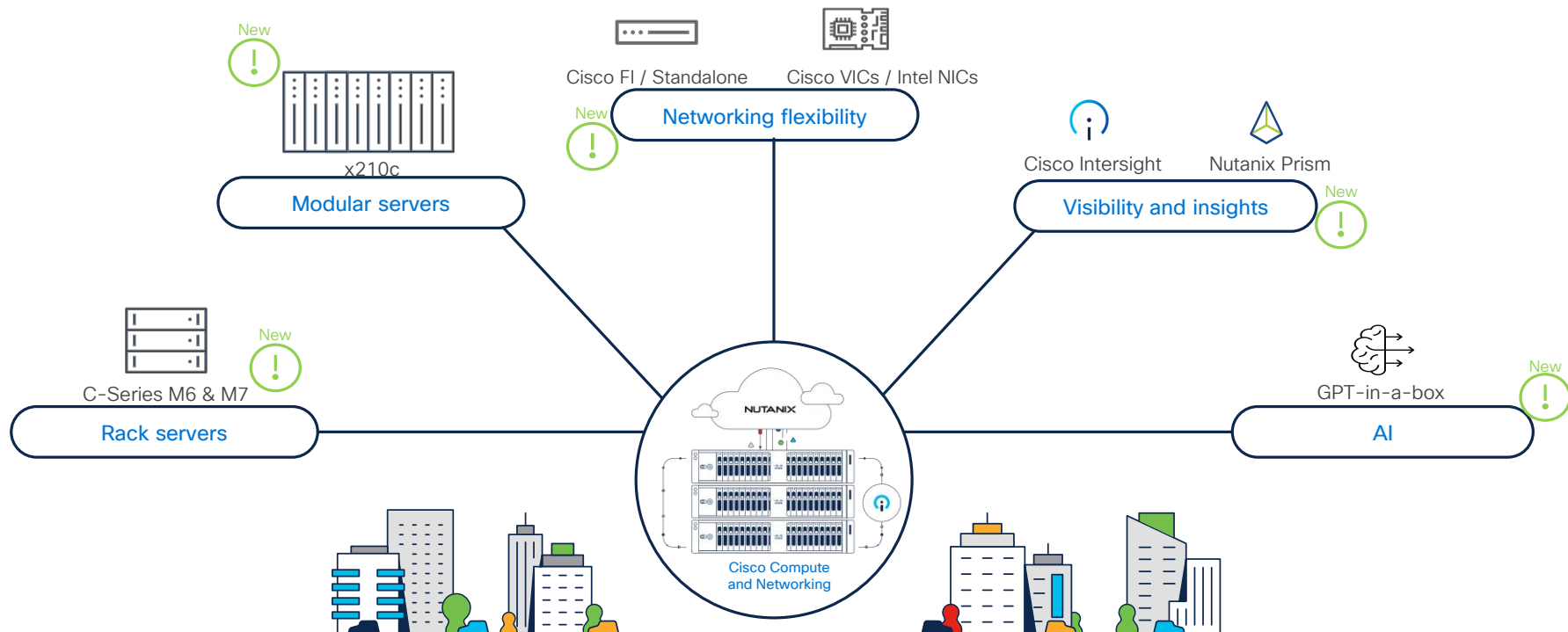


**Intersight**

- In-depth system health checks
- Security advisories and notifications
- Recommendations to remediate problems
- Proactive RMA of faulty components
- Automated log bundle collection
- Audit and correlate historical cluster events such as alerts, discoveries, upgrades, hardware replacement, and more via Cluster Timeline



