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Let's go

#CiscoLiveAPJC

The bridge to possible

Cisco Compute Hyperconverged with Nutanix

How to Simplify your Hybrid IT

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BRKCLD-2803

December 5th, 2023

Cisco Hyperconverged Strategy

Focus

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

Simple

Choice of HCI for customers
Intersight Mgmt and automation
Differentiated HW and SW stack

Complete

Enterprise applications
Edge use cases
Hybrid cloud environments

[1] Gartner: Forecast Analysis Integrated Systems, Feb 2023

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Hyperconverged Benefits

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

Improve sustainability

By minimizing energy and material waste

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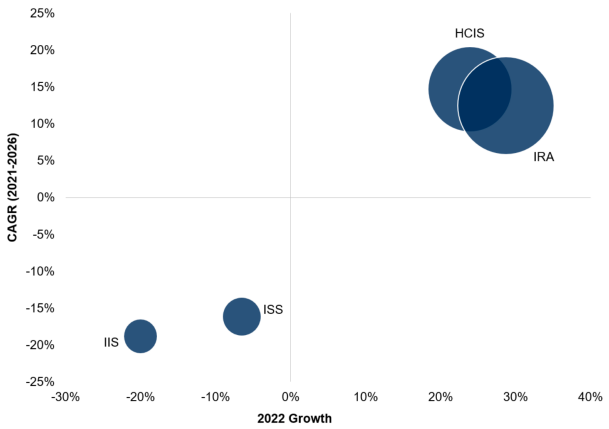
The hyperconverged market continues to grow

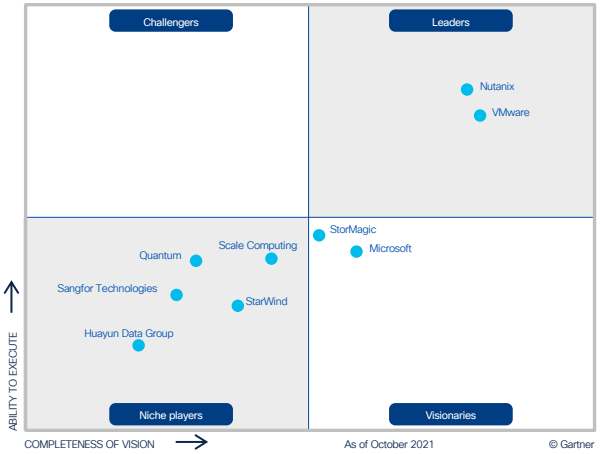
Integrated systems worldwide revenue growth by segment



HCI is projected to see $9.7 billion in revenue for 2026, with a CAGR of 14.7%, and is a key driver for the overall growth of the integrated systems market.

Source: Gartner, Forecast Analysis: Integrated Systems, Worldwide, 15 Feb 2023

Magic quadrant for hyperconverged infrastructure software



Nutanix consistently ranks well by analysts and is between #1 and #2 in market share.

Source: Gartner, Magic Quadrant for Hyperconverged Infrastructure, 18 November 2021

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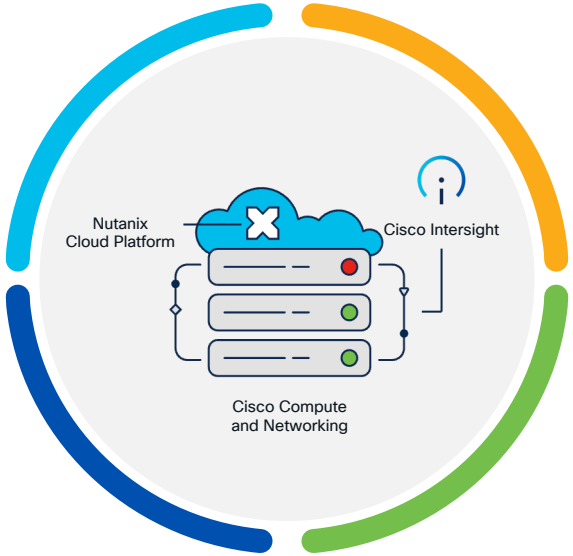
Full Circle Approach

Strategy

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

Go to market

A buying process focused on simplifying the seller and customer experience; migration resources and services



Solutions

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

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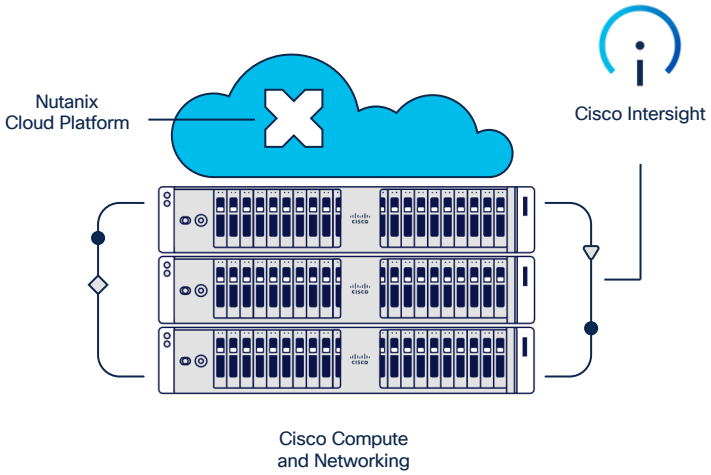
Combining the strength of two leaders

