Diverse Virtualization Deployment Strategies with Cisco UCS

VMware, Nutanix, Red Hat, Microsoft, and More

Ulrich Kleidon – Principal Engineer
BRKCOM-2460

"The server virtualization market is facing its most significant disruption in over a decade. I&O leaders will be forced to question their underlying assumptions for current and future workloads" - *Gartner*

Agenda

- Introduction
- Broadcom / VMware
- Cisco HCI with Nutanix
- Red Hat OpenShift Container Platform
- Microsoft Azure Local
- Bare Metal and more
- Closing

Applications redefining IT

SUSTAINABILITY

Performance, Power and Footprint

Data center power consumption accounts for up to 50x that of a typical commercial office building[3]

HYBRID MULTICLOUD

Intelligent Workload Placement

82% of companies are operating both on-prem and in the cloud while 30% are moving to intelligent workload placement

APPLICATION ARCHITECTURE

Hyper-distributed and Hyper-diverse

Market disruption drives platform diversity 3 years with 50% of data being generated at the edge

SECURITY

Growing Attack Surface and Vectors

69% of organizations say multicloud security configuration challenges led to data breaches or exposures[2]

750M
new applications by 2025[1]

Sources: 1. IDC 2. Gartner 3. Osterman Research

SLM

Hash table

Llama-2

LLM

Arrays

DLRM

GenAI

Inferencing

AI / ML

Falcon3

Training

GPU

Mistral

ANN

FFNN

ChatGPT

FLAN

RAG

GAN

NLP

Let's talk about the Elephant in the room

Broadcom/VMware

 End Of Availability of Perpetual licenses

 Transition to subscription-based license model

 Transition from CPU to Core based licenses

 Reduced many single products down to 4 packages potentially forcing some customers to buy functionality they will never use.

What is your Stack for the Future?

Option 1	Option 2	Option 3	Option 4
Kubernetes virtualized on VMware	Kubernetes in addition to VM on a Hypervisor	VMs in addition to Containers on a Kubernetes Stack	Public Cloud

Cisco Unified Computing System (UCS)

Compute

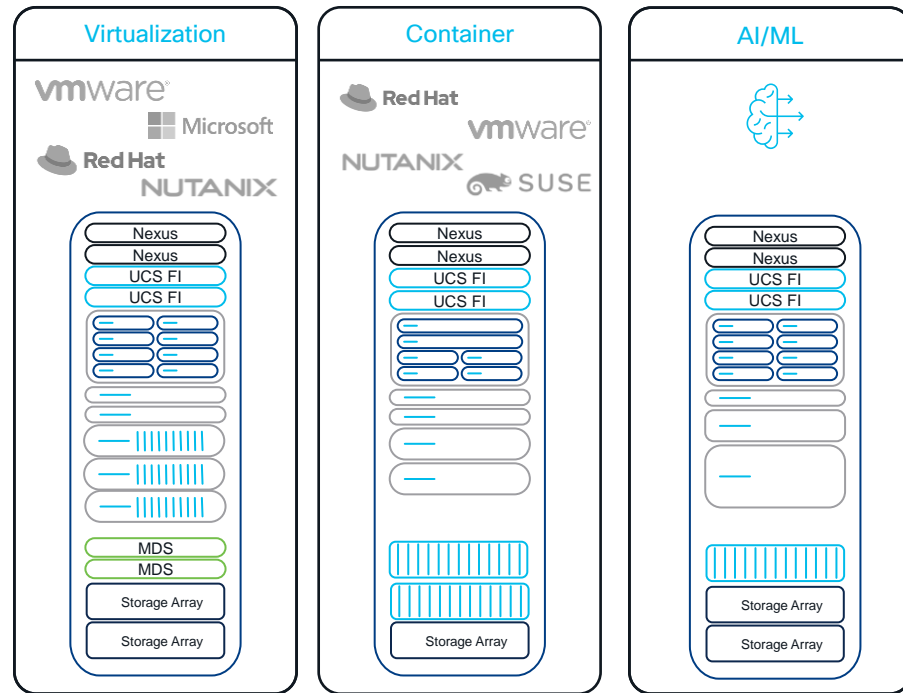Data center   Edge   Colocation   Public cloud

Infrastructure modernization Solutions

CVDs offering choice and flexibility for a variety of deployment types.
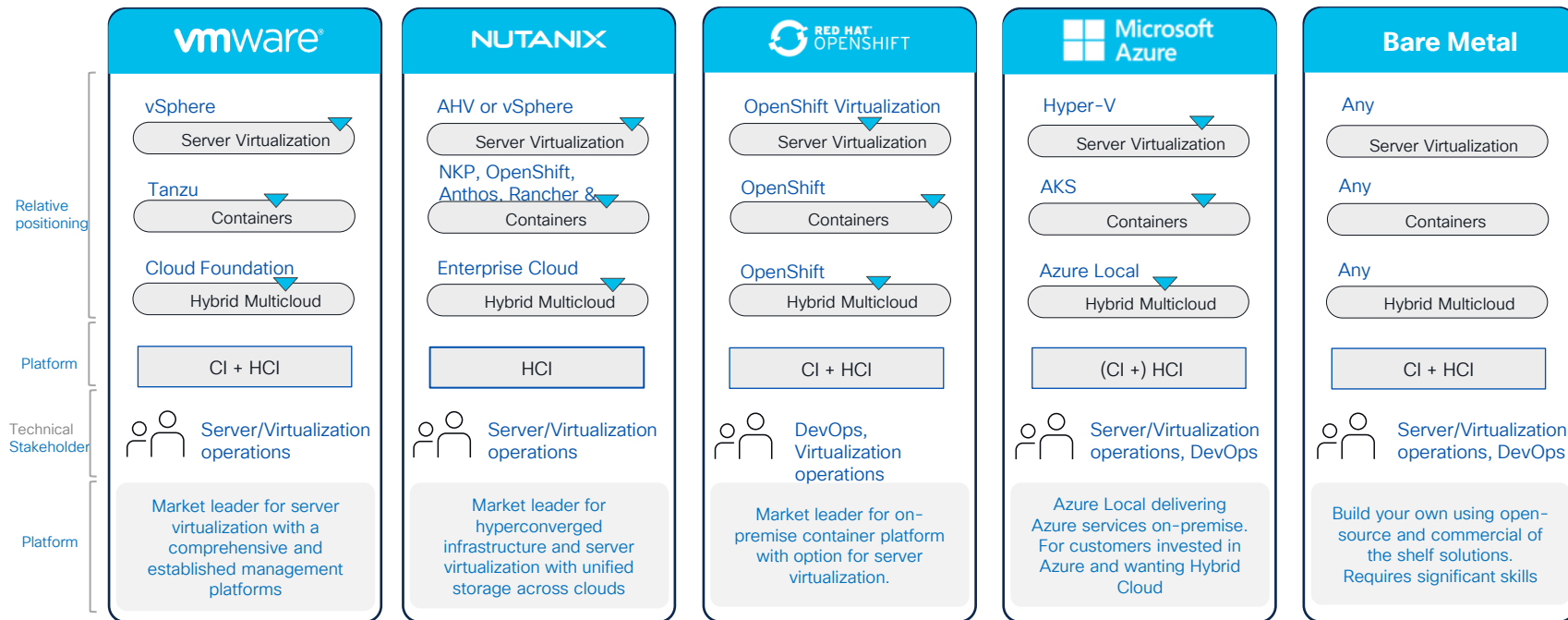
Pre-designed data center architectures that incorporate Cisco computing, Cisco networking, storage and virtualization delivering best practice design, compatibility and lowering business risk.

Designed for enterprise use cases and applications including AI/ML, Containers, SAP HANA, Desktop virtualization, Data protection and hybrid multi-cloud.

The Configuration principals used in the CVD allow customers to scale each component as required.