# Cisco Compute Hyperconverged with Nutanix innovations



Virtual  
infrastructures

Hybrid  
cloud

Enterprise  
applications

AI/ML

Containers

Desktop  
virtualization

Data  
protection

Solution portfolio

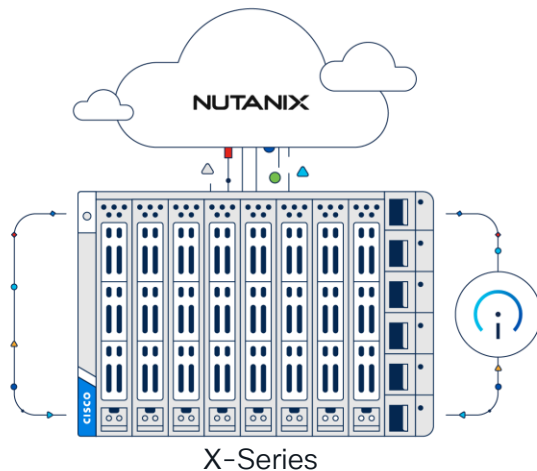
# Cisco Compute Hyperconverged X-Series System

Industry's first modular architecture with Nutanix



## Simplified operations

SaaS management and HCI software with the efficiency and flexibility of a modular system.



## Increased agility

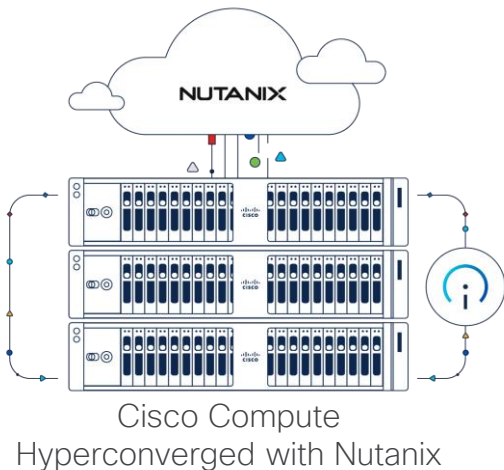
Easy-to-scale clusters and includes support for future generations of technology and SaaS innovations.



## Improved sustainability

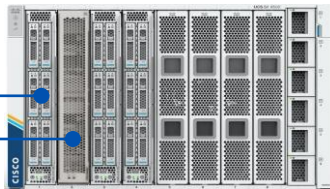
Engineered to be more energy efficient with easy upgrades and reuse of chassis lowering the consumption of raw materials compared to rack servers.

# UCS X-Series **Modular** Compute Options for Nutanix



**NEW!**

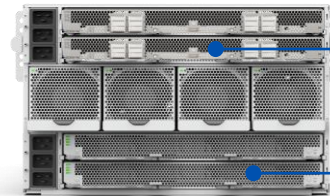
## Cisco Compute Hyperconverged **M7** Modular Compute Options



front

### X9508 Modular Chassis

- 7RU chassis
- 8 flexible slots
- Liquid cooling ready
- 6 x 2800W PSUs



back

### X210c M7 Modular Compute

- ESXi or AHV hypervisor
- Up to 6 x 1.9TB, 3.8TB, 7.6TB or 15.3TB NVMe disks
- Up to 2 x 5<sup>th</sup> Gen VIC adapters
- Dual M.2 SATA SSDs with HW RAID for boot
- Up to 2 Intel CPUs and 8TB Memory

### X440p PCIe Node

- Provides 2 or 4 PCIe slots connected to an adjacent compute node
- Supports up to 2 dual width GPUs or up to 4 single width GPUs
- L4, L40S, H100-80, A16

### Intelligent Fabric Module (IFM)

- Modular fabric modules for north-south traffic between compute nodes and external network(s)
- 25GbE and 100GbE options
- Option for integrated FIs with X-Direct
- 2 TB/s throughput

### X-Fabric Module (XFM)

- Internal east-west fabric for internal node interconnection
- Industry standard PCIe, CXL traffic
- Enables connectivity between compute and PCIe (X440p) nodes for GPU acceleration expansion