Best-in-class SaaS-based infrastructure management

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

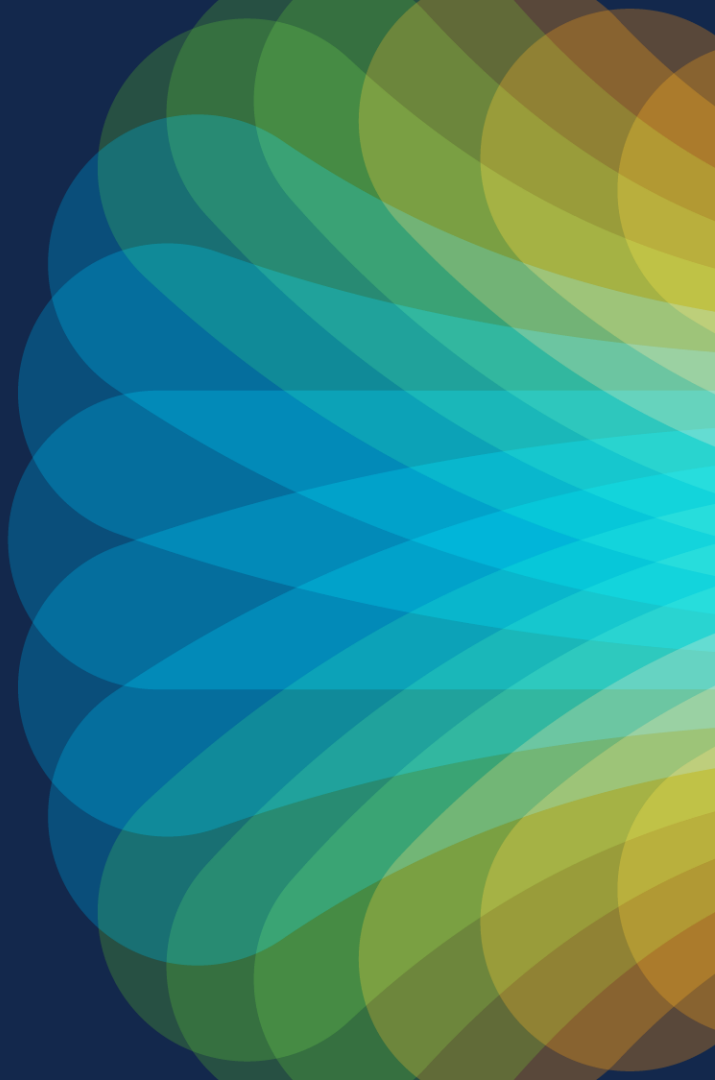
Leader in hyperconverged software

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

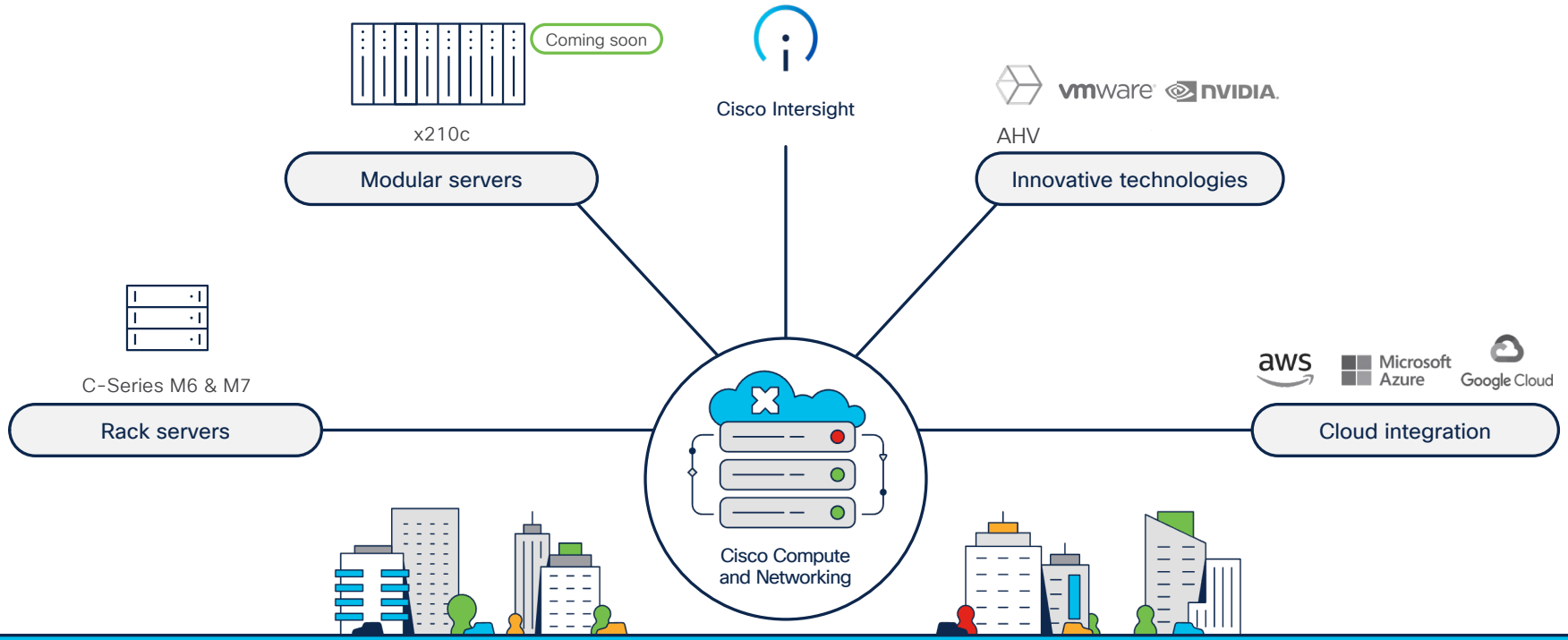


Simplify and accelerate the delivery of IT infrastructure

Solution overview



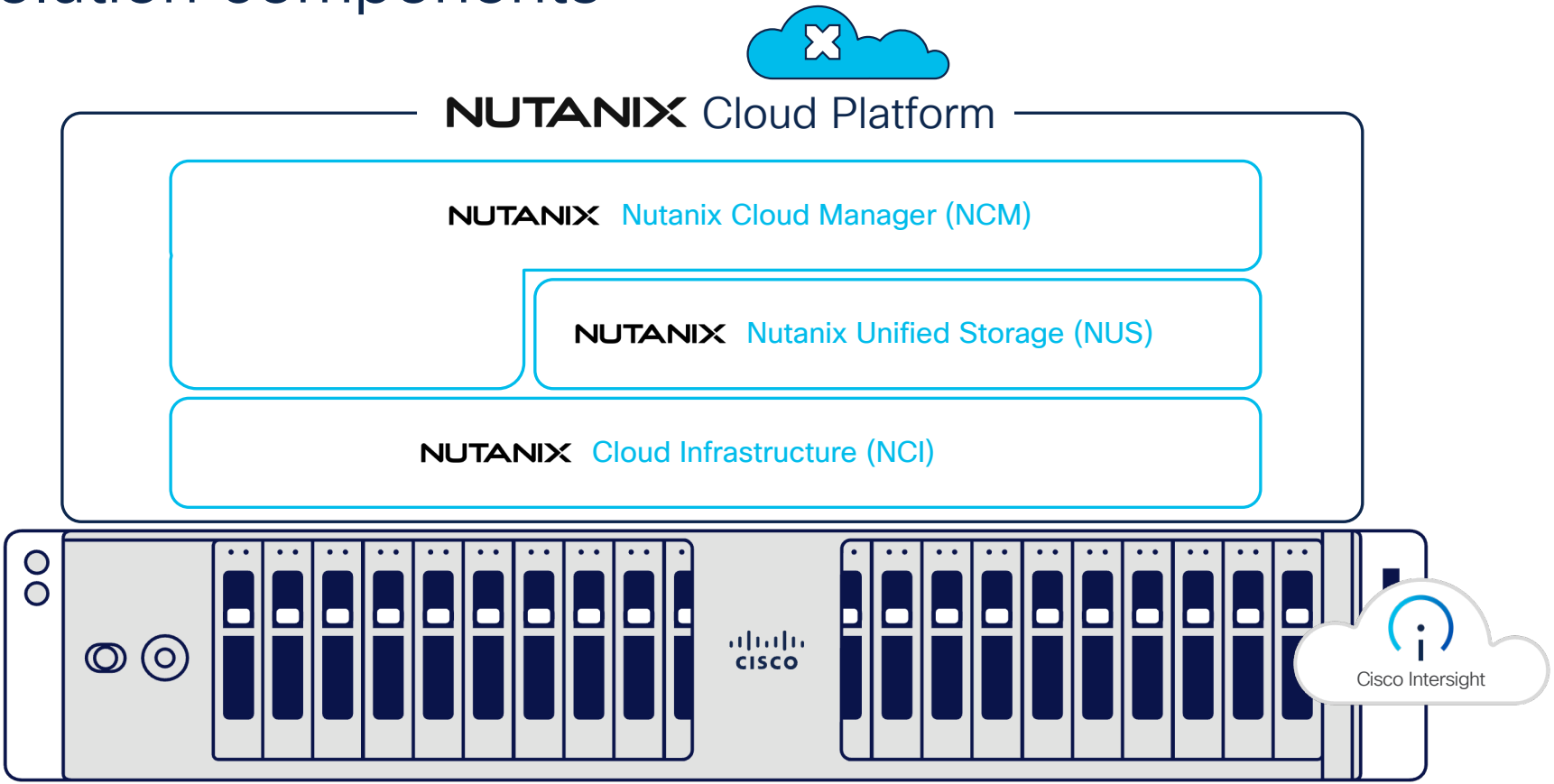
Accelerate IT transformation with more choice