Virtualization

vmware
Microsoft
Red Hat
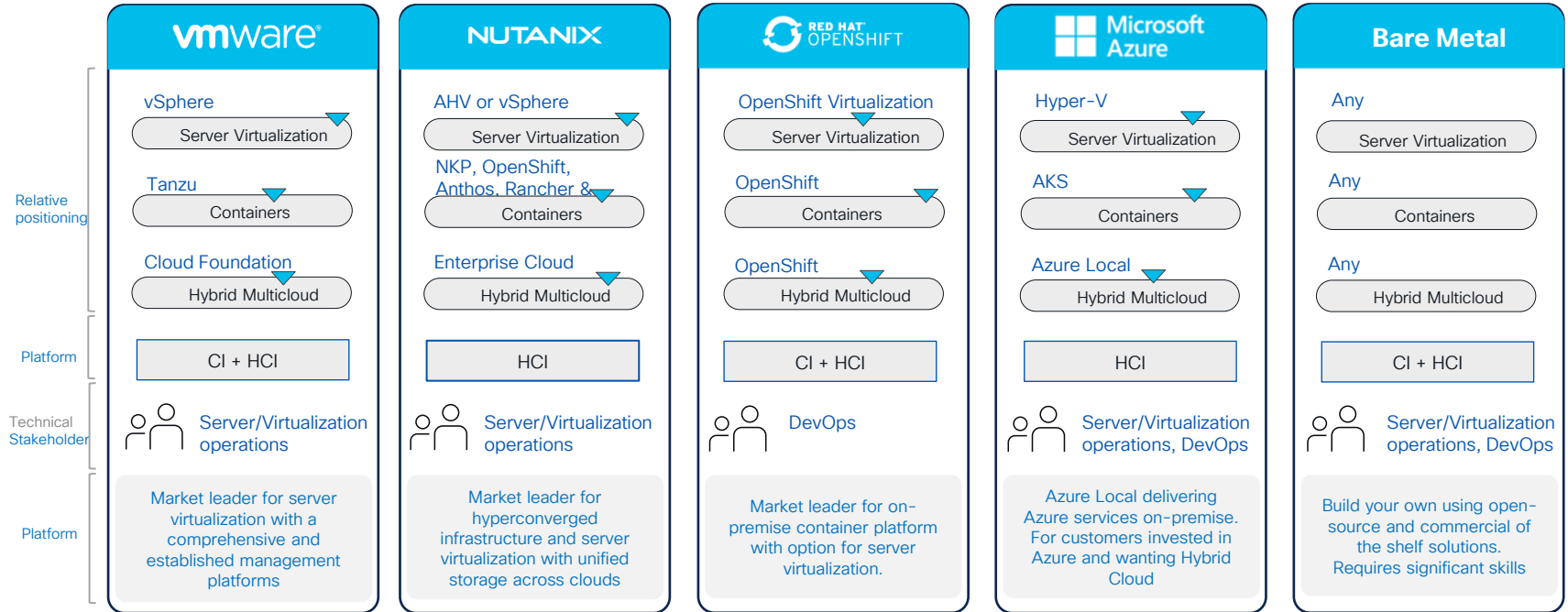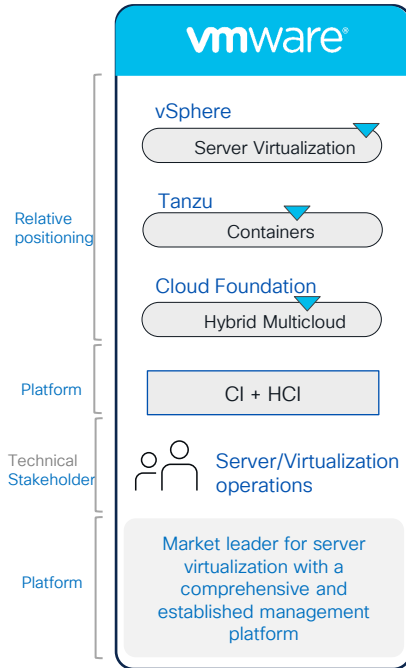NUTANIX

Nexus
Nexus
UCS FI
UCS FI

MDS
MDS
Storage Array
Storage Array

Container

Red Hat
vmware
NUTANIX
SUSE

Nexus
Nexus
UCS FI
UCS FI

Storage Array

AI/ML

Nexus
Nexus
UCS FI
UCS FI

Storage Array
Storage Array

Application Platform Modernization Crossroads

	vmware	**NUTANIX**	**RED HAT OPENSHIFT**	**Microsoft Azure**	**Bare Metal**
Relative positioning	vSphere — Server Virtualization	AHV or vSphere — Server Virtualization	OpenShift Virtualization — Server Virtualization	Hyper-V — Server Virtualization	Any — Server Virtualization
	Tanzu — Containers	NKP, OpenShift, Anthos, Rancher & — Containers	OpenShift — Containers	AKS — Containers	Any — Containers
	Cloud Foundation — Hybrid Multicloud	Enterprise Cloud — Hybrid Multicloud	OpenShift — Hybrid Multicloud	Azure Local — Hybrid Multicloud	Any — Hybrid Multicloud
Platform	CI + HCI	HCI	CI + HCI	(CI +) HCI	CI + HCI
Technical Stakeholder	Server/Virtualization operations	Server/Virtualization operations	DevOps, Virtualization operations	Server/Virtualization operations, DevOps	Server/Virtualization operations, DevOps
Platform	Market leader for server virtualization with a comprehensive and established management platforms	Market leader for hyperconverged infrastructure and server virtualization with unified storage across clouds	Market leader for on-premise container platform with option for server virtualization.	Azure Local delivering Azure services on-premise. For customers invested in Azure and wanting Hybrid Cloud	Build your own using open-source and commercial of the shelf solutions. Requires significant skills

Server Virtualization market disruption is happening!

With Cisco UCS you have choices.

VMware

VMware	NUTANIX	RED HAT OPENSHIFT	Microsoft Azure	Bare Metal
vSphere Server Virtualization	**AHV or vSphere** Server Virtualization	**OpenShift Virtualization** Server Virtualization	**Hyper-V** Server Virtualization	**Any** Server Virtualization
Tanzu Containers	**NKP, OpenShift, Anthos, Rancher &** Containers	**OpenShift** Containers	**AKS** Containers	**Any** Containers
Cloud Foundation Hybrid Multicloud	**Enterprise Cloud** Hybrid Multicloud	**OpenShift** Hybrid Multicloud	**Azure Local** Hybrid Multicloud	**Any** Hybrid Multicloud
CI + HCI	HCI	CI + HCI	HCI	CI + HCI
Server/Virtualization operations	Server/Virtualization operations	DevOps	Server/Virtualization operations, DevOps	Server/Virtualization operations, DevOps
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Relative positioning

Platform

Technical Stakeholder

Platform

VMware

vmware®

Relative positioning
- vSphere
  - Server Virtualization
- Tanzu
  - Containers
- Cloud Foundation
  - Hybrid Multicloud

Platform
- CI + HCI

Technical Stakeholder
- Server/Virtualization operations

Platform
- Market leader for server virtualization with a comprehensive and established management platform

A Leader in Virtualization

VMware give customers the most matured platform and ecosystem for virtualization in the datacenter and across clouds.

Broad Partner Integrations

Integrations and Plug-Ins allow full application platform and infrastructure lifecycle management.

Application Modernization

Vmware Tanzu helps companies to adopt containerized application and cloud native workload in the data center
– Most of the K8s deployments are running on top of VMware.

Cisco solutions to continue with VMware

Deliver VMware on Cisco **Converged** and **Hyperconverged** infrastructure assured by Cisco validated designs.

Manage and optimize the VMware Software Defined data center with **VMware Cloud Foundation or VMware vSphere Foundation** deployed on Cisco UCS series
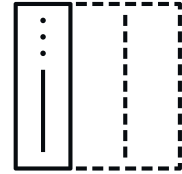
Optimize VMware licensing costs through server refresh and consolidation

Validated Solutions for VMware
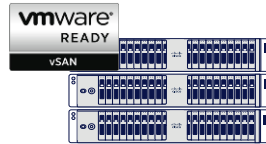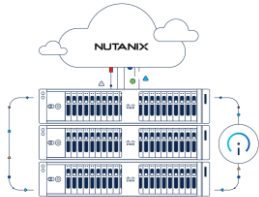
Validated and Integrated Solutions to reduce deployment time and risk.

Pre-designed data center architectures that incorporate Cisco computing, Cisco networking, storage and Vmware virtualization delivering best practice design, compatibility and lowering business risk.

Converged and Hyper Converged solutions to address every scale and deployment option.

Simplified operations with Cisco Intersight integrations including vCenter HA plugin, Intersight Device Connector for Nutanix Prism.

