

Diverse Virtualization Deployment Strategies with Cisco UCS

CISCO Live !

VMware, Red Hat, Azure, Nutanix, and More

Chris Gascoigne
Principal Solutions Engineer

Cisco Webex App

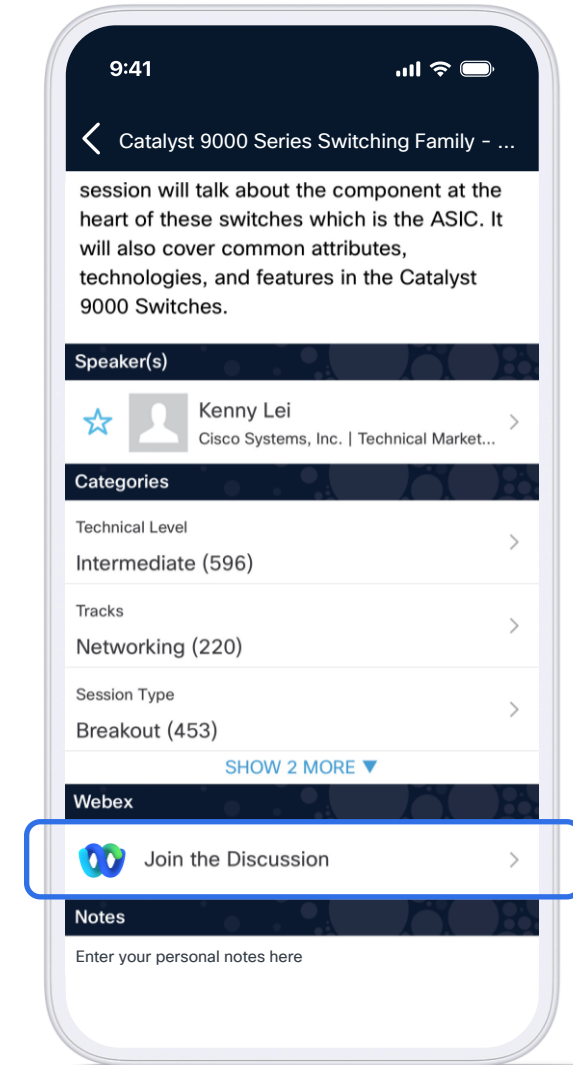
Questions?

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 14 November 2025.



<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKCOM-2460>

Agenda

- 01 Introduction
- 02 Broadcom / VMware
- 03 Cisco HCI with Nutanix
- 04 Red Hat OpenShift Platform
- 05 Cisco HCI with Microsoft Azure Local
- 06 Bare Metal and more
- 07 Closing



*Let's talk
about the
elephant in
the room ...*

“The server virtualisation 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

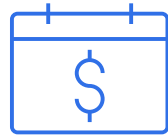


Significant Broadcom Changes

Organisations already seeing 2x-6x increases at renewal



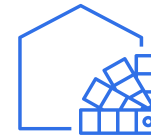
Ending perpetual
licenses



Transition to
subscription
licensing



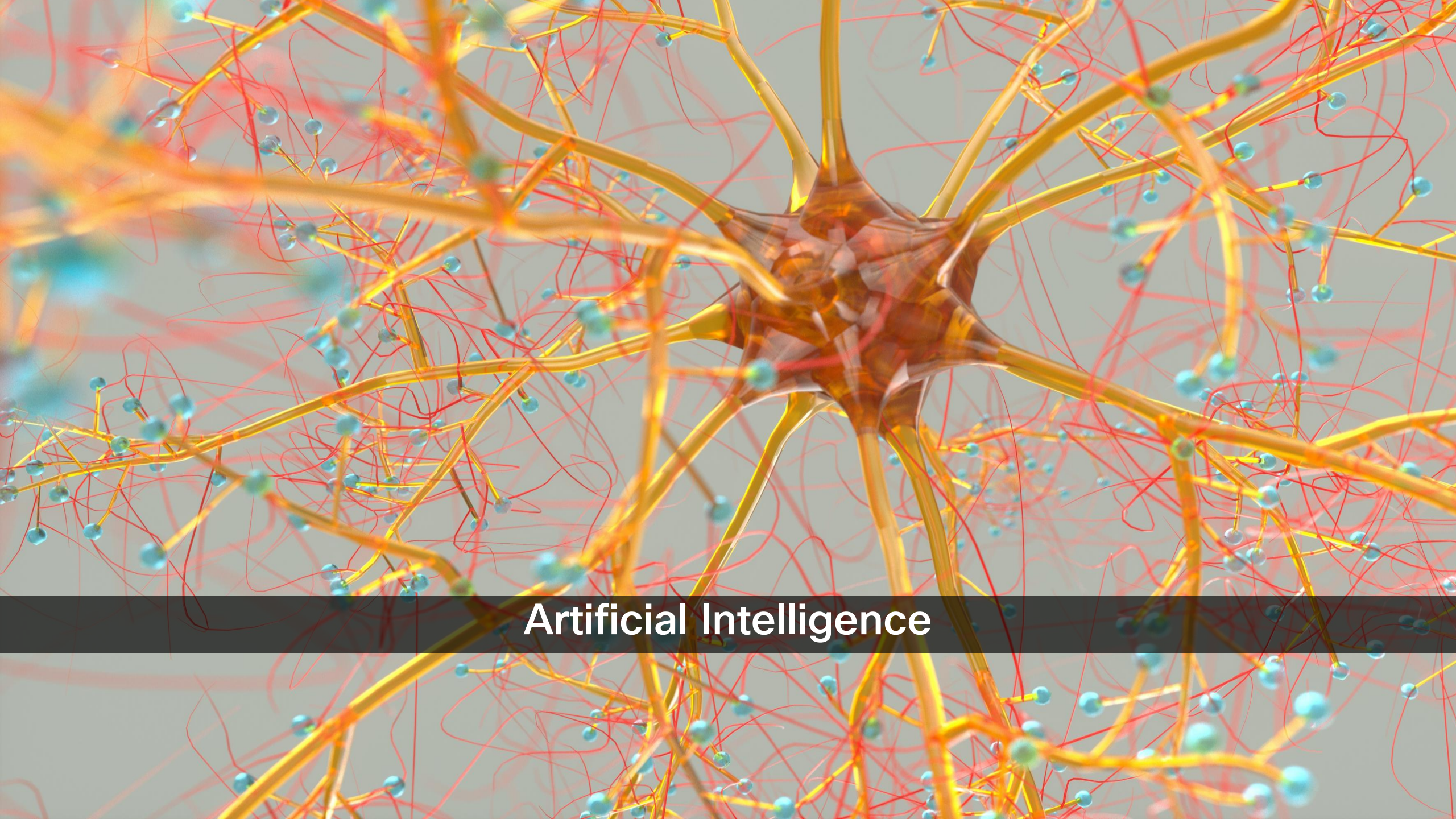
Move from CPU to
Core based
licenses



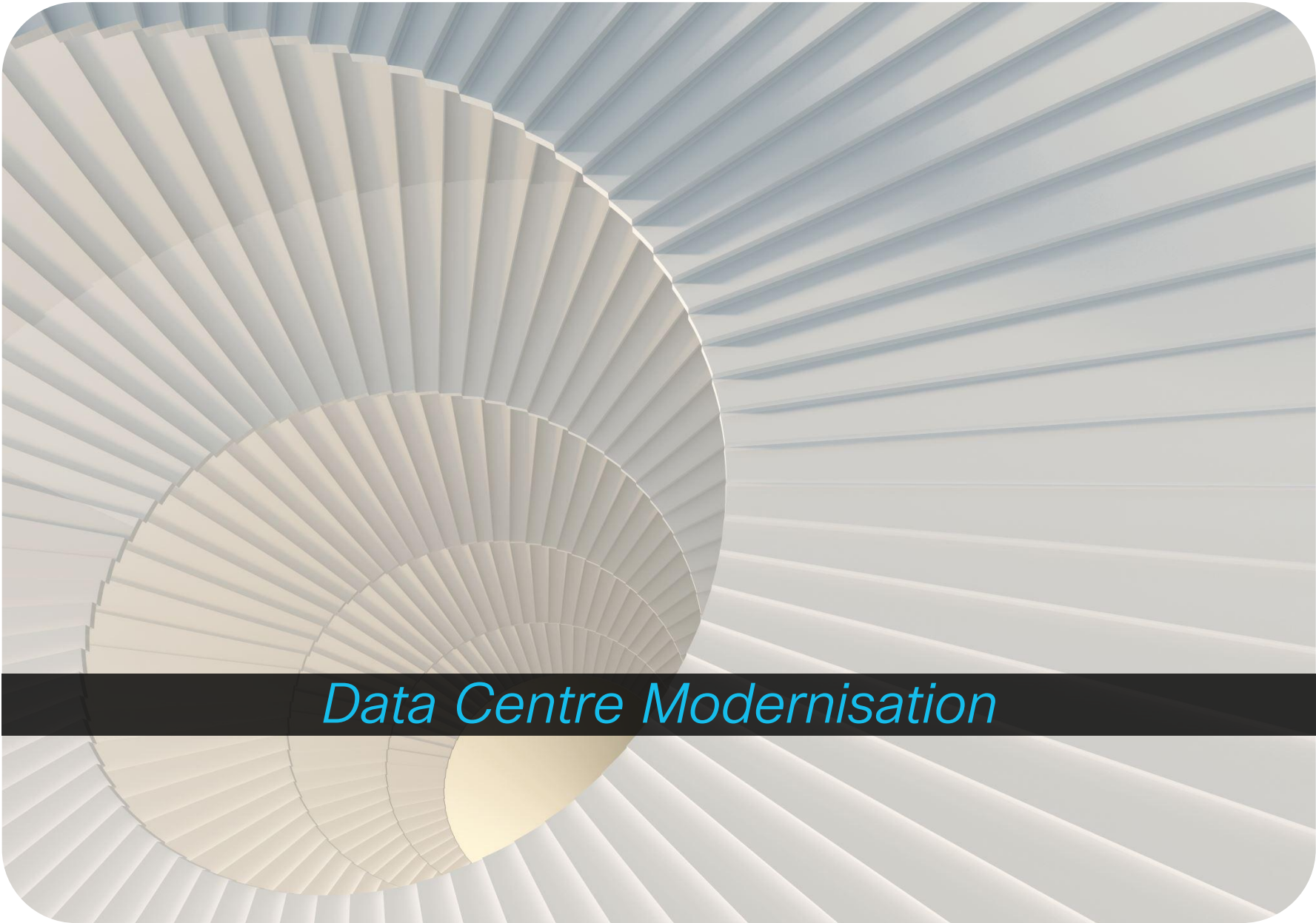
Reduce portfolio
to 4 packages*,
enforced VCF for
“strategic”
customers



*Let's talk
about the
other elephant
in the room ...*



Artificial Intelligence

The background features a series of concentric, semi-circular patterns on the left side, resembling a fan or a stylized sunburst. These patterns are composed of many thin, overlapping segments in shades of light blue, grey, and a hint of yellow. To the right of these patterns, there are several parallel, slightly curved lines that create a sense of depth and perspective. A solid black horizontal band runs across the middle of the image, serving as a backdrop for the title text.