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

Solution portfolio

Solution components



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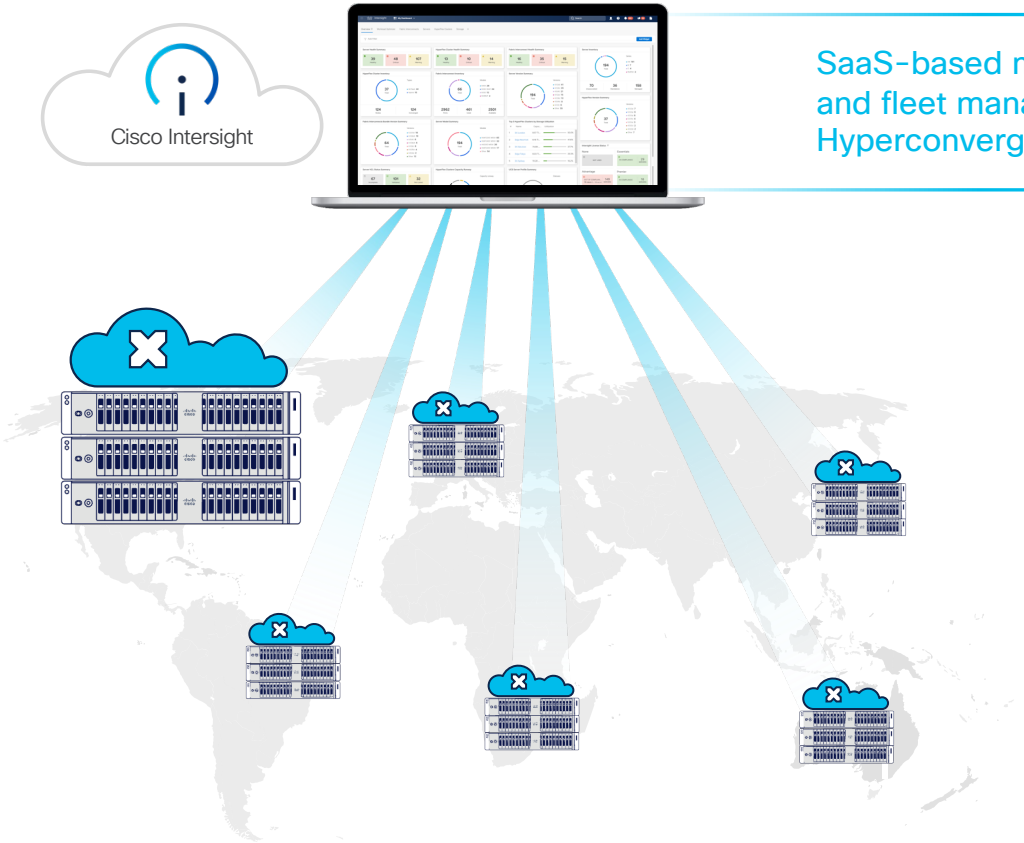
Cisco Intersight



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

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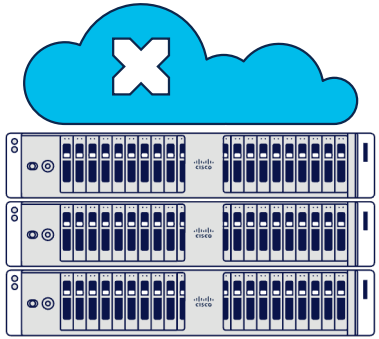
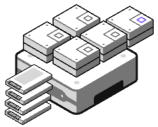
Flexible options & scalability



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

*AHV Only

Compute-only

Adds only CPU and memory resources to a cluster

Hypervisor options

NUTANIX
AHV Hypervisor

Min 3 Max 32 Nodes per cluster

vmware
vSphere Hypervisor (ESXi)

Min 3 Max 48

NUTANIX
Cloud Infrastructure (NCI)

Max raw capacity per node 182TB

Mixed drive support

Mixed node support

UCS M7 coming soon

Cisco Compute Hyperconverged physical node types

C220 M6 All-Flash Node

- Up to 10 x 1.9TB, 3.8TB or 7.6TB SSD disks
- 76TB max raw capacity/node
- 4th Gen VIC @ 10/25GbE
- Dual M.2 SATA SSDs with HW RAID for boot
- Up to 2 CPUs and 4TB memory

C220 M6 All-NVMe Node

- Up to 10 x 1.9TB, 3.8TB, 7.6TB or 15.3TB NVMe disks
- 153TB max raw capacity/node
- 4th Gen VIC @ 10/25GbE
- Dual M.2 SATA SSDs with HW RAID for boot
- Mandatory 2 CPUs and up to 4TB memory

C240 M6 All-Flash Node

- Up to 24 x 1.9TB, 3.8TB or 7.6TB SSD disks
- 182TB max raw capacity/node
- 4th Gen VIC @10/25GbE
- Dual M.2 SATA SSDs with HW RAID for boot
- Up to 2 CPUs and 8TB memory

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

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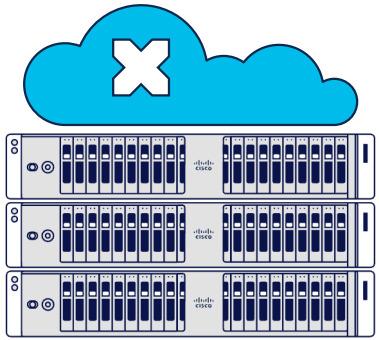
Cluster lifecycle operations



Cisco Compute
Hyperconverged with Nutanix

Integrated and automated lifecycle operations

Cluster installation

with NUTANIX Foundation VM

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

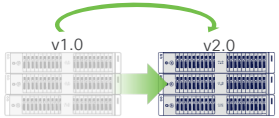
with NUTANIX Prism

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



with NUTANIX Prism

Fully integrated end-to-end cluster software and firmware upgrades with Nutanix Prism or Prism Central Life Cycle Management (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