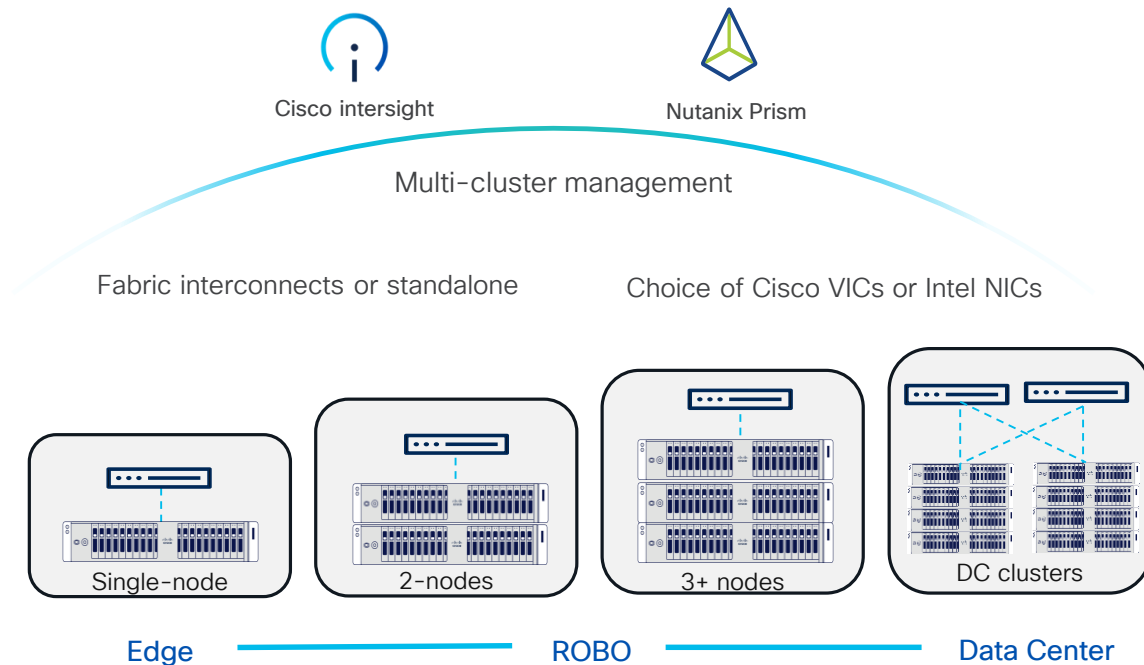
NOTE: See solution documentation for all caveats, limitations and compatibility information

# Flexible networking capabilities

## Intersight Standalone Mode for HCI

### Deploy Nutanix cluster on Cisco HCI Nodes

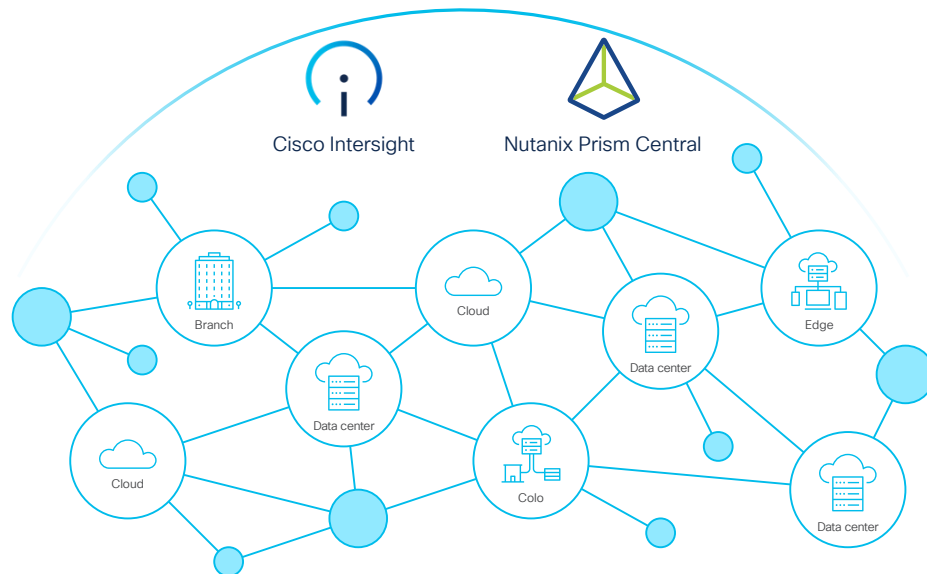
- No UCS Fabric Interconnect Required
- Can be deployed in Edge/Remote locations or primary data centers
- Flexible networking options with Cisco VIC and Intel NICs
- Policy based management from Intersight
- Start as small as 1 and 2 nodes for ROBO
- Parallel multi-cluster deployment with Nutanix Prism Central
- Support for AHV and ESXi hypervisors
- Support for M6 and M7 nodes