VMware Inventory in Intersight

See
the Information you need

Connect
 the information and components

Operate
Simplified operation through Information

Core Virtual Machines operations

From the VM to the physical Server

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# Cluster Life-Cycle Operations – with Ansible

Cluster Installation

Ansible Playbooks to automate the initial setup across Cisco UCS, Nexus, Storage, and VMware Infrastructure.

Operational Summary
- Inventory Cisco UCS servers
- Create Cisco UCS Service Profiles
- Perform hypervisor imaging
- Create a new Datacenter and Cluster
- Add the nodes to the cluster
- Configure network and storage.

Cluster Expansion
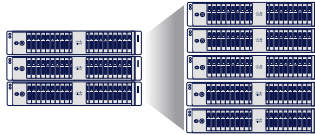
Cluster expansion automation across Cisco UCS, Nexus, Storage and Vmware Infrastructure, driven by Ansible Playbooks.

Operational Summary
- Inventory new Cisco UCS servers
- Create Cisco UCS Service Profiles for new nodes
- Perform hypervisor imaging
- Join new nodes to existing clusters.
- Configure network and storage.

Cluster Upgrade
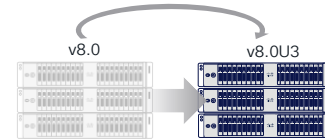
Manual change of Server Profile configuration in Intersight and Host Profile in vCenter

Operational Summary
- Update policies for Cisco UCS infrastructure and server firmware.
- Upgrade Cisco UCS Infrastructure firmware.
- Update host profile for VMware ESXi in vCenter
- Upgrade of ESXi software and implicid update of Cisco UCS server firmware while reboot ESXi.

Server Virtualization market disruption is happening. With Cisco UCS you have choices.

Cisco HCI with Nutanix

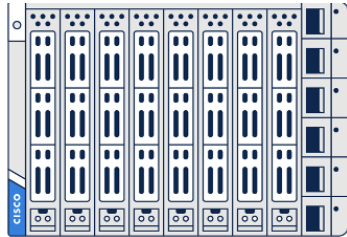| **vmware®**	**NUTANIX**	**RED HAT OPENSHIFT**	**Microsoft Azure**	**Bare Metal**
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Containers	Containers	Containers	Containers	Containers
Cloud Foundation	Enterprise Cloud	OpenShift	Azure Local	Any
Hybrid Multicloud	Hybrid Multicloud	Hybrid Multicloud	Hybrid Multicloud	Hybrid Multicloud
CI + HCI	HCI	CI + HCI	HCI	CI + HCI
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Relative positioning

Platform

Technical Stakeholder

Platform

Cisco HCI with Nutanix

NUTANIX

AHV or vSphere
Server Virtualization

Containers

Enterprise Cloud
Hybrid Multicloud

HCI

Server/Virtualization operations

Market leader for hyperconverged infrastructure and server virtualization with unified storage across clouds

Relative positioning

Platform

Technical Stakeholder

Platform

A Leader in HCI

Give customers a VMware alternative with extensive capabilities for **virtualization, containers and unified storage** across clouds.

Simplify with cloud operations

Eliminate complexity with better visibility, control, and consistency across highly distributed environments

Resilient hyperconverged solution

Keep systems running with augmented support, resiliency, and security capabilities

Continue with Cisco + Nutanix

The industries most comprehensive partnership between Cisco and Nutanix delivering joint engineering and support

Simplify with cloud operations eliminate complexity with better visibility, control, and consistency across highly distributed environments
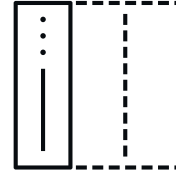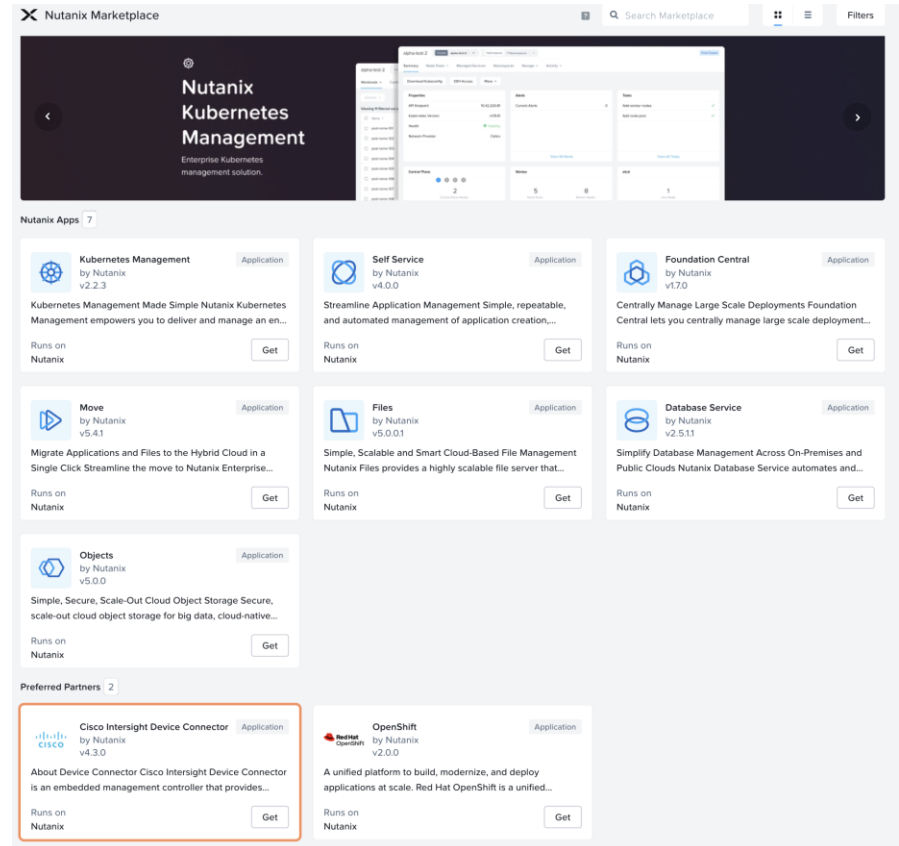
Nutanix Prism and Intersight cloud-based management for full application platform and infrastructure lifecycle management

Cisco Device Connector

Nutanix Prism Central (PC) can be managed as target connected to the Intersight portal through a Cisco Device Connector.

Cisco Device Connector is an embedded management controller that enables the capabilities of Cisco Intersight

- Cisco Device Connector application is available in Nutanix Market Place
- From the marketplace, download and install Cisco device connector in Prism Central
- A bi-directional channel is established between Cisco Intersight and Prism Central
- Prism Central v4 Management APIs are used by Cisco Intersight to display day 1 management features.

Cisco HCI Nutanix cluster list view

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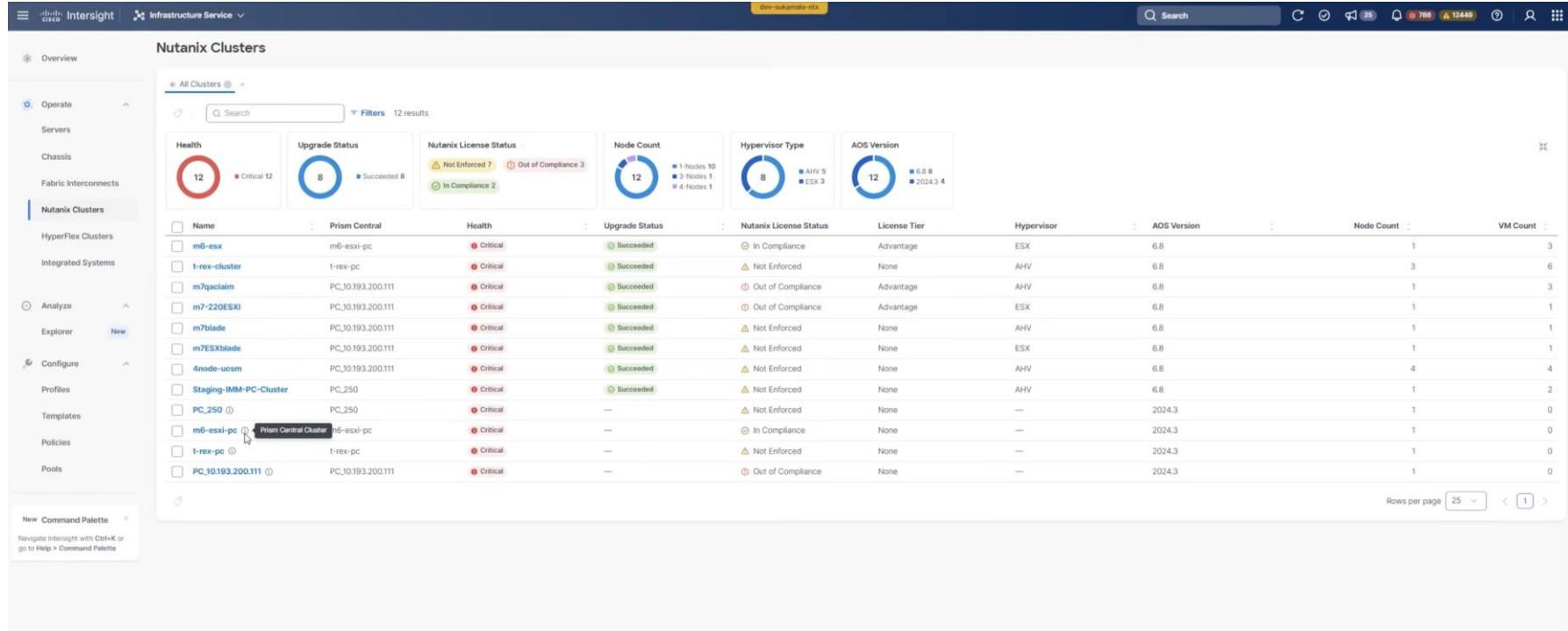
Cisco HCI Nutanix cluster detail view