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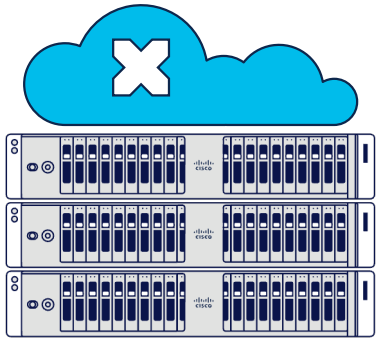
Integrated networking



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 issue and leads to finger pointing

Note: UCS Fabric Interconnects running UCSM Managed-Mode (UMM) are required for the solution at this time, other use-cases such as Standalone, Intersight Managed-Mode (IMM) and Edge are on roadmap and will be supported in the future

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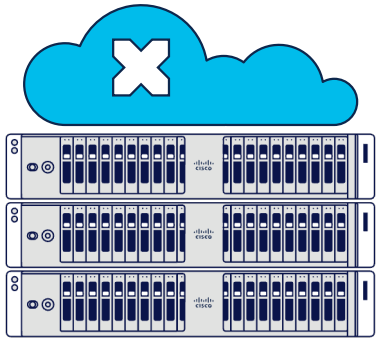
Global support



Cisco Compute
Hyperconverged with Nutanix

Seamless integrated support model

1. Customers contact Cisco Product Technical Support (TAC)
2. Cases seamlessly routed to appropriate team based on issue (Cisco ↔ Nutanix)
3. Integrated support systems and case notes for faster triage

Case generation options

Manual

User initiated

Automated

Nutanix Insights for hardware & software alerts

Cisco Intersight for hardware alerts

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

Minimizing support burden on customers

Nutanix Insights

Cisco 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

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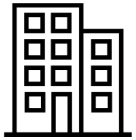
The bridge to possible

Nutanix Solution Overview

And the Operating Landscape is Infinitely More Complex

Was

Cloud, or…



On-Premise

Now

Data Center(s)

Edge(s)

Branch(es)

Infrastructure(s) as a Service (IaaS)

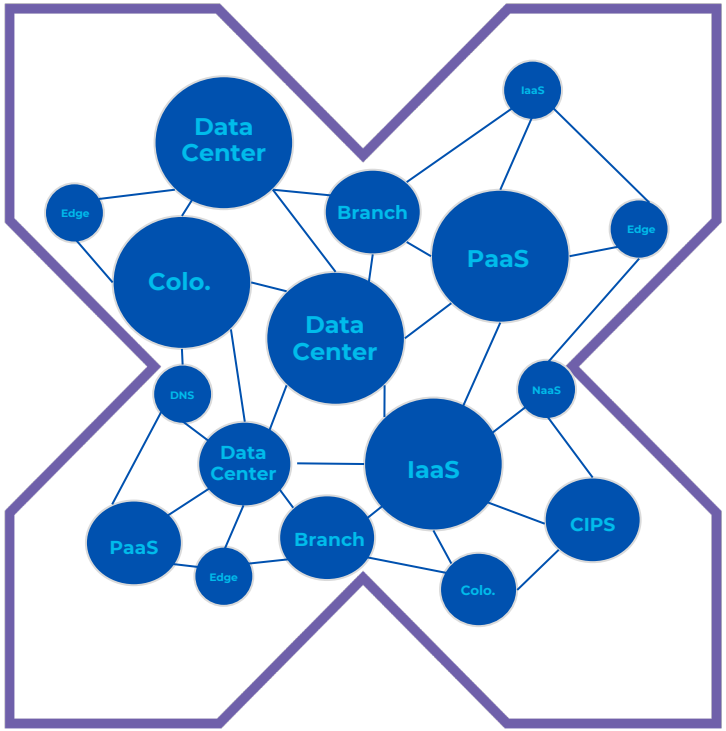
Network(s) as a Service (NaaS)

Platform(s) as a Service (PaaS)

Domain Name System (DNS)

Co-Location(s) (Colo.)