# Simplify and scale with cloud operations

## Unified operations across your distributed environment with Cisco Intersight and Nutanix Prism Central

- See and control your entire Cisco Compute Hyperconverged estate with Cisco Intersight
- Unified storage and cluster management with Nutanix Prism Central
- Turnkey solution combining compute, networking, storage, management, and hybrid multicloud platform simplifies end-to-end experience
- Augmented support and resiliency capabilities keep systems up and running at global scale



Remotely  
deploy and  
manage

CONVENTIONAL INFRASTRUCTURE



Ship from  
factory



Integrate/  
configure



Stage



Ship people/  
infra to sites



IT deploy  
on-site

NUTANIX WITH INTERSIGHT



Ship to  
sites



Connect to  
Intersight



Deploy and  
manage remotely

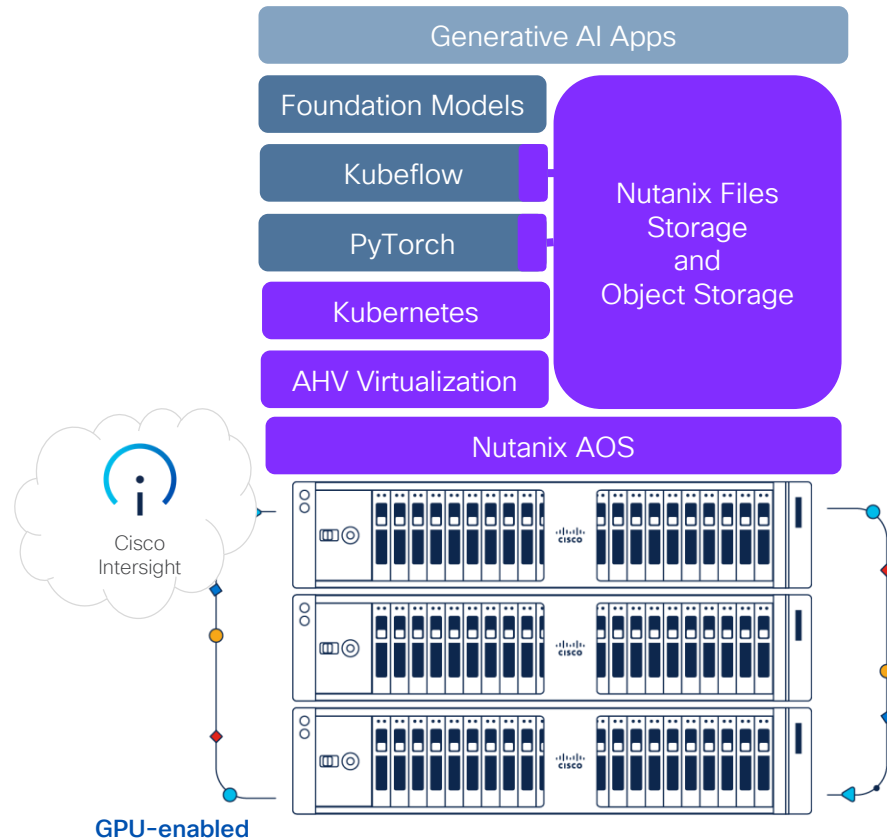
# Cisco Compute Hyperconverged GPT-in-a-Box

## Cisco Validated Designs (CVDs)

**Streamline deployment:** Eliminate the guesswork by using a tested and documented approach to help you design and deploy a GPT solution.