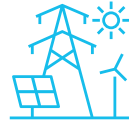
Data Centre Modernisation

Applications redefining IT

SUSTAINABILITY

Performance, Power and Footprint

Data centre power consumption accounts for up to 50x that of a typical commercial office building³



750M

new applications
by 2025

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

80% plan full GenAI adoption in 3 years with 50% of data being generated at the edge



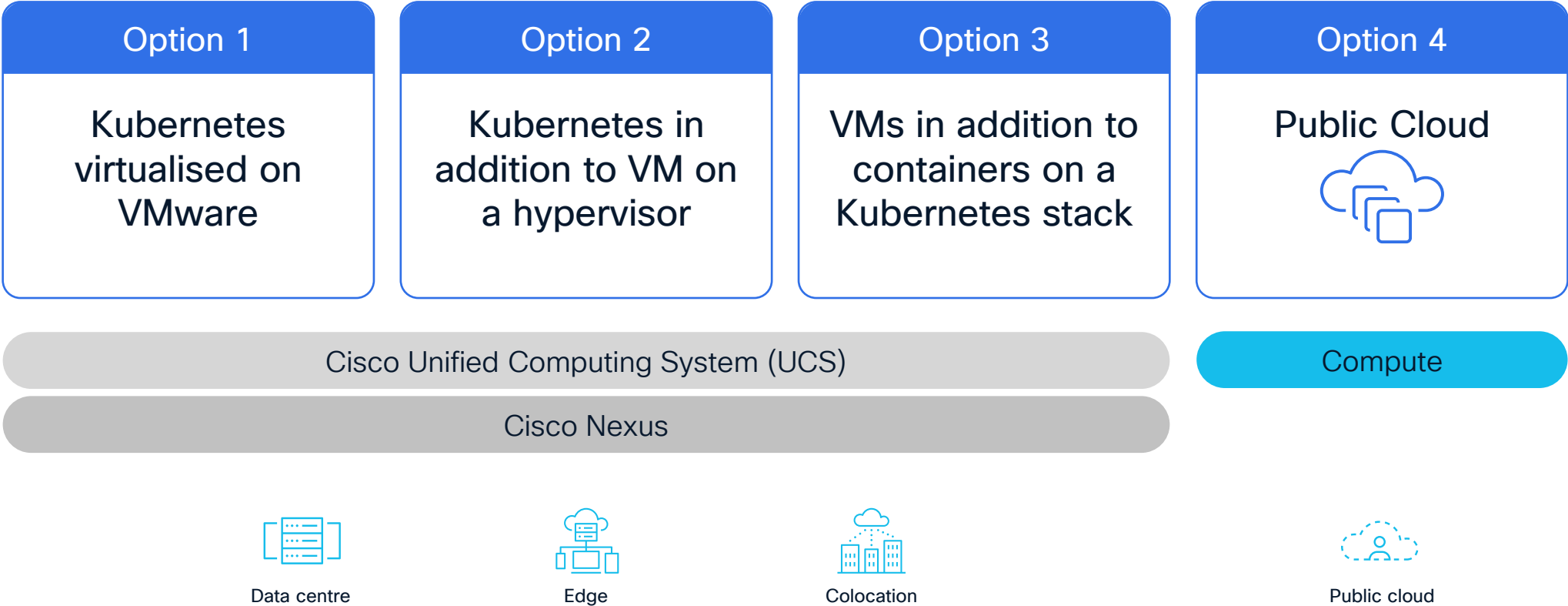
SECURITY

Growing Attack Surface and Vectors

69% of organisations say multicloud security configuration challenges led to data breaches or exposures²

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

What is your Stack for the Future?



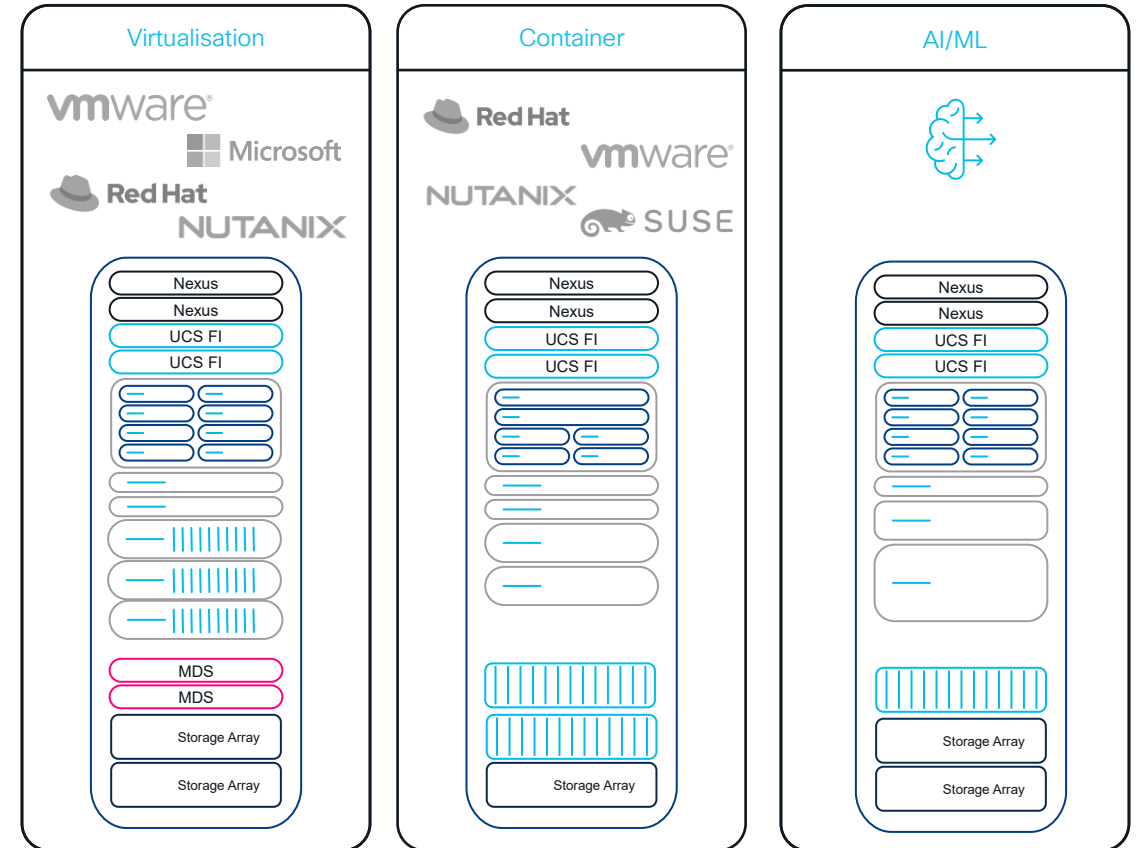
Infrastructure modernisation Solutions

CVDs offering choice and flexibility for a variety of deployment types.

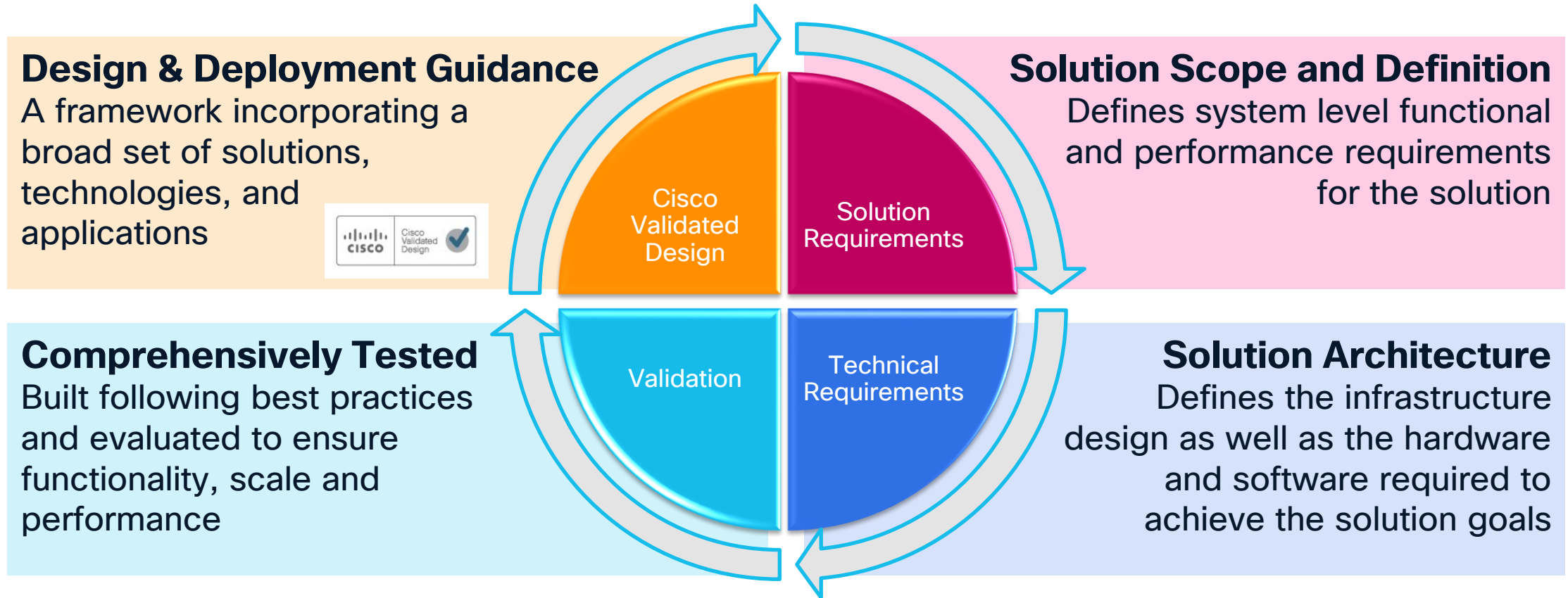
Pre-designed data centre architectures that incorporate Cisco computing, Cisco networking, storage and virtualisation delivering best practice design, compatibility and lowering business risk.