The Answer: A Hybrid Multicloud Platform

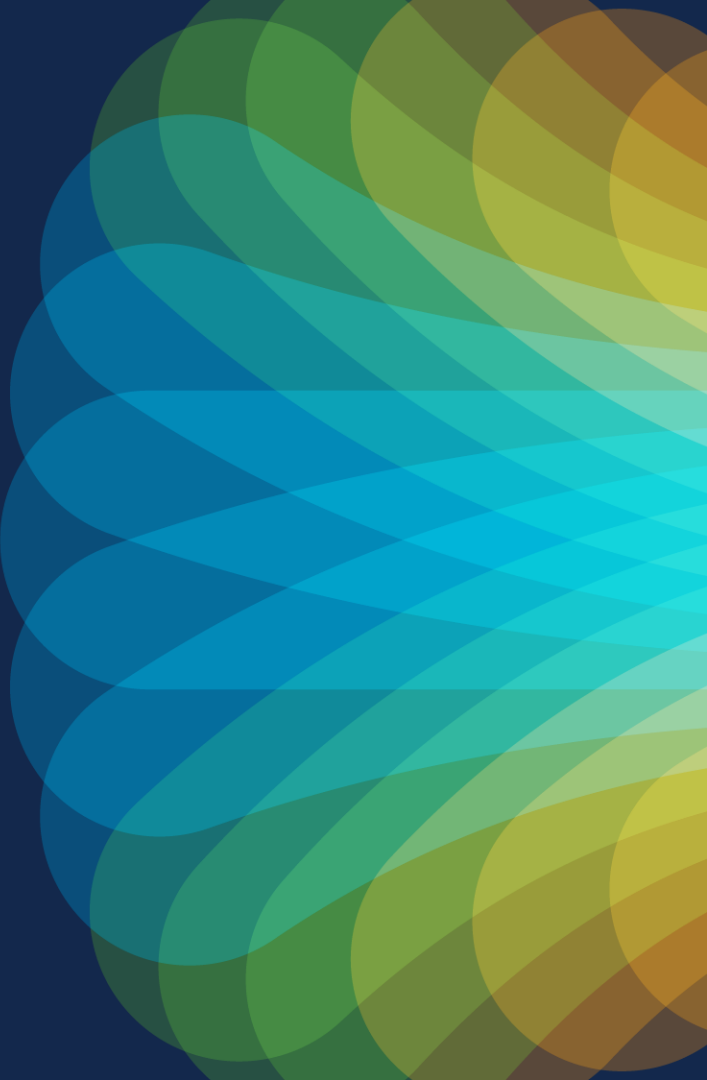


Operate a single platform using consistent constructs and skillsets

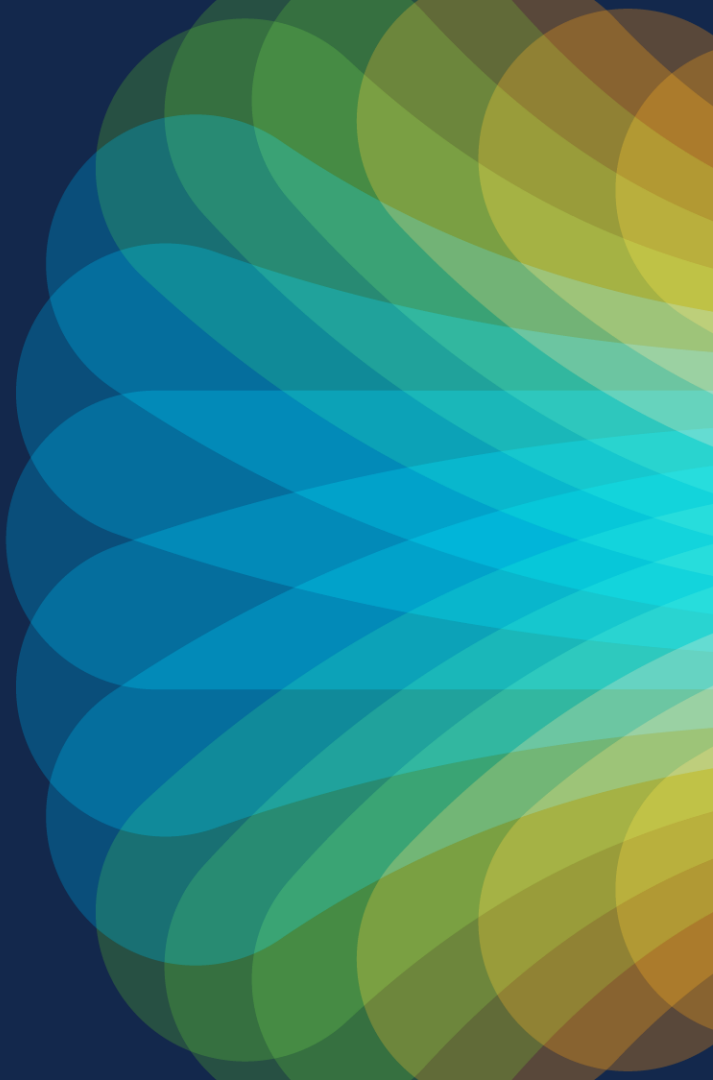
Move apps and data with ease based on business requirements

Manage data centers, clouds, and edge as one

Market is balancing to hybrid



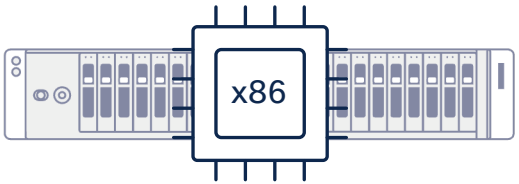
Private cloud challenge



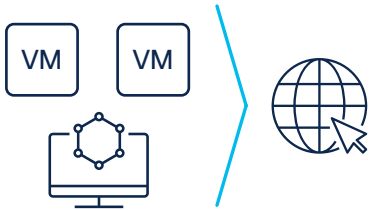
Hyperconverged infrastructure (HCI) with Cisco and Nutanix

"A platform offering shared compute and storage resources, based on software-defined storage, software-defined compute, Cisco UCS hardware and a unified management interface."

A software-defined controller running in a virtual machine



Cisco UCS with local disks



Distributed unified management plane delivered as a web app

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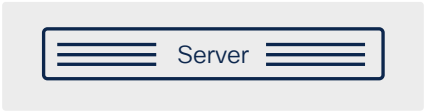
The basics: Nutanix AOS–scalable, distributed system design



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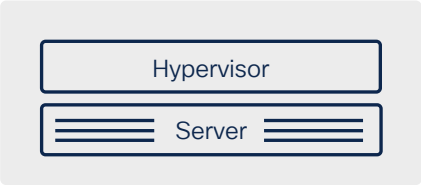
Nutanix AOS—scalable, distributed system design

vmware vSphere

Nutanix AHV



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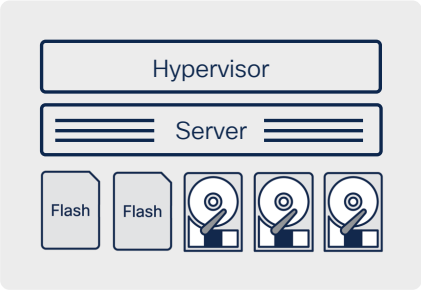
Nutanix AOS–scalable, distributed system design

Nutanix AHV

vmware vSphere



Hybrid SSD-HDD

All-Flash

Hybrid NVMe-SSD

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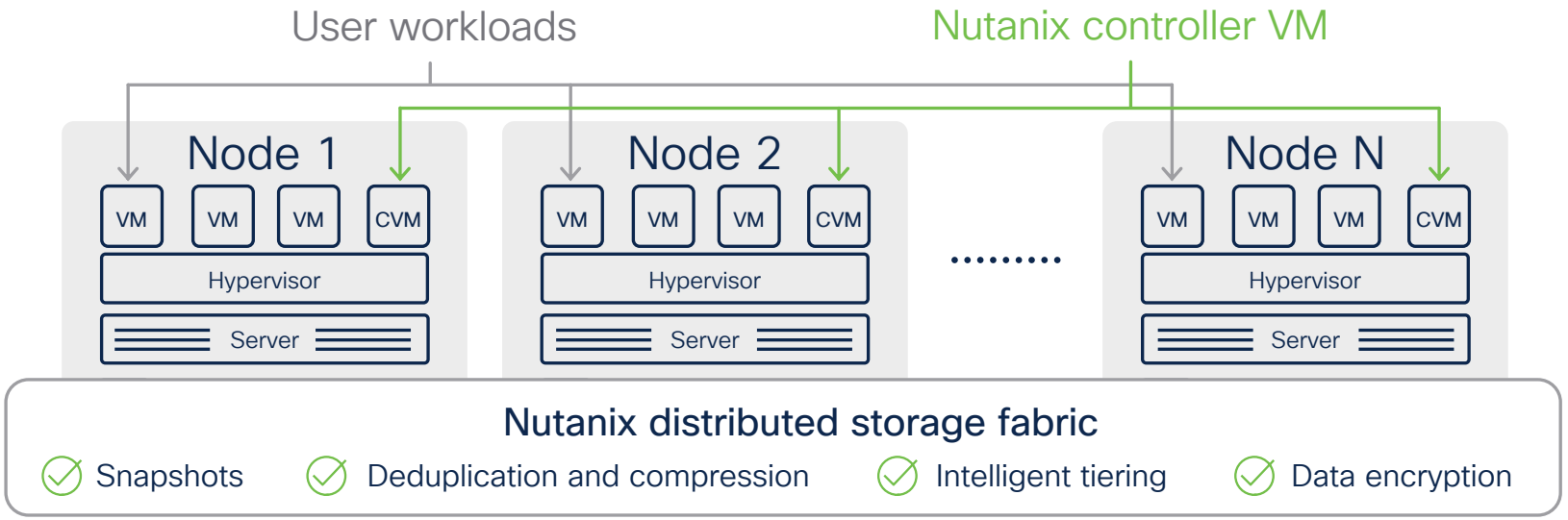
Nutanix AOS—scalable, distributed system design