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

Cisco Intersight

Nutanix Prism Central

Branch

Cloud

Data center

Edge

Data center

Cloud

Colo

Data center

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 and Prism Central | Deploy and manage remotely

Cluster Life-Cycle Operations

Cluster Installation

with

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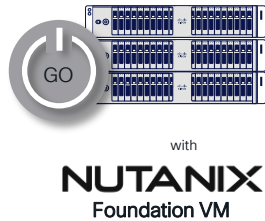
Fully integrated cluster installation automation across Cisco UCS and Nutanix Cloud Infrastructure, driven from Nutanix Foundation.

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
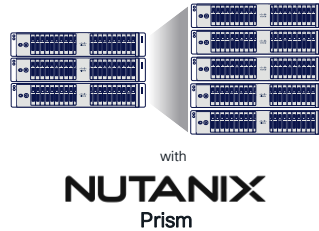
NUTANIX
Prism

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

v1.0   v2.0
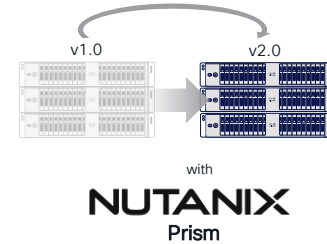
with

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

Flexible Deployment Options
Intersight Standalone Mode for HCI

Deploy Nutanix cluster on Cisco HCI Nodes

- With or without UCS Fabric Interconnect
- Deploy 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

Cisco Intersight

Nutanix Prism

Multi-cluster management

Fabric interconnects or standalone

Choice of Cisco VICs or Intel NICs

Single-node

2 nodes

3+ nodes

DC clusters

Edge

ROBO

Data center
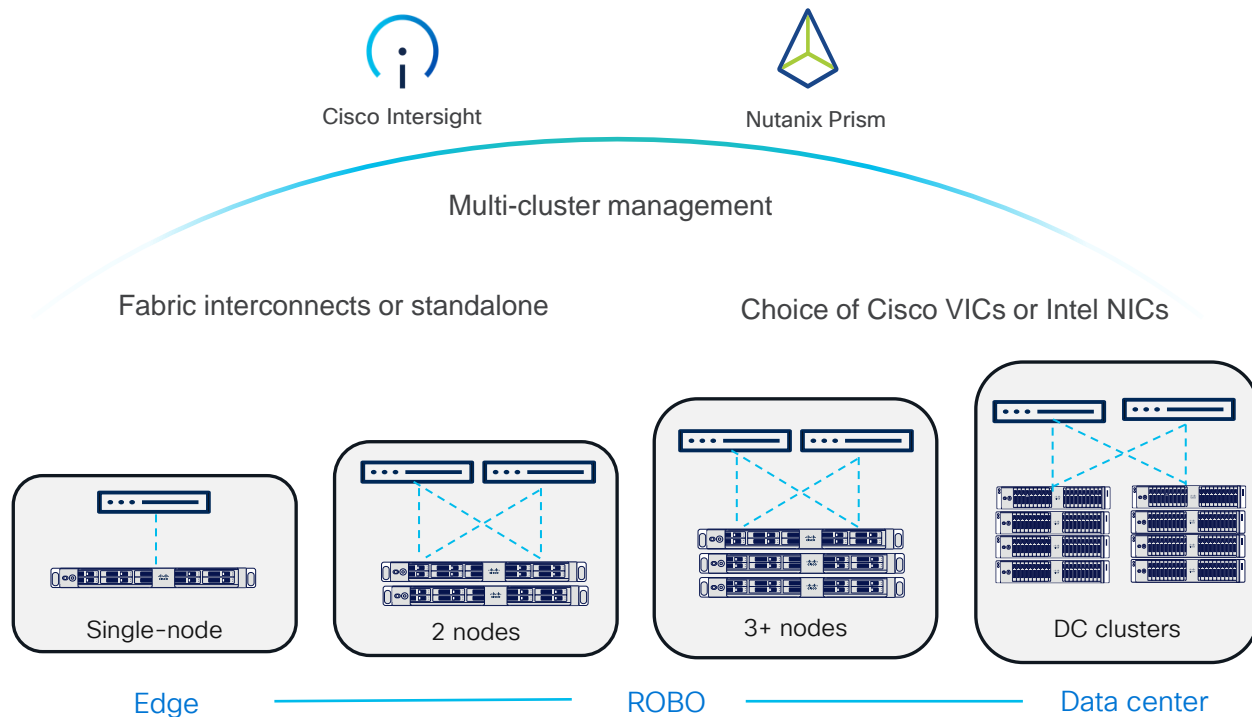
Reuse and Repurpose Servers

- Reuse and repurpose existing servers with qualified components as Nutanix HCI nodes while still enjoying the <u>same deployment and operational automations as factory-prepped appliances</u>

- Cisco can convert newly purchased HCI nodes back to regular x86 servers for other use cases (Red Hat, bare metal, VMware, etc.)

  - Provides investment protection with a standardized platform, including management, without being tied to an architecture

Cisco M6/M7 general purpose
rackmount <u>and modular*</u> servers

Cisco Compute Hyperconverged
with Nutanix Cluster
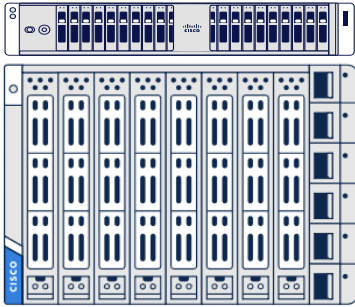
* M7 only retrofit with modular servers
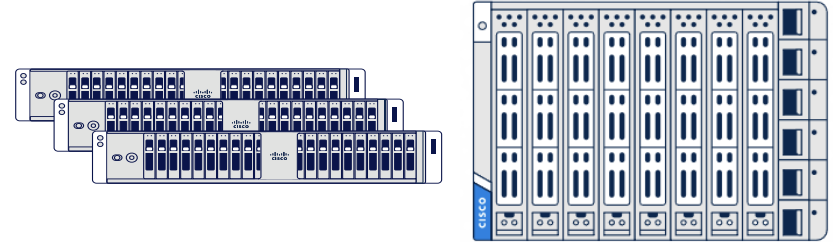
Nutanix GPT in a Box on Cisco