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

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

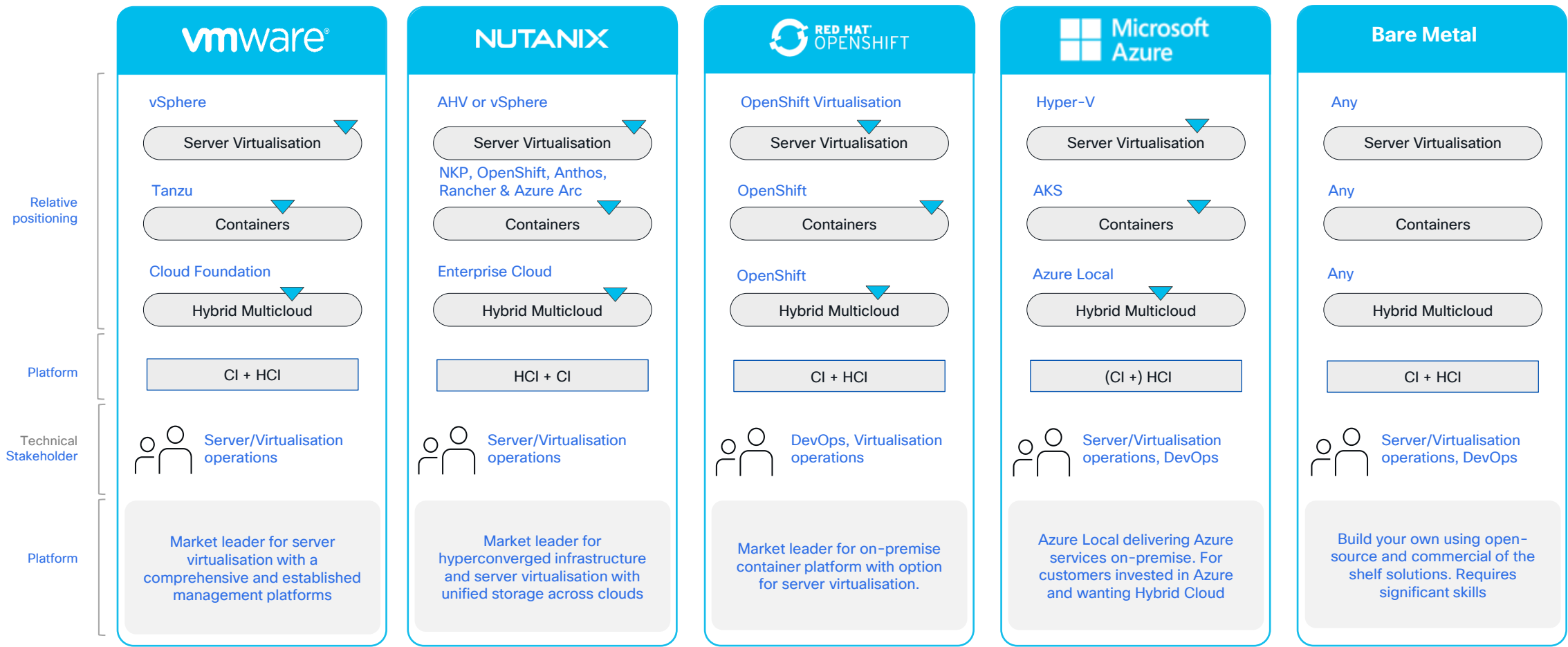


Cisco Validated Design Process



Easily Deploy New Systems With Expert Guidance
Consistent, Successful Technology Deployments Addressing Business Initiatives

Application Platform Modernisation Crossroads



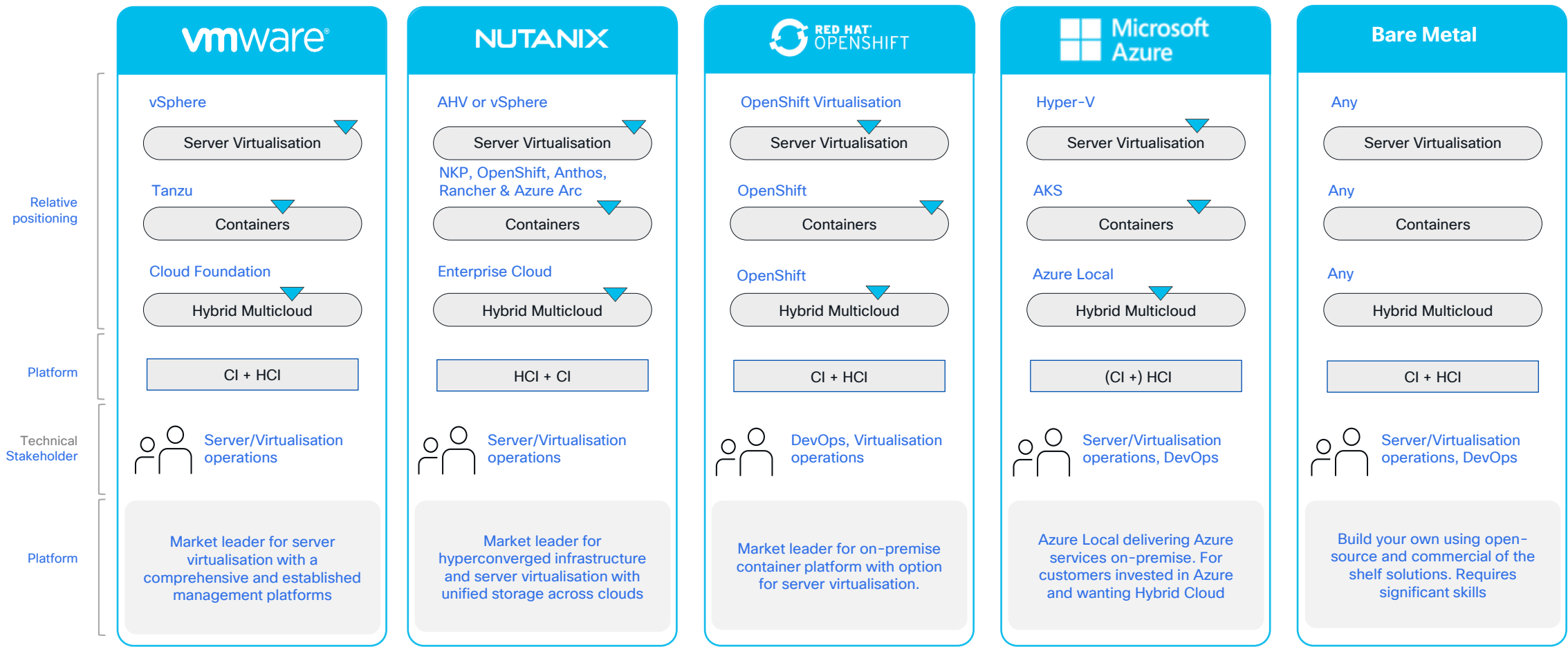
A close-up, low-angle shot of a person's hands. The left hand is resting on a tablet, with fingers slightly spread. The right hand is holding a yellow card, possibly a credit card, and is positioned as if about to tap it on the tablet. The background is blurred, showing a desk and some office equipment. The lighting is warm and focused on the hands and the tablet.

**Server Virtualisation market disruption is
happening!**

With Cisco UCS you have choices.

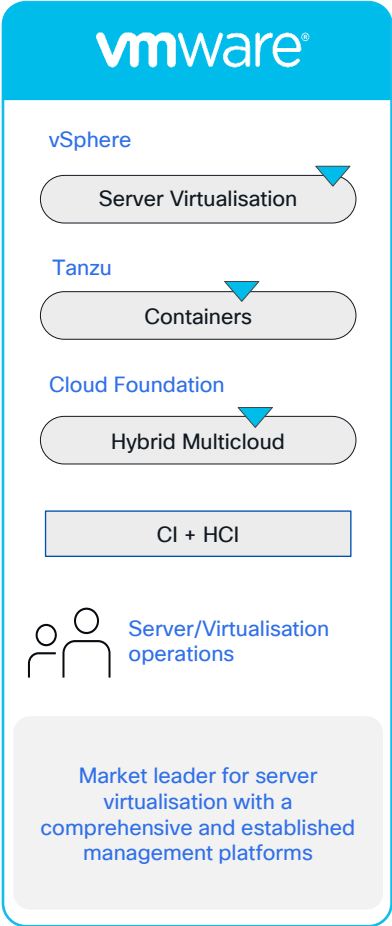
Application Platform Modernisation Crossroads

VMware



Application Platform Modernisation Crossroads

VMware



A Leader in Virtualisation

VMware give customers the most matured platform and ecosystem for virtualisation in the datacentre and across clouds.



Broad Partner Integrations

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



Application Modernisation

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

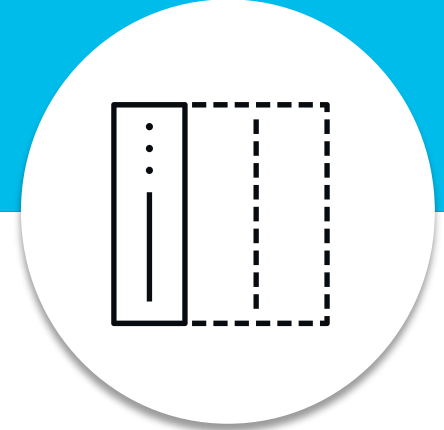
Cisco solutions to continue with VMware



Deliver VMware on Cisco
Converged and **Hyperconverged**
infrastructure assured by Cisco
Validated Designs.