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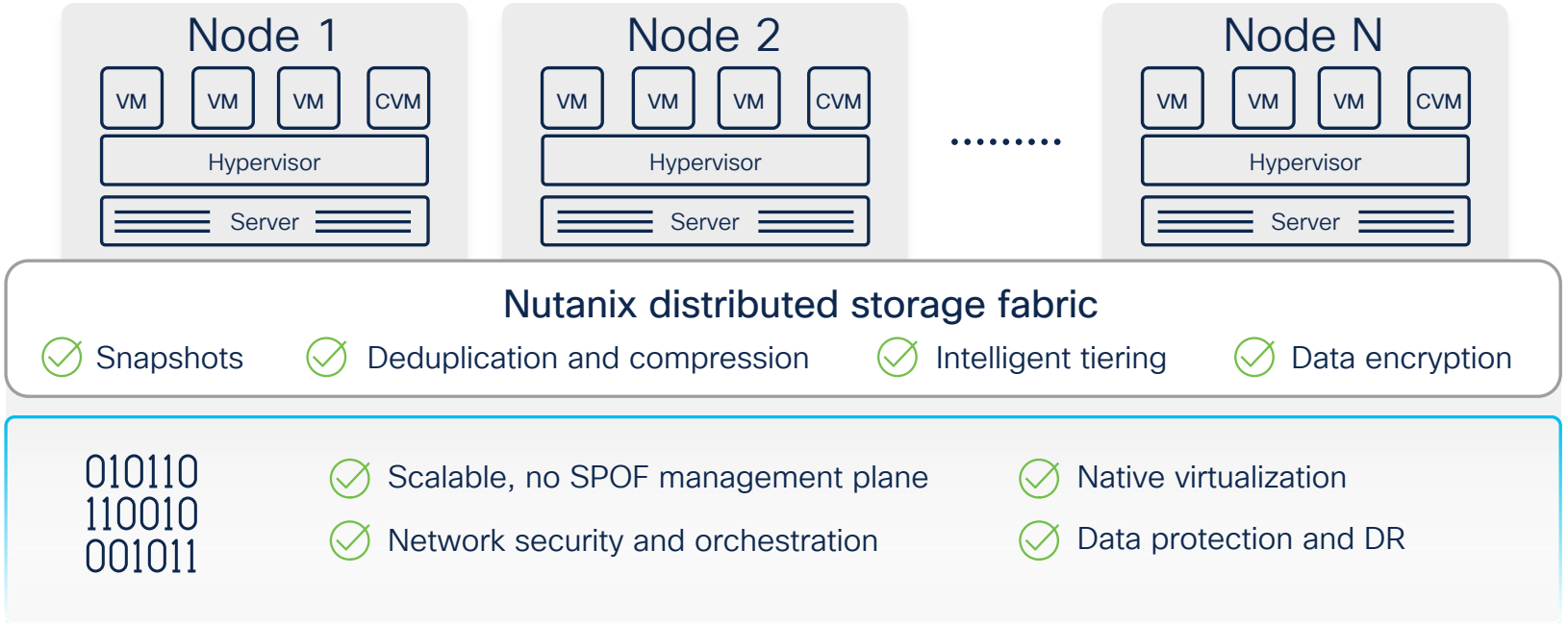
Nutanix AOS—scalable, distributed system design



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Nutanix AOS—scalable, distributed system design

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True resiliency from A to Z and beyond