Designed, tested and validated with best practices for deployment

Retrieval Augmented Generation

Foundation models

Kubeflow

PyTorch

Kubernetes

AHV virtualization

Nutanix AOS

Nutanix files storage and object storage

Cisco Intersight

Cisco UCS C-Series and X-Series
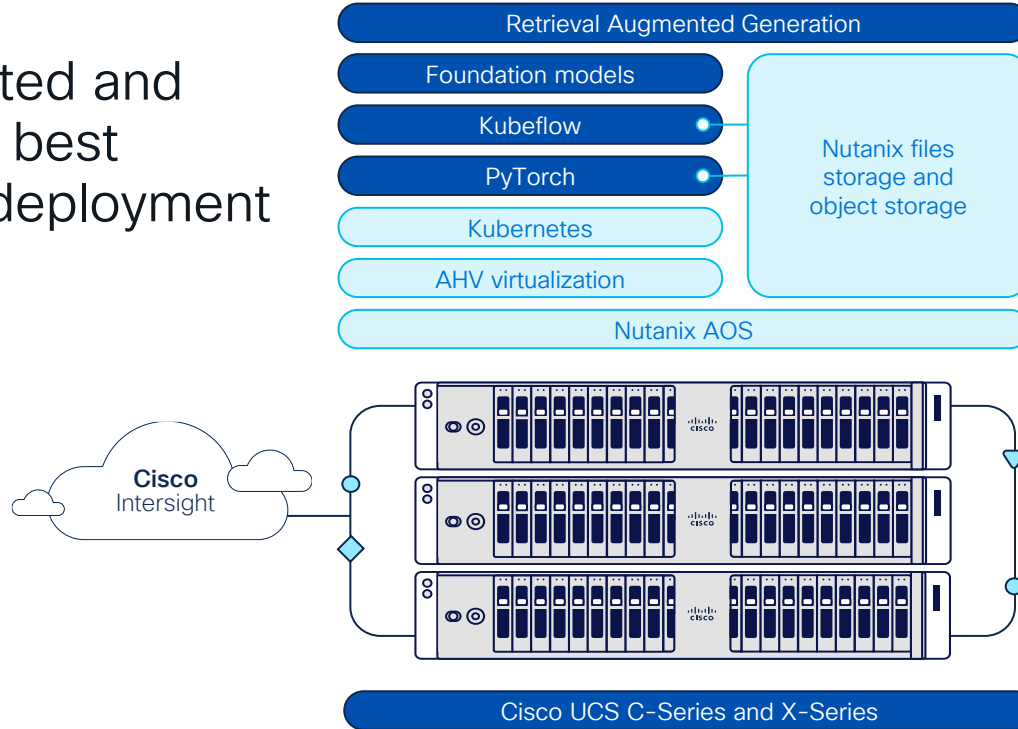
Opinionated AI stack

GPU-enabled

Select GPU according to availability and need (NVIDIA L40s CVD target)

Stack offers

- PyTorch (AI Framework)
- Kubeflow (MLOps)
- BYO Model

Red Hat OpenShift Container Platform

	vmware	**NUTANIX**	**RED HAT OPENSHIFT**	**Microsoft Azure**	**Bare Metal**
Relative positioning	vSphere — Server Virtualization	AHV or vSphere — Server Virtualization	OpenShift Virtualization — Server Virtualization	Hyper-V — Server Virtualization	Any — Server Virtualization
	Tanzu — Containers	NKP, OpenShift, Anthos, Rancher & — Containers	OpenShift — Containers	AKS — Containers	Any — Containers
	Cloud Foundation — Hybrid Multicloud	Enterprise Cloud — Hybrid Multicloud	OpenShift — Hybrid Multicloud	Azure Local — Hybrid Multicloud	Any — Hybrid Multicloud
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Technical Stakeholder	Server/Virtualization operations	Server/Virtualization operations	DevOps	Server/Virtualization operations, DevOps	Server/Virtualization operations, DevOps
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Red Hat OpenShift Container Platform

OpenShift Virtualization

Server Virtualization

OpenShift

Containers

OpenShift

Hybrid Multicloud

CI + HCI

DevOps

Market leader for on-premise container platform with option for server virtualization.

Relative positioning

Platform

Technical Stakeholder

Platform

A Leader in Container Platform

Red Hat OpenShift Container Platform (OCP) give customers a matured platform and ecosystem to run and manage containerized workloads in the datacenter and across clouds.

Validated Solutions / Patterns

Validated pattern supports companies deploying solutions and reducing risk and time.

Application Modernization

Red Hat OCP helps companies to adopt containerized application and cloud native workload in the data center and across clouds and manage them from a single place.

Cisco + Red Hat message

Consolidate containers and VMs with OpenShift on bare-metal UCS to build private cloud as part of a true hybrid multi-cloud solution.

Unleash the power of AI by deploying a full-stack AI solution on OpenShift on UCS. Use OpenShift AI to manage lifecycle of AI models.

Harness the power of edge workloads with the new purpose-built edge infrastructure running the industry leading container platform. All managed at scale from the cloud.

Intersight provisioning for Assisted Installer

Automate
Automating the boot process using Intersight reduces manual tasks and failures.

Simplicity
Bringing the power of Intersight to the Red Hat Administrator inside their own tools

Seamless Integration
Cross launch provides a smooth integration without the need for API key exchanges

Intersight provisioning for Assisted Installer

OpenShift Admin

Red Hat OpenShift Assisted Installer

Cisco Intersight

1. create OpenShift cluster

2. Boot servers from Discovery ISO

3. boot from ISO

4. install OpenShift

What's Next?

MCE / ACM Integration

Intersight / Hybrid-Cloud Console integration

Validated-Pattern / Edge Solution

Red Hat OpenShift Virtualization

- Virtual machines
  - Running in containers, managed as Pods
  - Using the KVM hypervisor
- Scheduled, deployed, and managed by Kubernetes
- Integrated with container orchestrator resources and services
  - Networking connectivity
  - Persistent storage
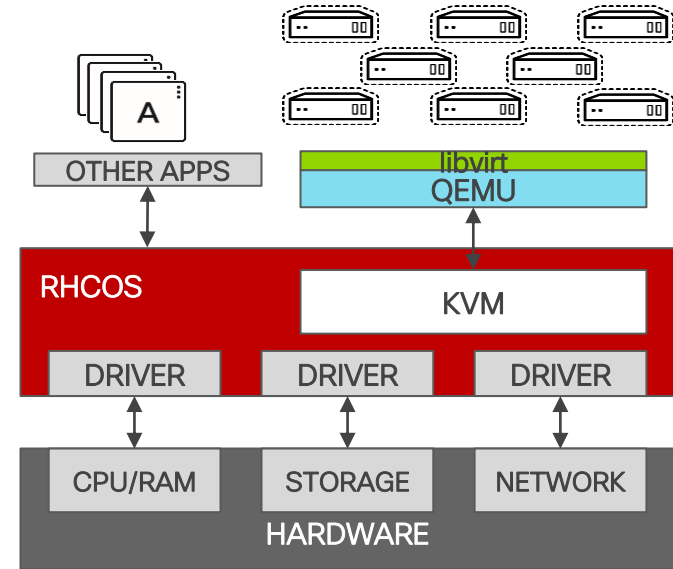
How Cisco and Red Hat helps

We deliver a validated, full-stack, private cloud platform

for deploying applications in containers and VMs, running AI workloads, and automating your infrastructure from Cisco

Cloud-Native Apps

Traditional Apps

AI Apps & Models

AI tooling

Containers

Virtual Machines

Automation

Modern compute

Application Platform Modernization, AI-ready Infrastructure

So you can:

Reduce costs
With future-ready, sustainable, and secure compute infrastructure

Deploy apps faster and securely
Consolidate container and virtualization platforms

Support AI initiatives
Build, train, and maintain inferencing solutions to delight your customers

Red Hat OCP and ODF – Hyperconverged Container Platform

- Cisco UCS X-Series connected to FI and managed by Intersight through IMM

- Configuration and deployment through Intersight Ansible

- Automated install

- Preparation of all nodes through Ansible

- Install of OCP, Ceph, and ODF

Intersight

Red Hat Ceph Storage

Red Hat OpenShift

Red Hat OpenShift Data Foundation

Microsoft Azure Local with Hyper-V

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Microsoft Azure Local with Hyper-V

A Leader in Virtualization

Hyper-V provides an extremely feature rich virtualization alternative whose license is included with each Windows Server license. Many customers already have Hyper-V licenses and just don't know it!

Consistent Management

Microsoft Azure Arc provides a consistent management overlay to enable customer to manage data on-premise on Azure Local and in Azure public cloud.

Application Modernization

Hyper-V combined with Azure services helps companies adopt containerized applications and cloud native workloads in the data center

Cisco + Microsoft offering

Consistently build and run hybrid apps across on-premises, cloud, and edge with Azure and Azure Local providing optimal system performance

Flexible, powerful designs hosting a wide range of workloads from AI to VDI. Leveraging the latest in Cisco and MSFT technology.