**Simplify operations:** Cloud-operating model delivers visibility, control, and consistency for HCI across highly distributed environments.

**Protect your data:** Built-in redundancy and data protection features to ensure high availability and data integrity



# Cisco and Nutanix innovations

## Using Cisco Intersight and Nutanix Foundation Central

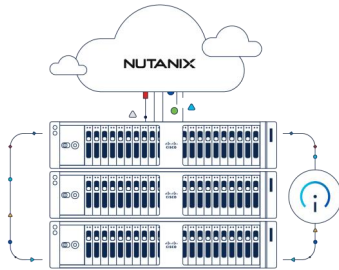
UNIQUE TO CISCO		
 Custom deployment workflow	<ul style="list-style-type: none"><li>• Remote zero-touch deployment without DHCP</li><li>• Custom workflow for remote bare metal OS installation</li><li>• Embedded firmware compatibility (HCL) check built into workflow</li><li>• Firmware auto download (Intersight hosted) and upgrade at cluster deployment</li></ul>	<ul style="list-style-type: none"><li>• Parallel multi-cluster deployment</li></ul>
 Security and governance	<ul style="list-style-type: none"><li>• Simple, authenticated, and secure mechanism of onboarding new servers using BMC device connector</li></ul>	<ul style="list-style-type: none"><li>• Intersight keys stored securely in Prism Central vault</li></ul>
 Simplified cluster operations	<ul style="list-style-type: none"><li>• Server policies in Intersight to reduce manual errors and provide uniform/easy update mechanism</li><li>• Intersight-driven LCM of server firmware orchestrated from Prism</li><li>• Connected TAC, security advisories, HCL, proactive RMA, automatic log upload, e-Bonding between TAC teams for faster issue resolution</li></ul>	<ul style="list-style-type: none"><li>• Multi-cluster management, visibility and monitoring using Prism Central</li></ul>

# The most complete hyperconverged solution

Confidently deploy and scale IT infrastructure to meet your business goals



NUTANIX



Cisco Compute Hyperconverged with Nutanix



## Complete **Simplicity**

Easy-to-buy, unified hyperconverged solution for hybrid multicloud operations with pre-engineered compute, storage, SaaS-based management, *and networking.*



## Complete **Flexibility**

Expanded capabilities to address modern apps and use cases with flexible deployment options, the latest technologies, and multicloud connectivity.



## Complete **Resiliency**

Differentiated ability to keep systems running with augmented, proactive support and security capabilities.



# Complete Your Session Evaluations



Complete a minimum of 4 session surveys and the Overall Event Survey to be entered in a drawing to **win 1 of 5 full conference passes** to Cisco Live 2025.

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**Earn 100 points** per survey completed and compete on the Cisco Live Challenge leaderboard.

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Level up and earn **exclusive prizes!**

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Complete your surveys in the **Cisco Live mobile app**.

# Continue your education



- Visit the Cisco World of Solutions for related demos from Cisco and Nutanix
- Attend a breakout session:
  - **BRKCOM-2011:** Simplifying Edge Infrastructure with Intersight Cloud Management and Cisco Compute Hyperconverged with Nutanix
  - **PSODCN-1124:** Deploy Flexible Microsegmentation and Automation with Cisco ACI
- Read our data center blogs  
[blogs.cisco.com/datacenter](https://blogs.cisco.com/datacenter)
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[cisco.com/go/computehyperconverged](https://cisco.com/go/computehyperconverged)
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Contact me at: [jgorlin@cisco.com](mailto:jgorlin@cisco.com)



The bridge to possible

# Thank you

CISCO *Live!*

#CiscoLive