Manage and optimise the
VMware Software Defined data
centre with VMware Cloud
Foundation or VMware vSphere
Foundation deployed on Cisco
UCS series



Optimise VMware licensing costs
through server refresh and
consolidation

Validated Solutions for VMware



FlexPod



FlashStack

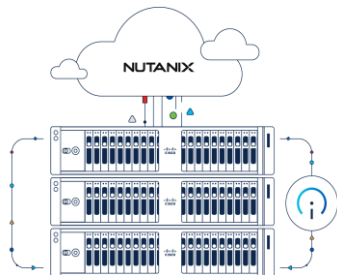
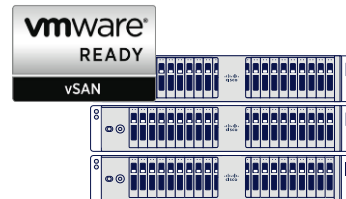


Hitachi Vantara

Validated and Integrated Solutions to reduce deployment time and risk

Pre-designed data centre architectures that incorporate Cisco computing, Cisco networking, storage and VMware virtualisation 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.

Intersight and VMware

VMware Inventory in Intersight



See
the Information you need



Connect
the information and components



Operate
Simplified operation through Information

Claim vCenter in Intersight

Intersight

Search

53

159

68

Schedules

Service Catalog

System

Targets

Software Repository

Diagnostic Data

Audit Logs

Sessions

Licensing

Organizations

Resource Groups

Account Details

Access Details

Settings

SYSTEM

Email Notifications

IP Access Management

Security & Privacy

AUTHENTICATION

Single Sign-On

← Targets

Claim a New Target

Claim VMware vCenter Target

To claim any on-premises target an Cisco Assist Appliance is required. Deploy and claim an Cisco Assist Appliance if needed before claiming the target

Cisco Assist * ⓘ

Hostname/IP Address * ⓘ

Port ⓘ

Username * ⓘ

Password * ⓘ

Secure Connection ⓘ

Certificate ⓘ

Select Certificate

Enable Datastore Browsing ⓘ

Enable Guest Metrics ⓘ

Enable Hardware Support Manager Plugin ⓘ

Enable Cisco Intersight Plugin for VMware vSphere Client ⓘ

intersightassist.nsd5.ciscolabs.com

1.1.1.1

443

0 - 65535

Username

Password

Show

Enabling Hardware Support Manager Plugin will give escalated privileges to the vCenter target to perform firmware operations on UCS servers claimed in Intersight.

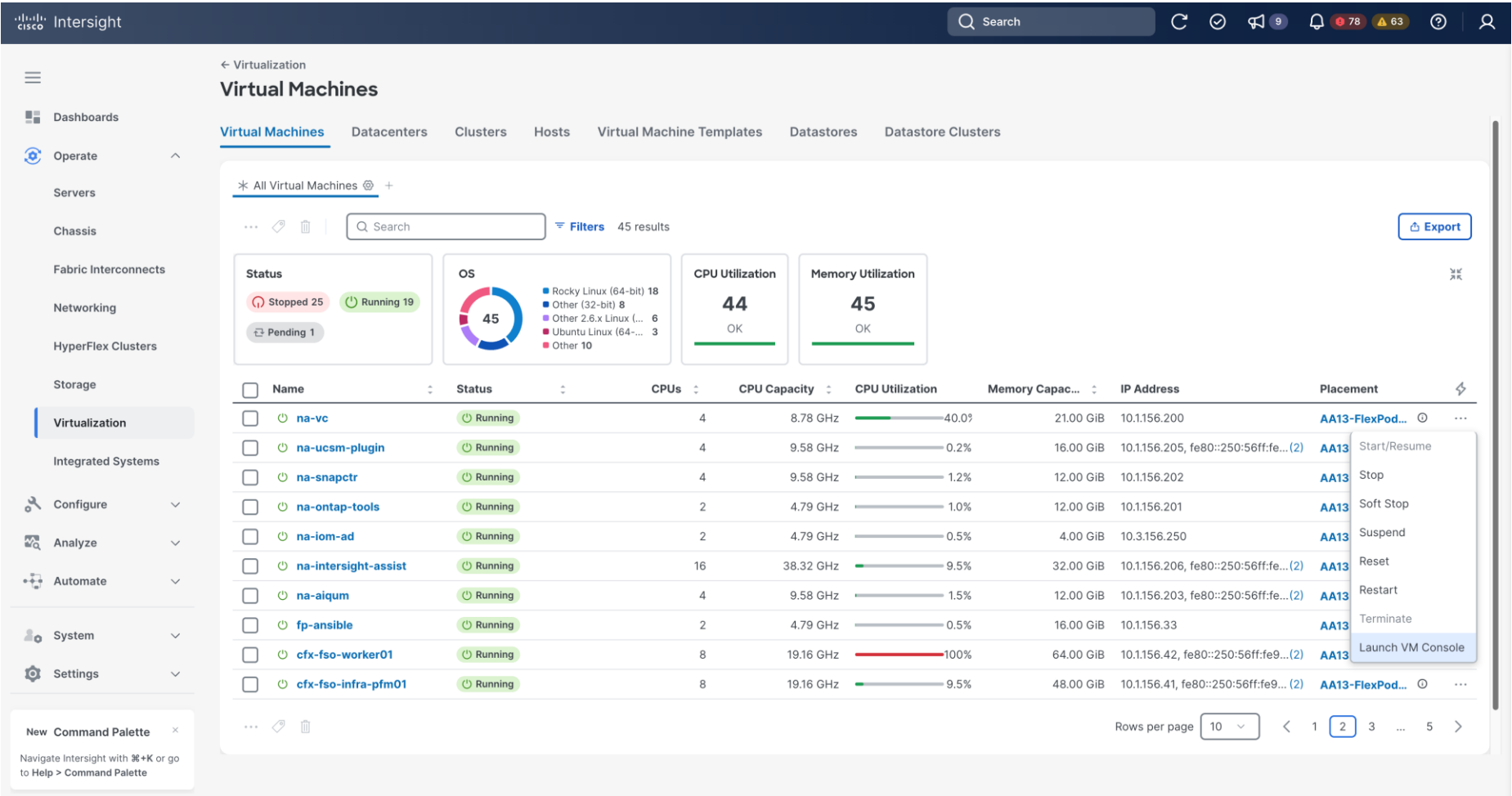
Enabling Cisco Intersight Plugin for VMware vSphere Client will give escalated privileges to vCenter target to operate and monitor Intersight and UCS resources claimed in Intersight. For more info, see [Target Claim Using VMware vCenter](#).

Back

Cancel

Claim

Core Virtual Machines operations



From the VM to the physical Server

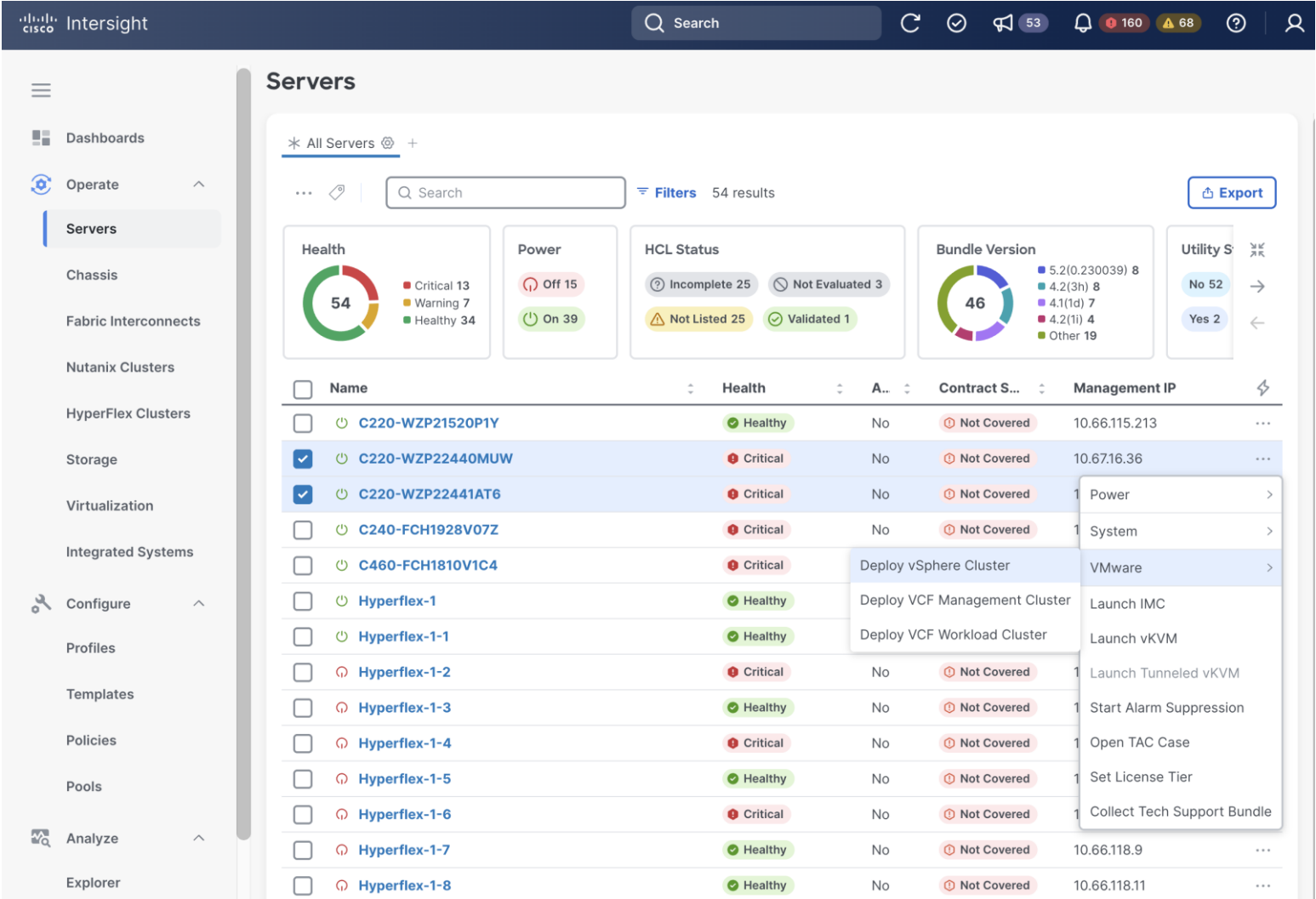
The image displays three overlapping screenshots of the Cisco Intersight web interface, illustrating the navigation path from a Virtual Machine (VM) to its physical host server.