Long and extensive partnership jointly developing solutions for on-premise and Azure based deployments. Support teams collaborate on customer issues.

Hyper-V is core to Microsoft Solutions

- Azure

- Azure Local

- Windows Server/Windows
- SQL Server

- Containers with Hyper-V isolation

- Platform Security

- Xbox
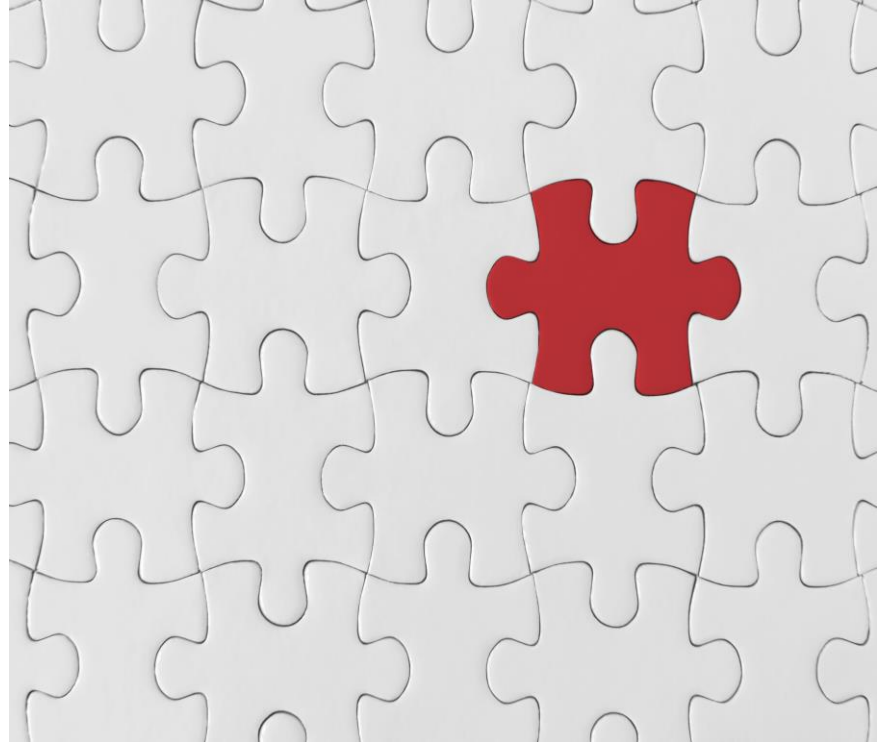
Windows Server 2025 Hyper-V New Features

- GPU Partitioning (GPU-P)
- GPU-P with Live Migration
- GPU-P with High Availability
- Dynamic Processor Compatibility
- Workgroup Hyper-V Clusters
- Network ATC
- Native ReFS Deduplication & Compression
- VM Performance Improvement
  - Host – Up to 4 PB Memory
  - Host – Up to 2048 Logical Processors
  - VM – 240 TB Memory
  - VM – 2048 Virtual Processors

Hyper-V

Hyper-V
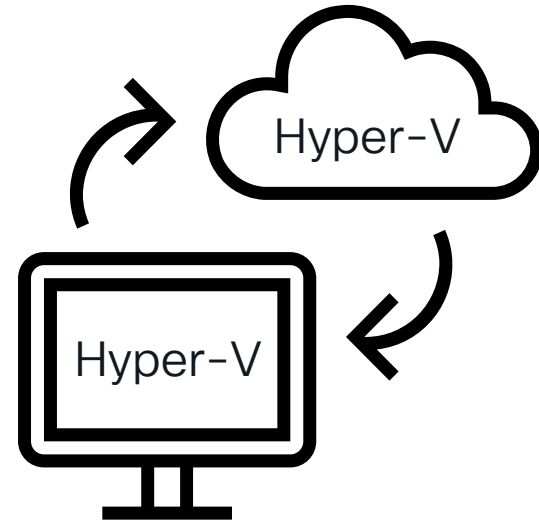
Validated Azure Local Design

Cisco TAC Services

Cisco Intersight

Cisco Azure Local

9336C-FX2   9336C-FX2

C240 M7sn

+
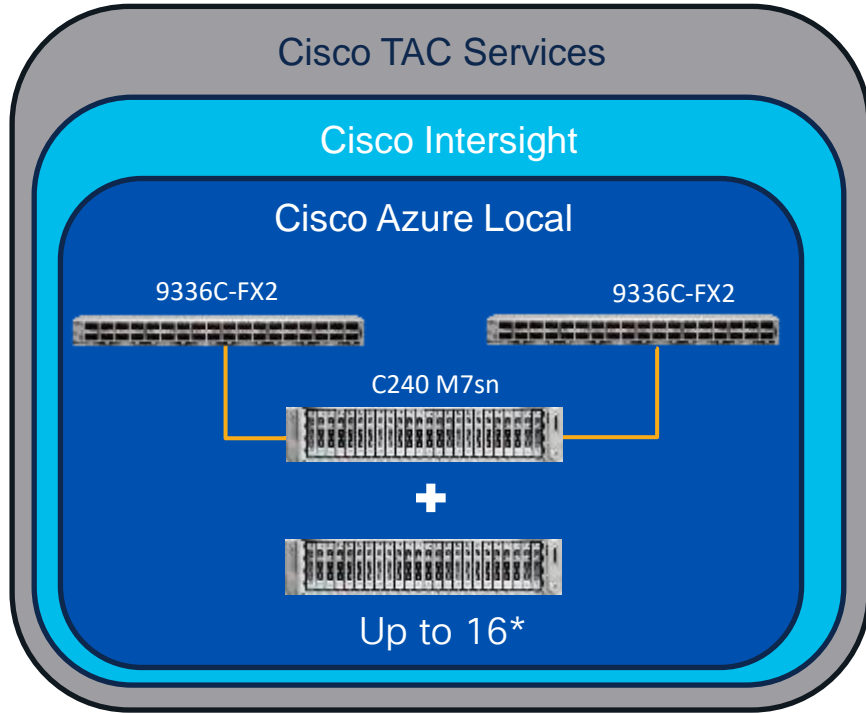
Up to 16*

- Scale from 1 to 16 nodes, initially or add-on*
- 5th gen Intel Xeon Scalable processors
- Storage: Single tier all NVMe**
- Up to 100G End to End
- Support for optional Nvidia GPUs
- Intersight cloud-based management
- Nexus 9300-Series ToR switches
- NX-OS or ACI choice
- No single points of failure
- Contact <u>either</u> Cisco or Microsoft for support

* Microsoft requires server nodes configured **EXACTLY** same.
** Windows Server 2025 increase NVMe performance by 60%.

ACI Whitepaper for Azure Local: https://www.cisco.com/c/en/us/td/docs/dcn/whitepapers/ACI_AzureStackHCI_whitepaper.html

cisco *Live!*

Azure Local Software Architecture

Accessed From Azure

Azure Stack HCI solution

Connect remotely to Azure services

Windows Admin Center UI

Windows Server VMs | Linux server VMs | Azure Kubernetes Service
On-premises Hyper-V

Hyper-V | Storage Spaces Direct | Software-Defined Networking
Azure Stack HCI OS

Validated partner hardware

Range of services become available after HCI OS:
- Azure Backup
- Azure Site Recovery
- Azure File Sync
- Azure Monitor
- Azure Update Management

- Includes product support
- Automatic patching & security updates
- Requires connection to Azure, every 30 days.

CISCO

Cisco – Unique Advantage for Azure Local

- Cisco Intersight provides ability to turn core on/off with system reboot

- Azure Stack HCI OS only needs to be licensed on cores it sees (turned on)

Intel 8380 (40 cores)
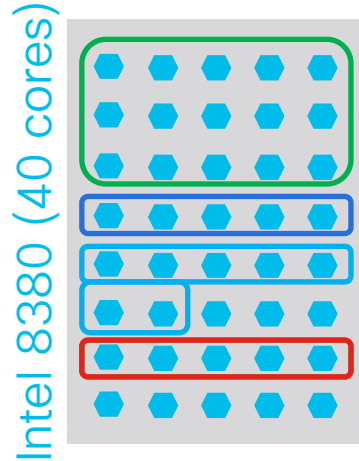
Initial order, enable 15 cores.