S/W techniques

Replication factor (RF)–2/3 | Erasure coding | Snapshots

Cloud
- NC2 AWS & Azure
- Multi-cloud snapshot tech.
- MSP DRaaS

Site
- Multi-site replication
- Metro availability
- Near-sync

VM
- VM level protection
- Eco-system integration

Data
- Tunable redundancy
- Transparent consistent checks

Node
- Node and rack failure resiliency
- Non-disruptive upgrades

Hardware
- Self-healing from disk failure
- Redundancy of key components

Local resiliency

Geographical resiliency

S/W techniques

Snapshots | Replication | Backup | Archival

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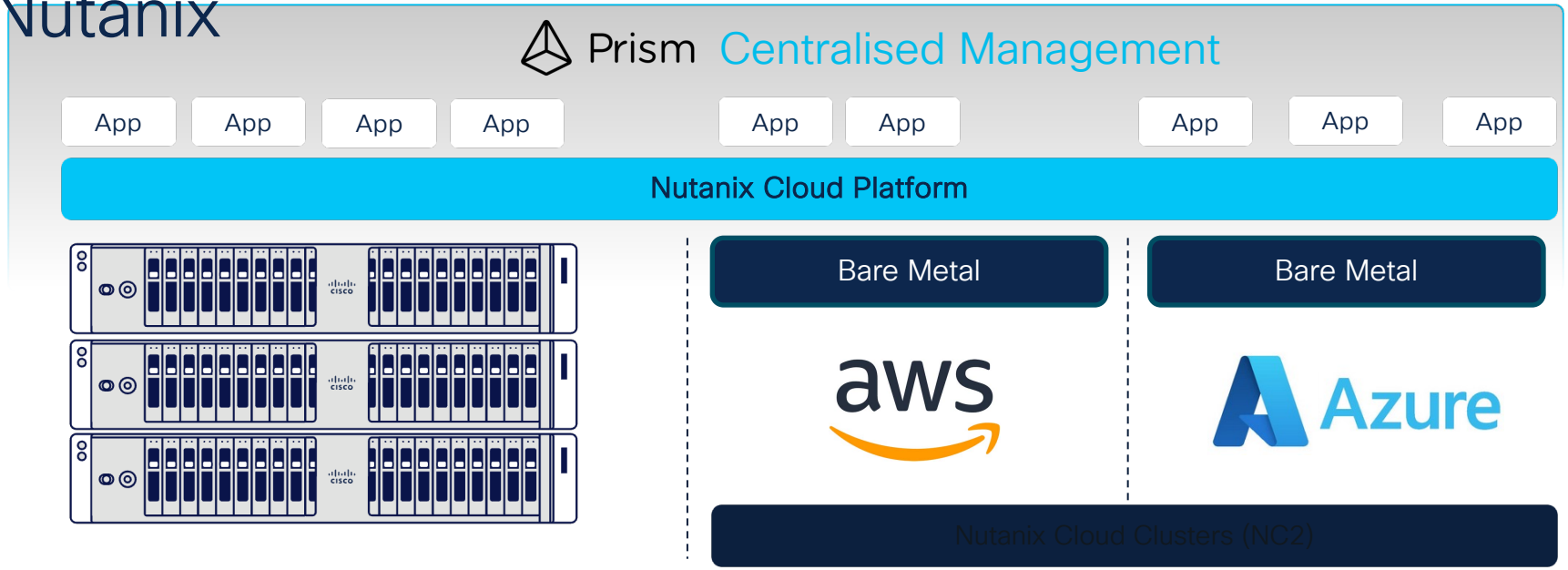
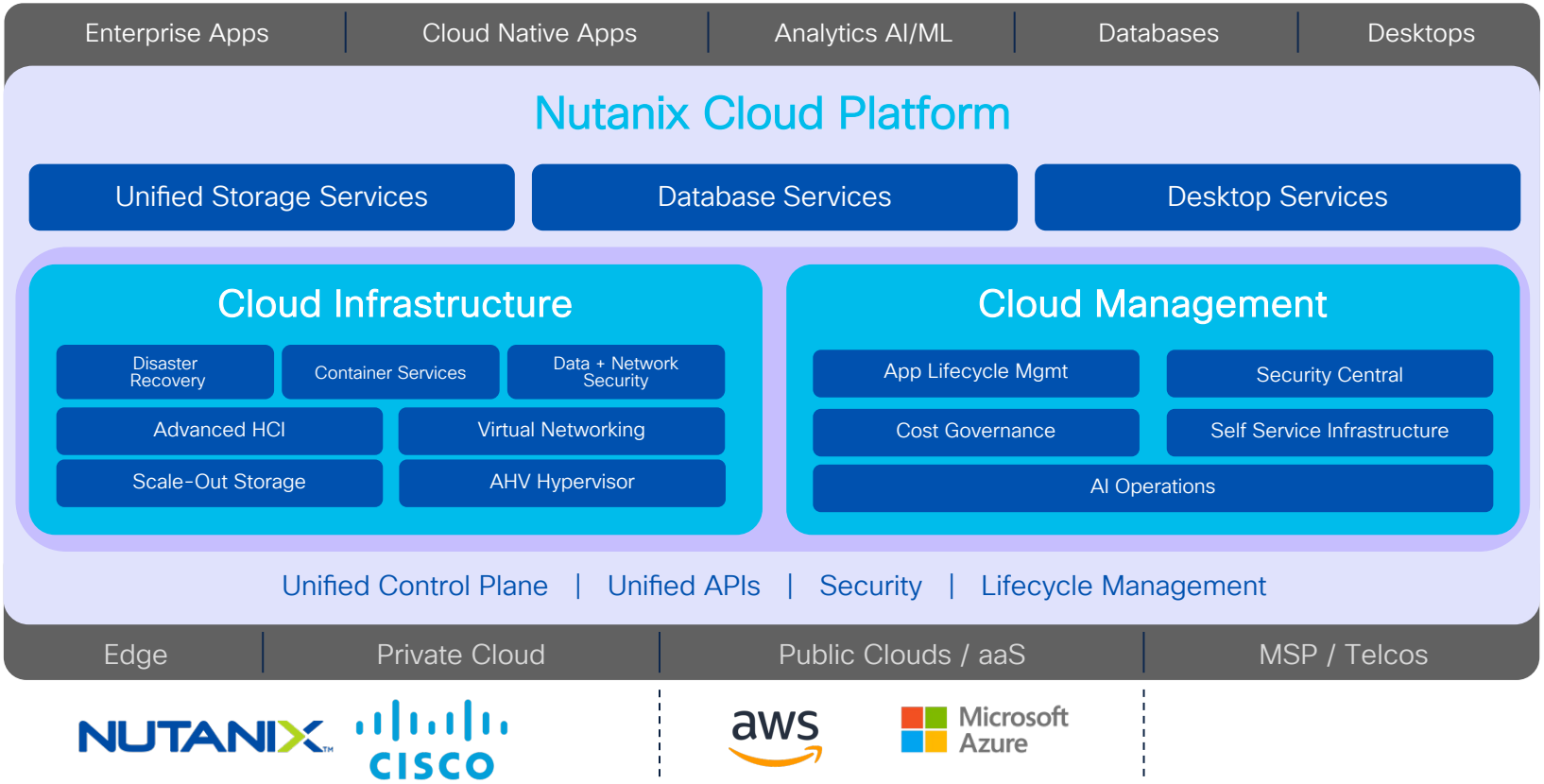
Re-Platforming the Enterprise Datacenter with Nutanix

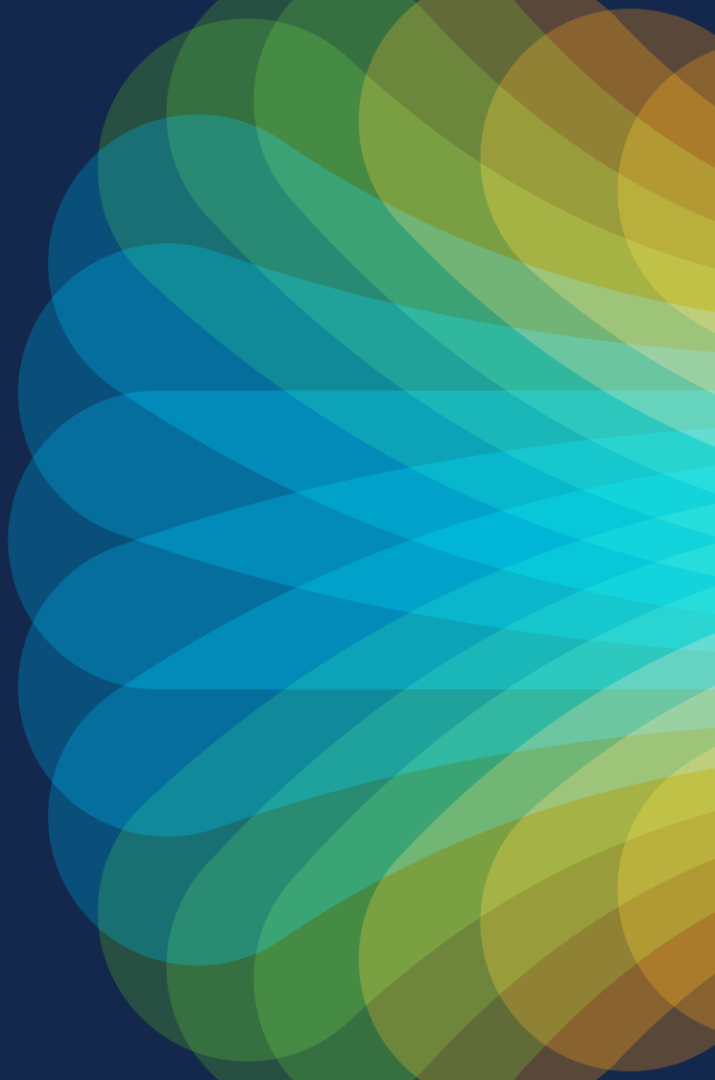


One Platform for Hybrid Multicloud



Modernize infrastructure

Without bespoke solution baggage



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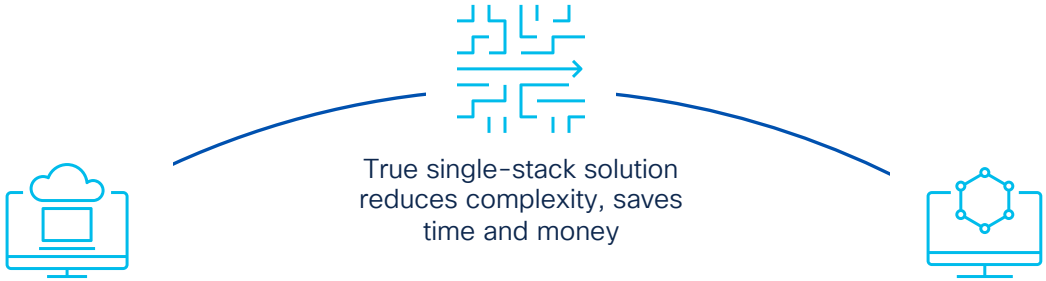
AHV: Included enterprise virtualization