Top Screenshot (Virtual Machines): The 'Virtual Machines' page shows a list of VMs. The VM 'aa16-vc' is selected. The 'Details' tab is active, showing the VM's status as 'Running'. The 'Host' field is highlighted with a red box, and a red arrow points from it to the host details page.

Middle Screenshot (Hosts): The 'Hosts' page shows a list of hosts. The host 'aa16-esxi-1.flexpod.cisco.com' is selected. The 'Details' tab is active, showing the host's status as 'OK'. The 'Server' field is highlighted with a red box, and a red arrow points from it to the server details page.

Bottom Screenshot (Servers): The 'Servers' page shows a list of servers. The server 'AA16-6454-1-1' is selected. The 'Details' tab is active, showing the server's status as 'Healthy'. The 'Properties' section shows the server's details, including the name 'AA16-6454-1-1', user label, UCS Server Profile 'aa16-esxi-1', and UCS Server Profile Status 'OK'. A photograph of the physical server is shown on the right.

Automate VMware deployments from Intersight



Manage Firmware from vCenter

meldc-prod-cluster-1

ACTIONS

SummaryMonitorConfigurePermissionsHostsVMsDatastoresNetworksUpdates

Hosts

Image

Hardware Compatibility

VMware Tools

VM Hardware

Edit Image

Select the version of ESXi and other components that you want for the hosts in this cluster. The same image will be applied consistently to all these hosts.

ESXi Version

8.0 U3e - 24674464

(released 04/10/2025)

Vendor Addon

SELECT

(optional)

Firmware and Drivers Addon

CR-6.0(1c) 6.0(1c)

Components

1 additional components

Show details

SAVE

VALIDATE

CANCEL

Select Firmware and Drivers Addon

vSphere integrates with hardware support managers to install the selected firmware and driver addon on hosts in your cluster as part of applying the image to the cluster.

Select the hardware support manager

Cisco Intersight HSM @intersightassist.nsd5.ciscolabs.com

Hardware Support Manager

Select a firmware and driver addon

	Addon name	Addon version	Supported ESXi versions
☐	CR-4.3(6.250053)	4.3(6.250053)	7.0.0, 7.0.1, 7.0.2, 7.0.3, 8.0.0, 9.0.0
☐	CR-4.3(2.250045)	4.3(2.250045)	7.0.0, 7.0.1, 7.0.2, 7.0.3, 8.0.0, 9.0.0
☐	CR-4.3(2.250016)	4.3(2.250016)	7.0.0, 7.0.1, 7.0.2, 7.0.3, 8.0.0, 9.0.0
☐	CR-4.1(2m)	4.1(2m)	7.0.0, 7.0.1, 7.0.2, 7.0.3, 8.0.0, 9.0.0
☐	CR-4.0(2r)	4.0(2r)	7.0.0, 7.0.1, 7.0.2, 7.0.3, 8.0.0, 9.0.0
☐	CR-3.0(4r)	3.0(4r)	7.0.0, 7.0.1, 7.0.2, 7.0.3, 8.0.0, 9.0.0
☒	CR-6.0(1c)	6.0(1c)	7.0.0, 7.0.1, 7.0.2, 7.0.3, 8.0.0, 9.0.0

CR-6.0(1c) 6.0(1c)

Cisco System, Inc.

CR(Cisco Repository). The firmware package will be downloaded from Cisco Repository to the server. Supported Models: [UCS-S3260-M5SBI,UCS-S3260-M5SRB,UCSC-C125,UCSC-C22-M3S,UCSC-C220-M3L,UCSC-C220-M3S,UCSC-C220-M4L,UCSC-C220-M4S,UCSC-C220-M5L,UCSC-C220-M5SN,UCSC-C220-M5SX,UCSC-C220-M6N,UCSC-C220-M6S,UCSC-C220-M7N,UCSC-C220-M7S,UCSC-C220-M8E3S,UCSC-C220-M8S,UCSC-C225-M6L,UCSC-C225-M6N,UCSC-C225-M6S,UCSC-C225-M6SD,UCSC-C225-M6SN,UCSC-C225-M6SX,UCSC-C225-M8N,UCSC-C225-M8S,UCSC-C24-M3S,UCSC-C240-M3L,UCSC-C240-M3S,UCSC-C240-M3S2,UCSC-C240-M4L,UCSC-C240-M4S,UCSC-C240-M4S2,UCSC-C240-M4SNEBS,UCSC-C240-M4SX,UCSC-C240-M5L,UCSC-C240-M5S,UCSC-C240-M5SN,UCSC-C240-M5SX,UCSC-C240-M6L,UCSC-C240-M6N,UCSC-C240-M6S,UCSC-C240-M6SN,UCSC-C240-M6SX,UCSC-C240-M7N,UCSC-C240-M7S,UCSC-C240-M8E3S,UCSC-C240-M8S,UCSC-C240-M8SN,UCSC-C240-M8SX]

CANCEL

SELECT

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BRKCOM-2460

Cluster Life-Cycle Operations – with Ansible

Cluster Installation

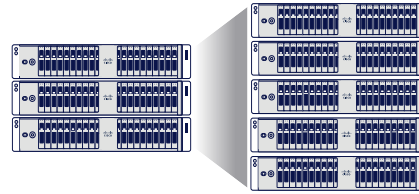


Ansible Playbooks to automate the initial setup across Cisco UCS, Nexus, Storage, and VMware Infrastructure.

Operational Summary

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

Cluster Expansion

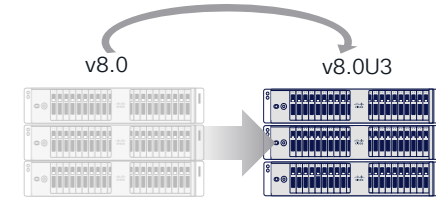


Cluster expansion automation across Cisco UCS, Nexus, Storage and VMware Infrastructure, driven by Ansible Playbooks.

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

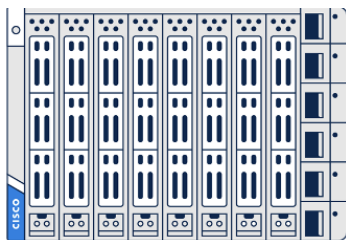


Manual change of Server Profile configuration in Intersight and Host Profile in vCenter

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 implicit update of Cisco UCS server firmware while reboot ESXi.

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



vmware®



NUTANIX

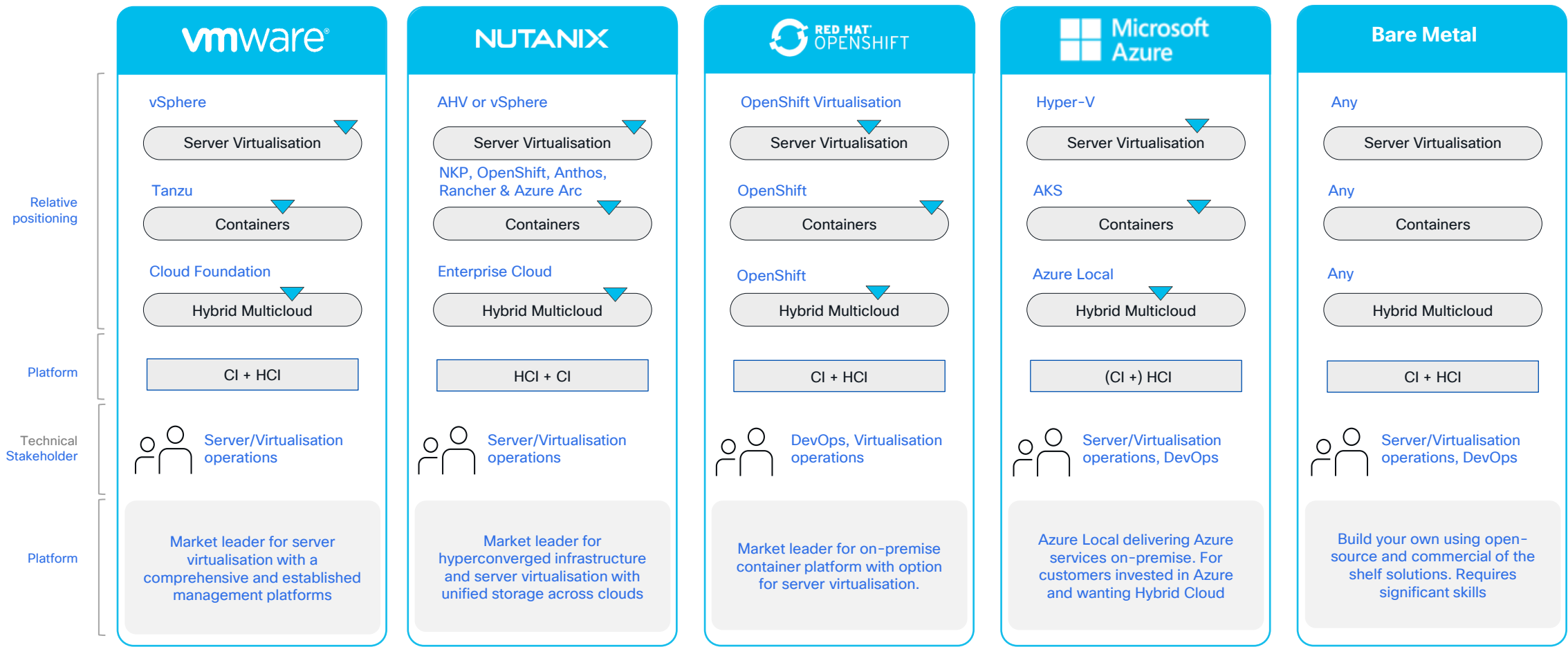


Azure Stack

vmware®

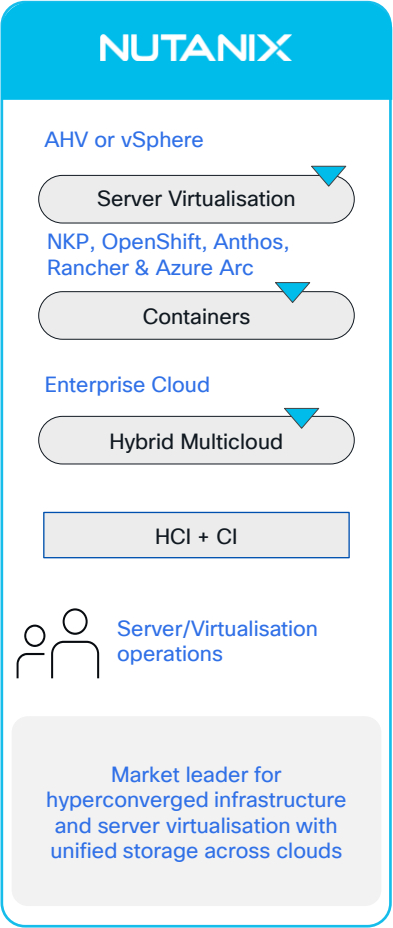
Application Platform Modernisation Crossroads