+ 1 year, enable 5 cores, add

+ 6 months, enable 7 cores, add

+ 6 months, enable 5 cores, add

+ 6 months, drop 5 cores, remove

License = $1,800/yr

License = $ +600/yr

License = $ +840/yr

TOTAL $ 3,240/yr

License = $ +600/yr

License = $ –600/yr

Note: Azure Local OS is $10/core/month

Cisco Advantages for Azure Local

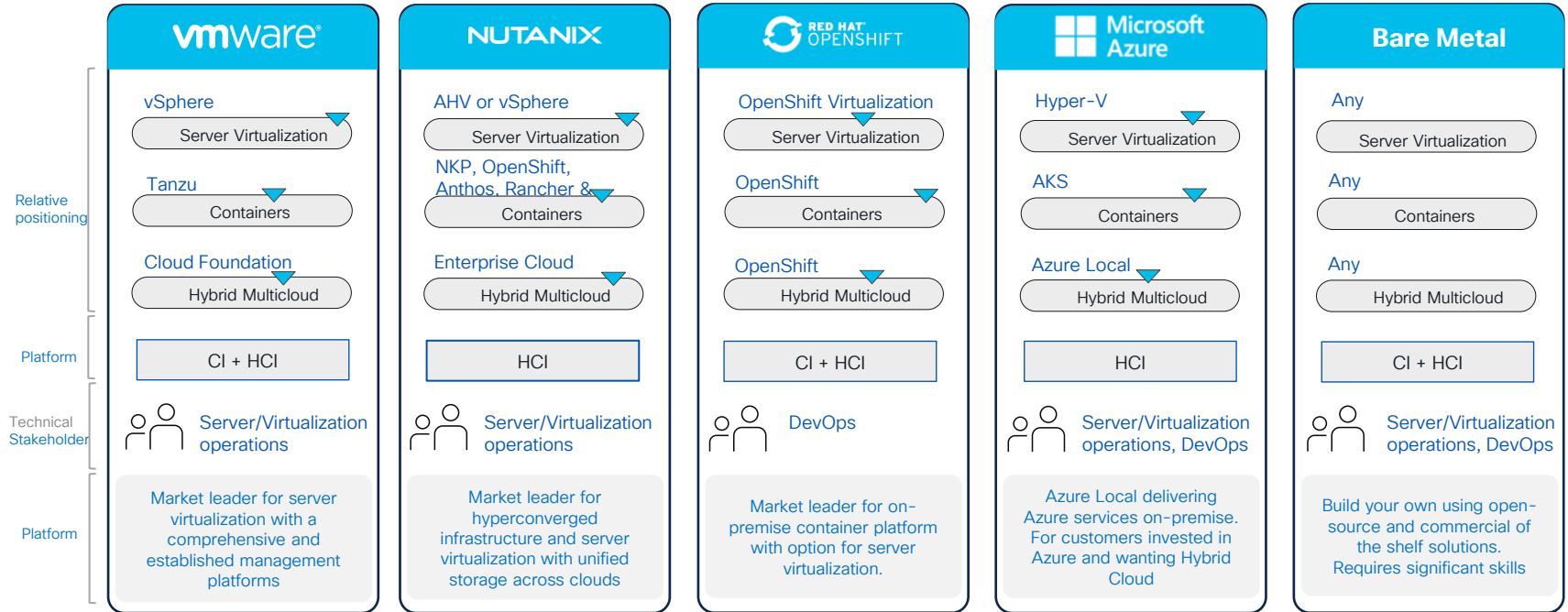|	
All system elements come from Cisco	Control all roadmaps and system integration points.
Nexus as networking and security standard	World's leading standard for data connectivity and security.
Utilize customer's choice of rack in data center	Maintains approved best practice for system rack.
Positioned for performance	All NVMe storage, 100G NIC, 5th Gen Scalable Intel Xeon CPUs.
Leverage eco-system partners and products	A wide range of management tools, data security, installation & consulting services, simple updating processes.
Cloud based management	Intersight policies across multiple locations, global patch management. Azure Stack HCI OS updated directly from Azure.
Cisco Support	Collaborative Support – Contact either Cisco or Microsoft.

Bare Metal and other Solutions

	vmware®	NUTANIX	RED HAT OPENSHIFT	Microsoft Azure	Bare Metal
Relative positioning	vSphere — Server Virtualization	AHV or vSphere — Server Virtualization	OpenShift Virtualization — Server Virtualization	Hyper-V — Server Virtualization	Any — Server Virtualization
	Tanzu — Containers	NKP, OpenShift, Anthos, Rancher & — Containers	OpenShift — Containers	AKS — Containers	Any — Containers
	Cloud Foundation — Hybrid Multicloud	Enterprise Cloud — Hybrid Multicloud	OpenShift — Hybrid Multicloud	Azure Local — Hybrid Multicloud	Any — Hybrid Multicloud
Platform	CI + HCI	HCI	CI + HCI	HCI	CI + HCI
Technical Stakeholder	Server/Virtualization operations	Server/Virtualization operations	DevOps	Server/Virtualization operations, DevOps	Server/Virtualization operations, DevOps
Platform	Market leader for server virtualization with a comprehensive and established management platforms	Market leader for hyperconverged infrastructure and server virtualization with unified storage across clouds	Market leader for on-premise container platform with option for server virtualization.	Azure Local delivering Azure services on-premise. For customers invested in Azure and wanting Hybrid Cloud	Build your own using open-source and commercial of the shelf solutions. Requires significant skills

Bare Metal and other Solutions

Bare Metal

Any
Server Virtualization

Any
Containers

Any
Hybrid Multicloud

CI + HCI

Server/Virtualization operations, DevOps

Build your own using open-source and commercial of the shelf solutions. Requires significant skills

Relative positioning

Platform

Technical Stakeholder
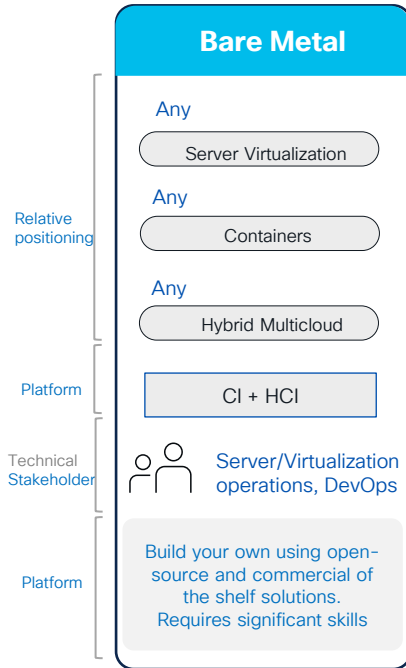
Platform

Stateless Computing

Cisco UCS provides a stateless compute platform allowing companies to use and re-use existing hardware based on application and business demand.

Broad Partner Ecosystem

A broad range of supported and certified hardware and software components to build virtualization and container solutions of any scale.

Application Modernization

Cisco UCS provides a versatile platform to help customers running bare-metal, virtualized, and containerized applications and use-cases.

UCS Infrastructure Solutions – Ready to Scale

Manage all your UCS servers regardless of their location from a single pane of glass

Utilize recognized best practices to design and implement and manage your solution stack.

Integrate with the forthcoming Edge Compute Platform to efficiently manage bare-metal, virtual, and container workloads across any location.
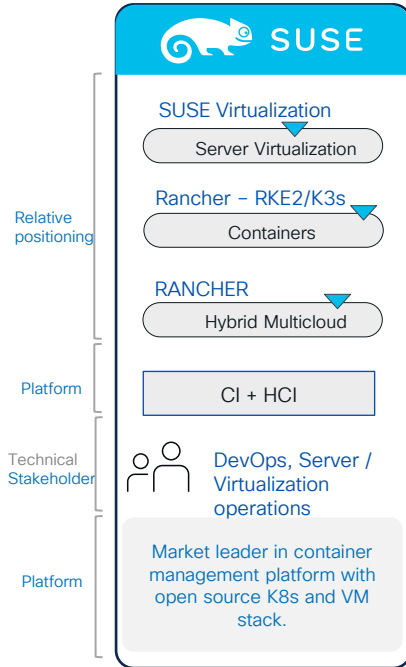
Bare-Metal = Build your own Stack ?