True single-stack solution reduces complexity, saves time and money

Native enterprise-class virtualization

Powerful virtualization management, monitoring, and analytical capabilities

- Performance optimized for HCI
- Virtual networking, SDN
- BCDR, migration
- Automated CPU compatibility
- GPU support

- Automated host configuration
- Always on, high availability
- Smart VM placement, affinity
- Optimal VM scheduling
- Application and network security

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Broad ecosystem support

815+ solutions validated

CISCO

Networking	Network security	Multicloud edge
(i) Cisco ACI	(v) Cisco Secure Firewall Virtual (FTDv) (v) Cisco Adaptive Security Virtual Appliance (ASAv) (v) Cisco Identity Services Engine (ISE) (v) Cisco Secure Firewall Manager (FMC)	(v) Cisco Umbrella

(i) Integrated with Nutanix AHV

(v) Validated to run with Nutanix AHV

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Migration to AHV using Nutanix Move

~30k migrations per quarter
1,000s of customers

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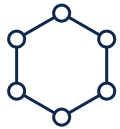
Wherever you are on your journey, Nutanix is ready to help



Modernize infrastructure

Speed app deployment and scaling

40%

Up to 40% TCO savings over 3 tier architecture

Extend to edge and cloud

Move workloads to public cloud or deploy at edge faster and more cost-effectively

60%

Up to 60% faster over refactoring

Run modern apps anywhere

Build modern K8s apps once and securely run them and their data anywhere

53%

Up to 53% savings over cloud native

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Learn more

3 Resources https://bit.ly/3LT3Mc9

2 Cisco DC blogs blogs.cisco.com/datacenter

1 Cisco.com cisco.com/computehyperconverged

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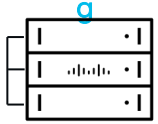
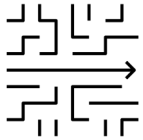
Demos at CLive –Visit Cloud Stand CISG10 in WoS
–Cisco Compute Hyperconverged with Nutanix

Integrated Networking



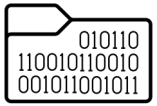
- Understand Policy and templates
- Hi-Speed Fabric with single wire connectivity
- Physical and virtual Network configuration is automated

Simplified Cluster Operations



- Multi cluster Management and visibility
- LCM Management of UCS firmware from Prism Central
- Day 0 Install experience

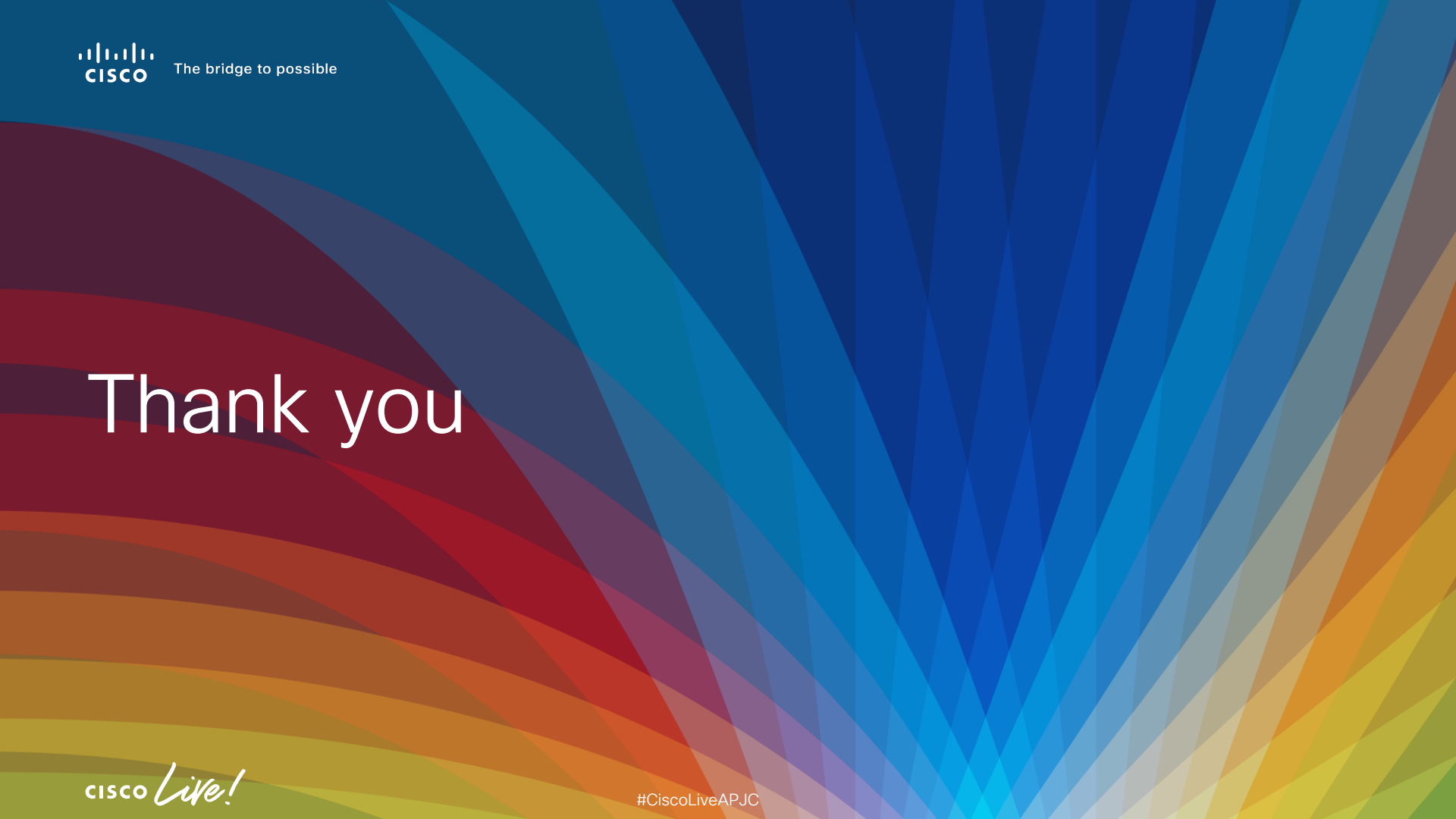
Storage & Data protection Services



- Nutanix AOS storage services capabilities
- AHV and ESXi advanced replication

Security & Governance

- Central visibility into alerts and advisories (Intersight)
- Role-Based User Groups and Privileges
- Single sign on / MFA


cisco
The bridge to possible
Thank you
cisco Live!
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cisco Live!

Let's go

#CiscoLiveAPJC