Cisco HCI with Nutanix



Application Platform Modernisation Crossroads

Cisco HCI with Nutanix



A Leader in HCI

Give customers a VMware alternative with extensive capabilities for **virtualisation, 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

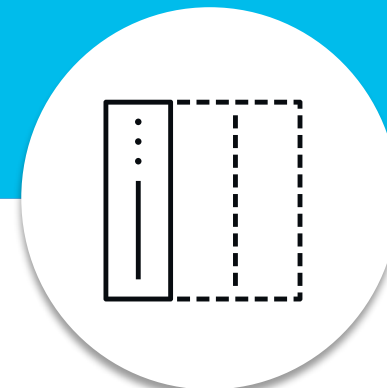
Cisco Compute HCI with Nutanix



The industry's 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 Intersight Management

Fully integrated with Cisco's UCS enterprise management software

Deployment

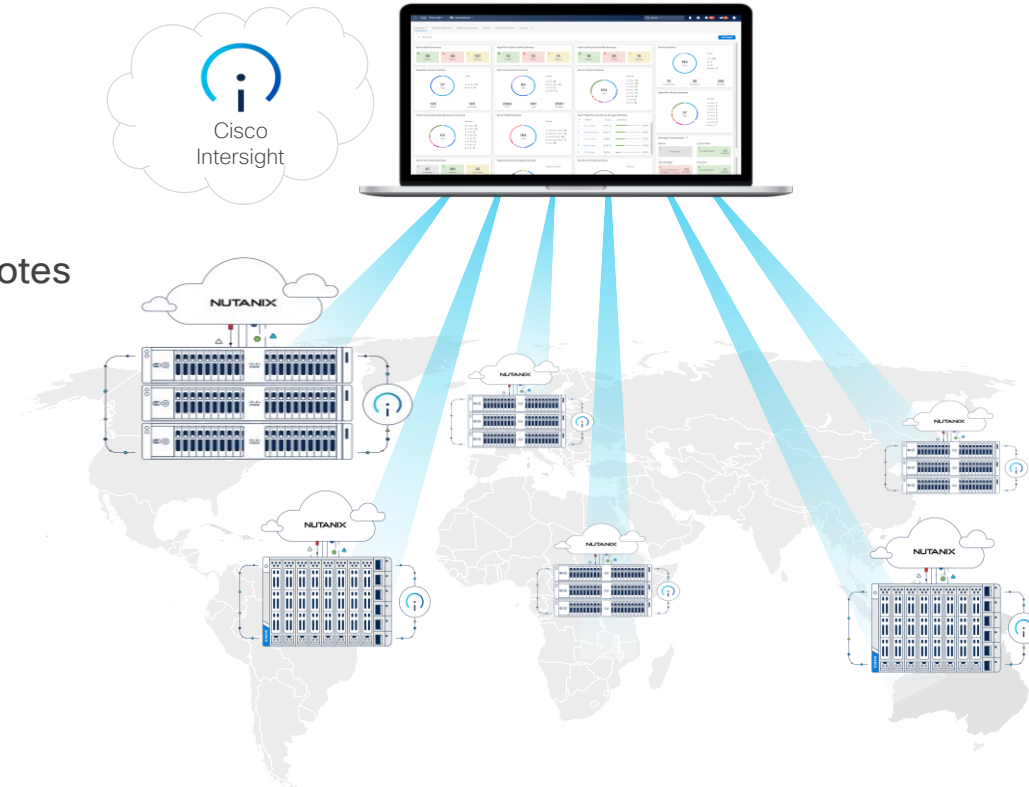
- Intersight Standalone Mode (ISM)
- Intersight Managed Mode (IMM)
- UCS Managed Mode (UMM)
- Remotely deployed and configured

Support & Monitoring

- Connected TAC, Proactive RMA
- eBonded Support & Shared Case Notes
- Intersight Device Connector & Nutanix Prism Central Integrations

Upgrade & Expand

- 1-Click Automated Software and Firmware Upgrades
- Cluster Expansion & Validation
- Day-1 Nutanix Software Release Support