Any supported Operating System

Any supported Virtual Machine Manager or Container Manager

Any OS, VM and Container Management tool

SUSE Virtualization and SUSE Rancher

SUSE

Relative positioning	SUSE Virtualization
	Server Virtualization
	Rancher – RKE2/K3s
	Containers
	RANCHER
	Hybrid Multicloud
Platform	CI + HCI
Technical Stakeholder	DevOps, Server / Virtualization operations
Platform	Market leader in container management platform with open source K8s and VM stack.

A Global Leader in Container Management

Simplifies and addresses the operational and security challenges of managing multiple Kubernetes clusters across any infrastructure.

Open-Source Efficiency

Avoid vendor lock-in, reduce TCO, and maximize certified hardware use with scalable, secure open-source solutions.

Enhanced Security and Innovation

A single, secure, and scalable platform to manage VMs and containers while bridging legacy and cloud-native solutions for reliable application deployment.

DC to Cloud to Edge with Cisco and SUSE

Validated Solutions for Enterprise Applications, Container workloads and virtualization. Helping customers Modernize applications for secure scaling across any infrastructure
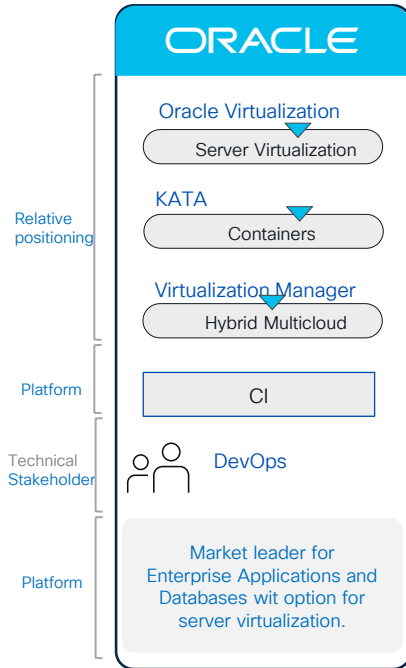

Open-Source architecture to right-size the solutions to your ideal technical and business outcomes.

SLE / SLE Micro
RKE2 / K3S / Harvester
Single-node / Multi-node

Infrastructure & workload observability, management, and updates across data centers, cloud, and edge locations.

Oracle Virtualization

Oracle Virtualization is designed for hybrid cloud
Backed by affordable enterprise support for hybrid environments, reducing operation and support costs while increasing IT efficiency and agility—on premises and in the cloud.

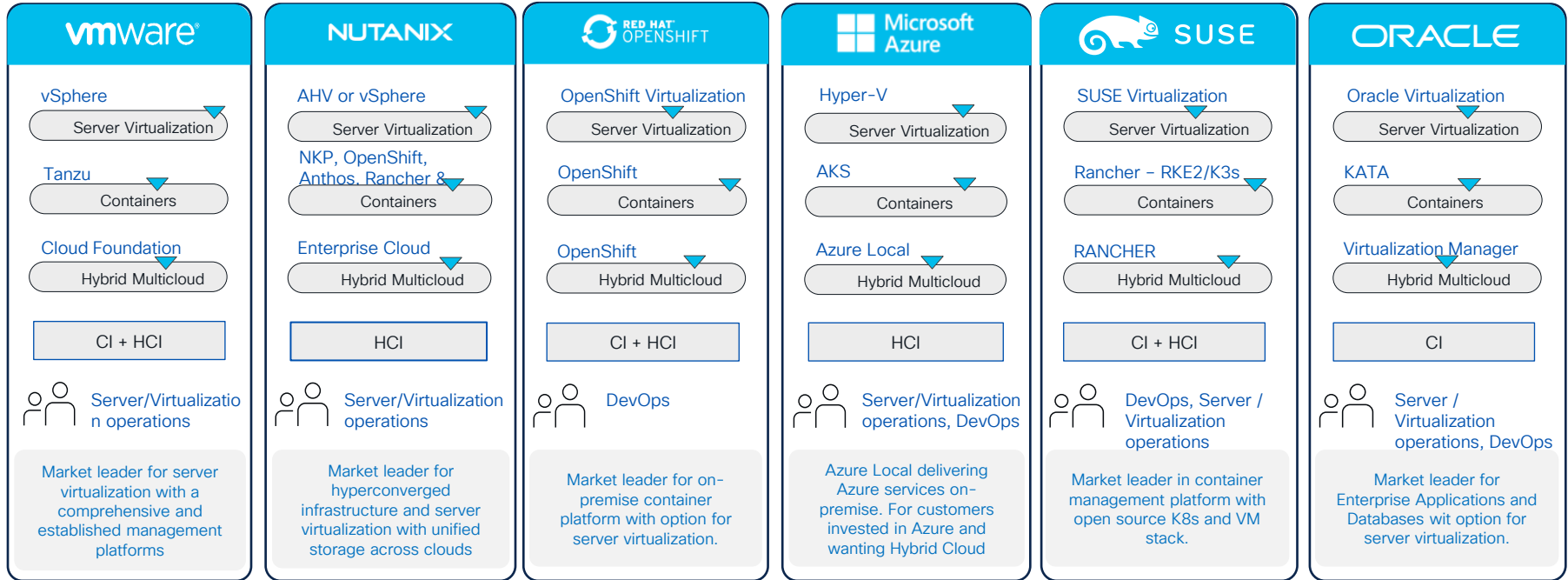**Speed of containers with the isolation of VMs**
Kata Containers is an Open Container Initiative compliant runtime that uses lightweight virtual machines to provide isolation using hardware virtualization technology.

Integration

Oracle VM server virtualization software is supported by a long list of partners to support management, monitoring, data protection, and other important services and tasks.

Many Options One Platform - Cisco UCS

vmware®	**NUTANIX**	**RED HAT OPENSHIFT**	**Microsoft Azure**	**SUSE**	**ORACLE**
vSphere	AHV or vSphere	OpenShift Virtualization	Hyper-V	SUSE Virtualization	Oracle Virtualization
Server Virtualization	Server Virtualization	Server Virtualization	Server Virtualization	Server Virtualization	Server Virtualization
Tanzu	NKP, OpenShift, Anthos, Rancher &	OpenShift	AKS	Rancher – RKE2/K3s	KATA
Containers	Containers	Containers	Containers	Containers	Containers
Cloud Foundation	Enterprise Cloud	OpenShift	Azure Local	RANCHER	Virtualization Manager
Hybrid Multicloud	Hybrid Multicloud	Hybrid Multicloud	Hybrid Multicloud	Hybrid Multicloud	Hybrid Multicloud
CI + HCI	HCI	CI + HCI	HCI	CI + HCI	CI
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Server Virtualization market disruption is happening
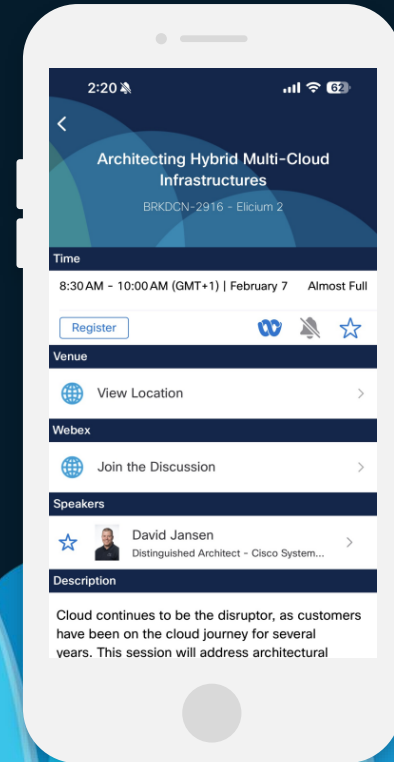
With Cisco UCS you have choices.

Webex App

Questions?
Use the Webex app to chat with the speaker after the session

How

1. Find this session in the Cisco Events 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 February 28, 2025.

Fill Out Your Session Surveys

Participants who fill out a minimum of 4 session surveys and the overall event survey will get a unique Cisco Live t-shirt.

(from 11:30 on Thursday, while supplies last)

All surveys can be taken in the Cisco Events mobile app or by logging in to the Session Catalog and clicking the 'Participant Dashboard'

Content Catalog

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 ciscolive.com/on-demand. Sessions from this event will be available from March 3.

Contact me at: Webex or LinkedIn

CISCO Live!

Thank you

CISCO *Live!*

GO BEYOND