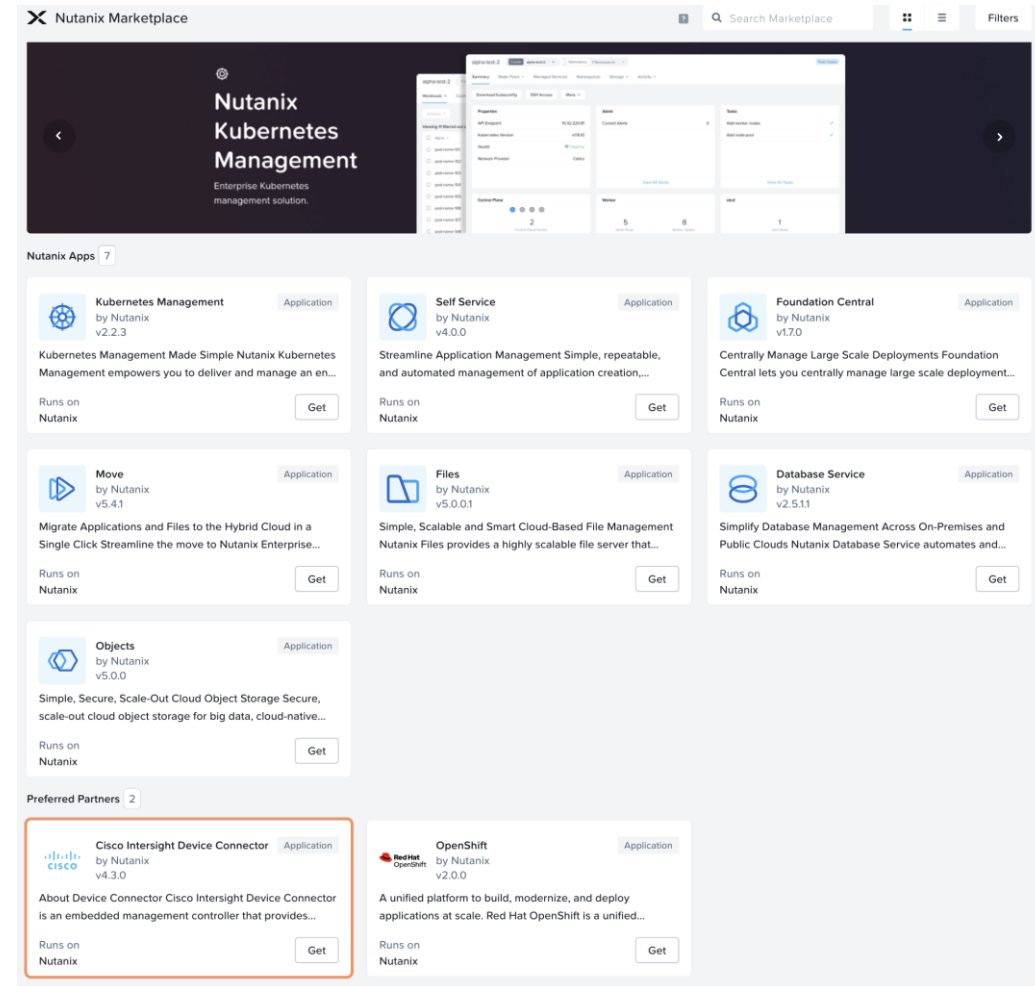


Cisco Device Connector

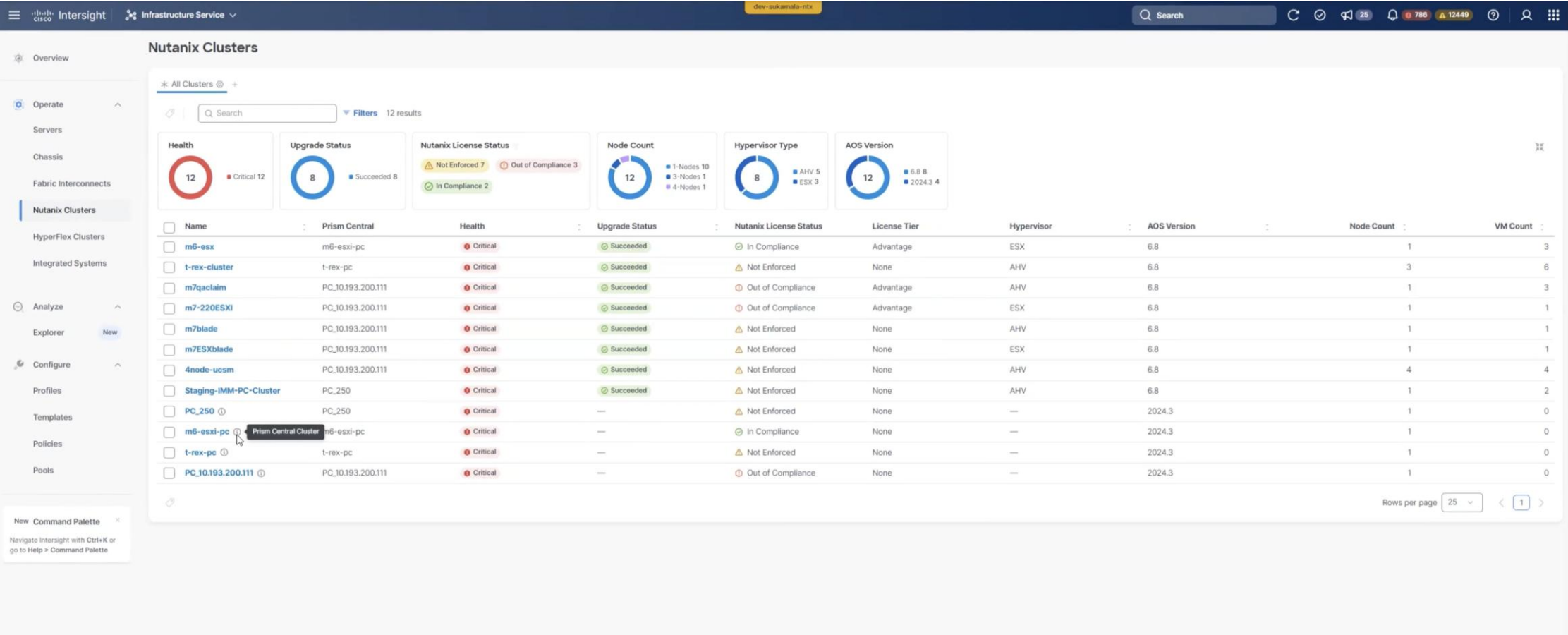
Nutanix Prism Central (PC) can be managed as target connected to the Intersight portal through a Cisco Device Connector.

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



Cisco HCI Nutanix cluster detail view

Overview

Operate

Servers

Chassis

Fabric Interconnects

Nutanix Clusters

HyperFlex Clusters

Integrated Systems

Analyze

Explorer

Configure

Profiles

Templates

Policies

Pools

New Command Palette

Nutanix Clusters

m7qacclaim

General

Node Details

Details

Connection

Health

Name

AOS Version

Node Count

Upgrade Status

Nutanix License Status

IP Address

Hypervisor

VM Count

Intersight License Tier

Storage Usage

Storage Capacity

Organization

Tags

Properties

Nodes

Nutanix License

Nutanix Compliance

Nutanix License Violations

Events

Alarms

Active

Acknowledged

Severity

License Expiry

PC License Expiry

Detected iSCSI discovery or login through ...

Power supply 1 is Down on block WZP2818...

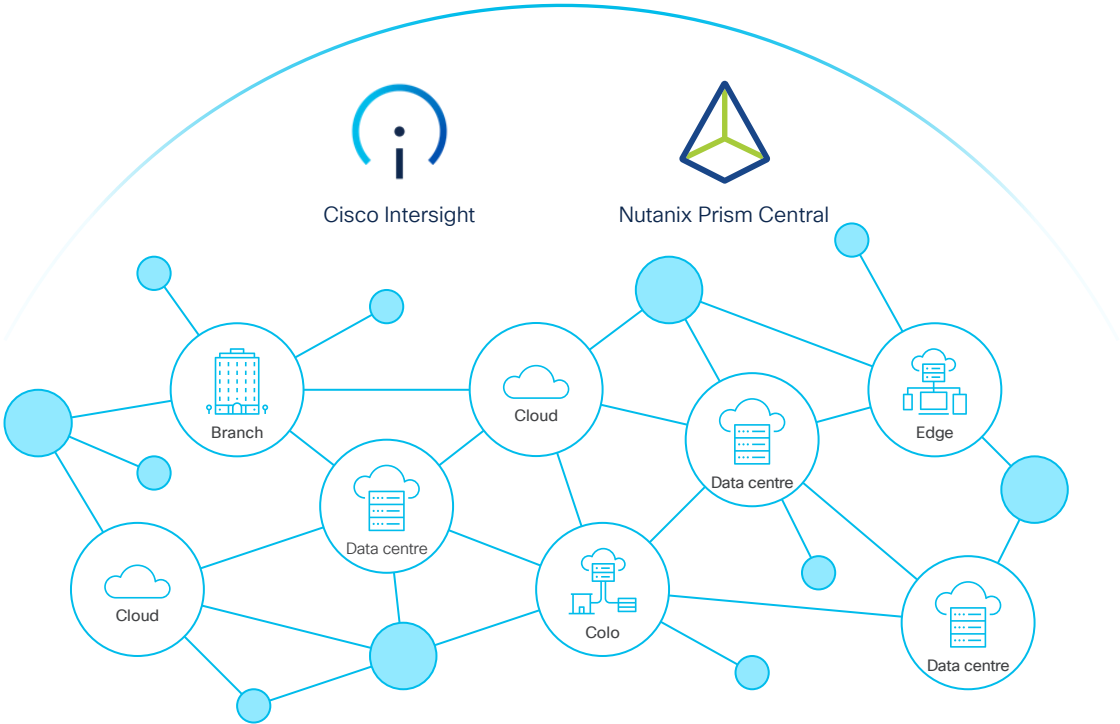
The cluster is using password based ssh a...

Host 10.193.200.97 is using default passwo...

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 and Prism Central



Deploy and manage remotely

Cluster Life-Cycle Operations

Cluster Installation



with

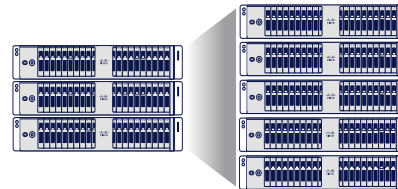
NUTANIX
Foundation VM

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

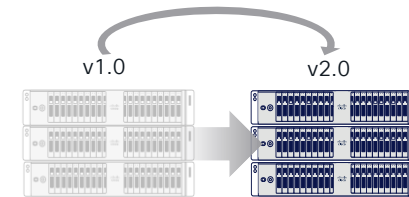
NUTANIX
Prism

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



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

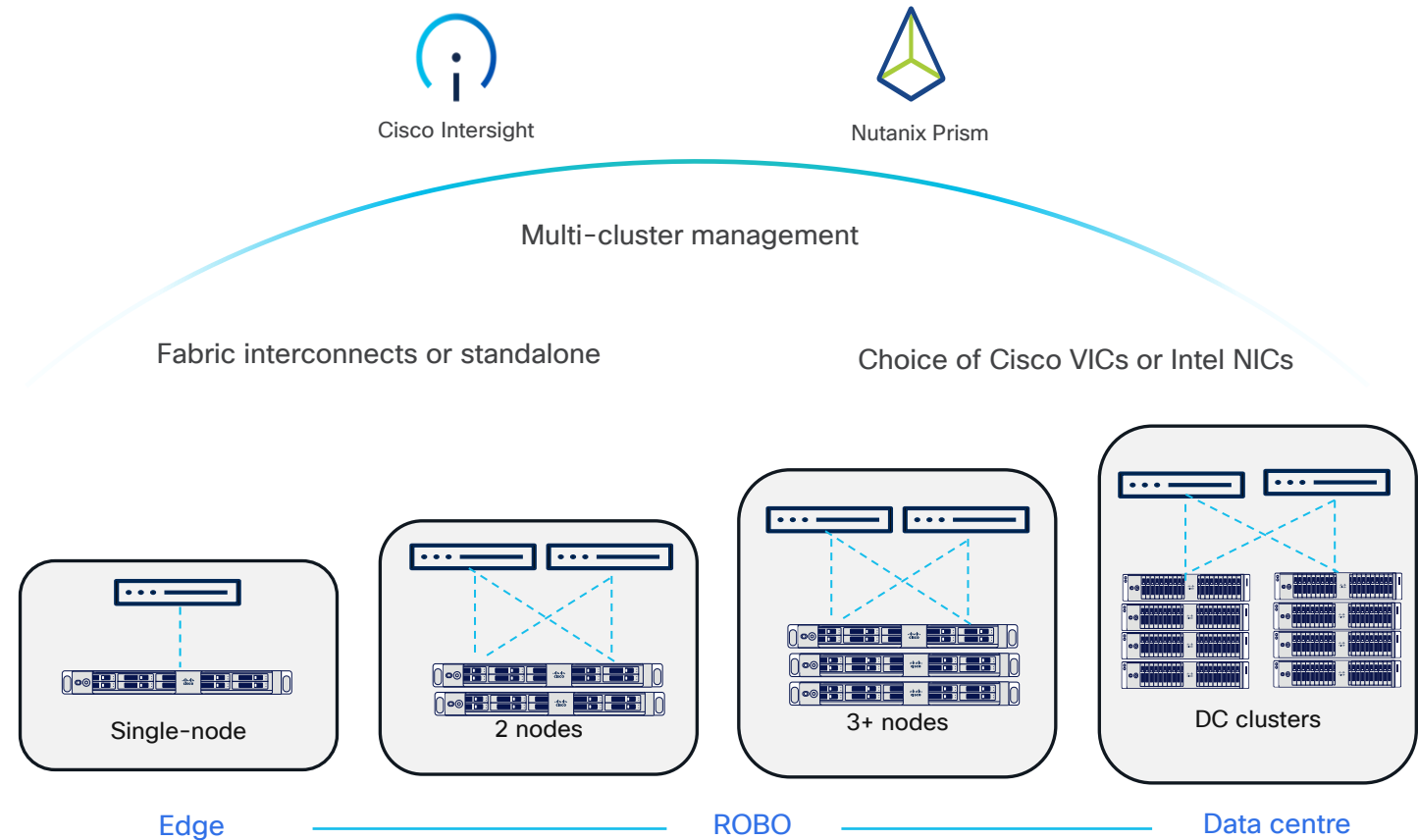
- Upgrade of Cisco UCS infrastructure and server firmware
- Upgrade of hypervisor software, VMware ESXi and/or Nutanix AHV
- Upgrade of Nutanix Cloud Infrastructure software

Flexible Deployment Options

Intersight Standalone Mode for HCI

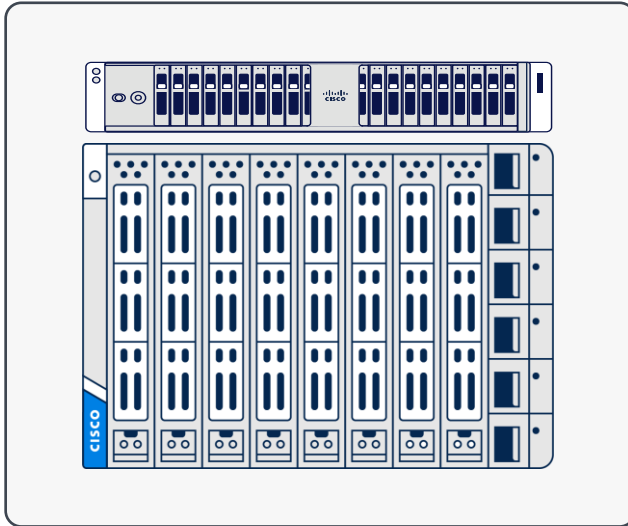
Deploy Nutanix cluster on Cisco HCI Nodes

- With or without UCS Fabric Interconnect
- Deploy in edge/remote locations or primary data centres
- 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

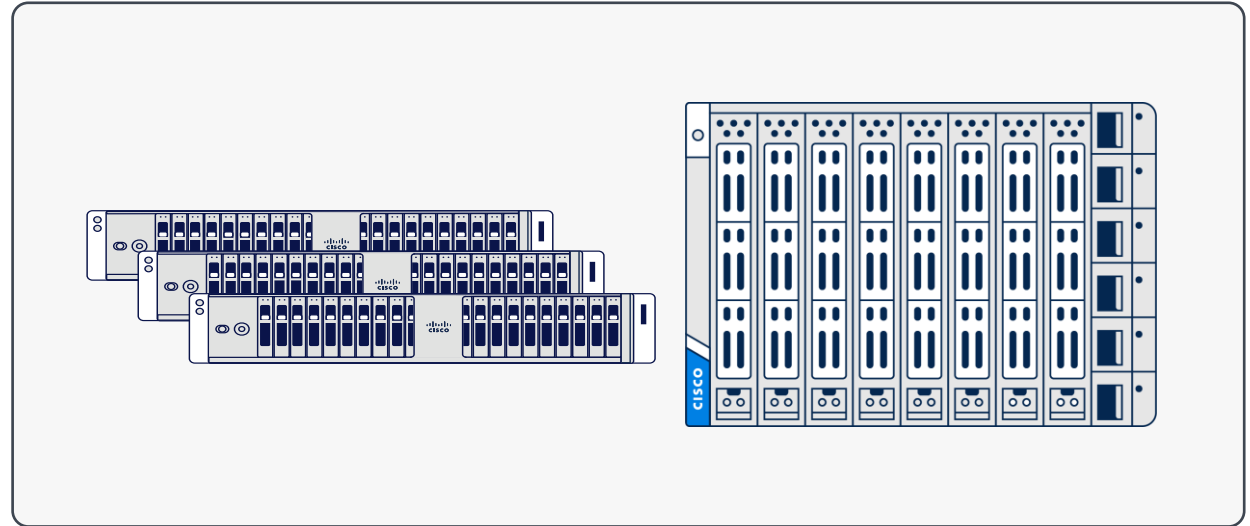


Reuse and Repurpose Servers

Cisco UCS rackmount M6/M7 and X-Series M7 modular servers



Cisco Compute Hyperconverged with Nutanix Cluster



- Reuse and repurpose existing servers
- Cisco can convert newly purchased HCI nodes back to regular x86 servers
- Provides investment protection with a standardised platform
- Same deployment and operational automations as factory-prepped appliances
- Three tier upgrades and future proofing

FlashStack with Nutanix

Cisco, Pure Storage, and Nutanix – Even Better Together

Combination of Best-of-Breed hardware and software

Pre-Validated & Integrated Solution

Simplified Management & Infrastructure Visibility

Cisco Validated Designs (CVDs) for Optimised Workloads



Introducing: Compute Node Scaling in an HCI Cluster

Unique Cisco & Nutanix offering

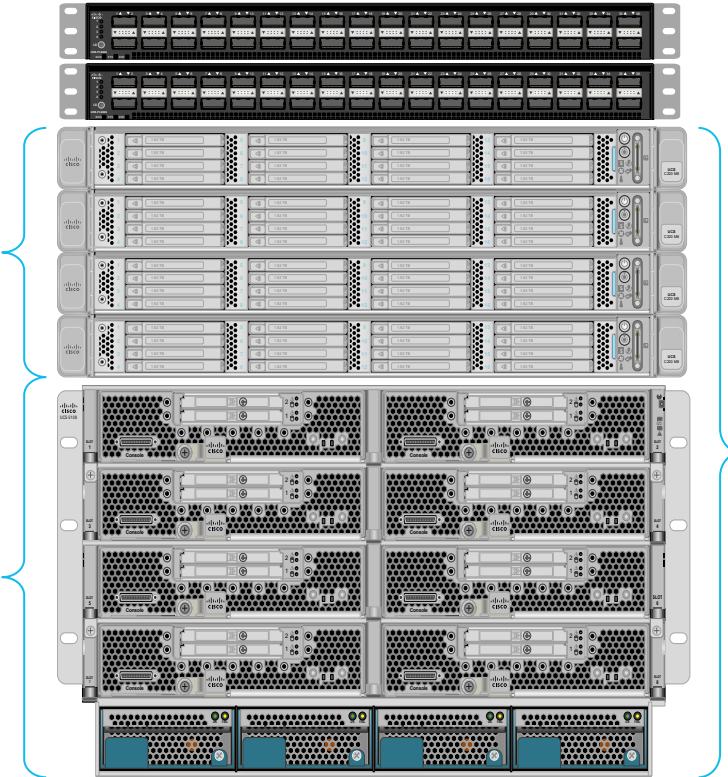
Flexible compute resource scaling

Reuse existing UCS hardware

Great for compute heavy workloads

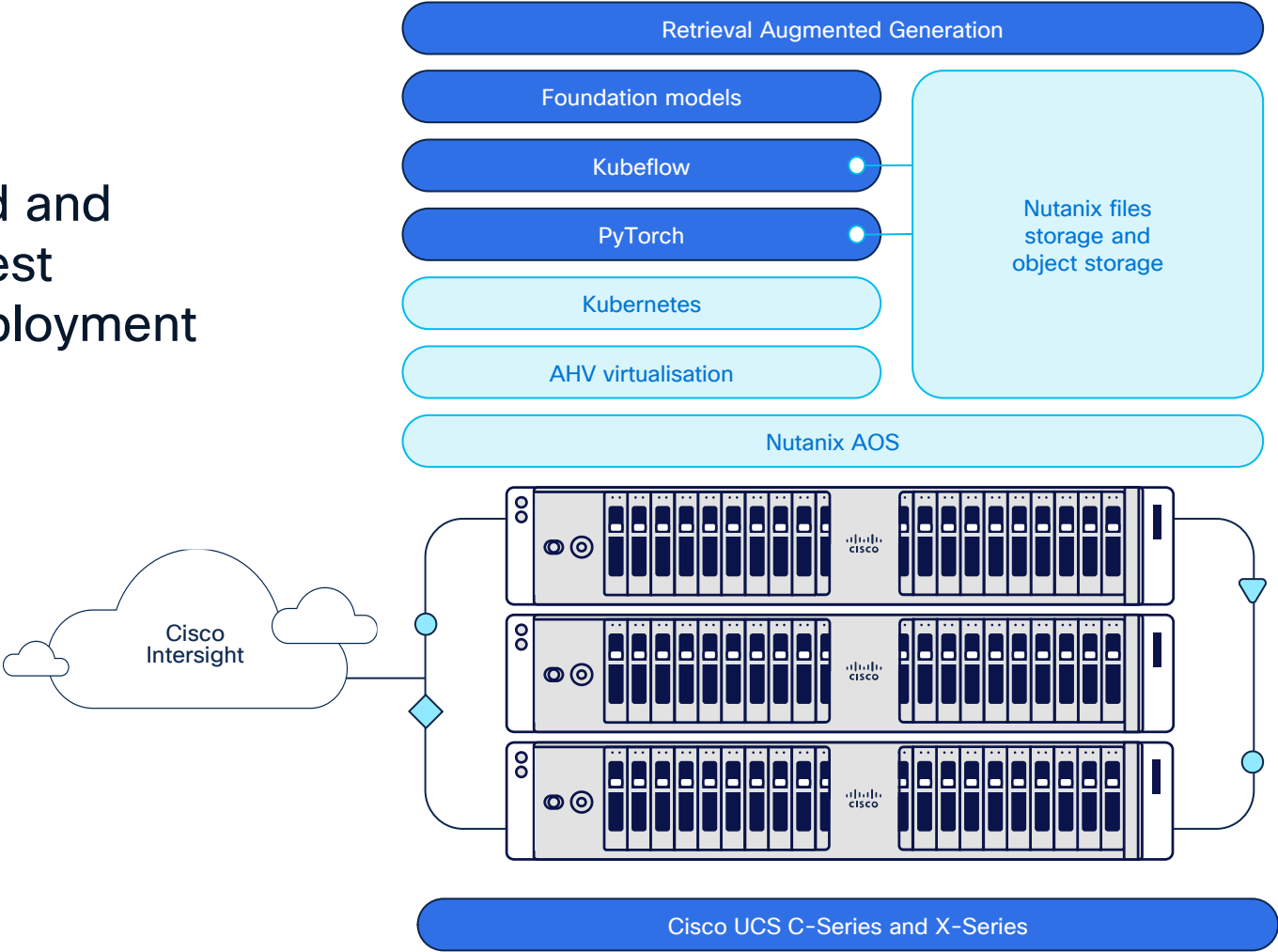
New or existing UCS
HCI w/ Nutanix
(AHV) cluster

Scale with existing
B200 M5/M6 UCS
Blades



Nutanix GPT in a Box on Cisco

Designed, tested and validated with best practices for deployment



Opinionated
AI stack

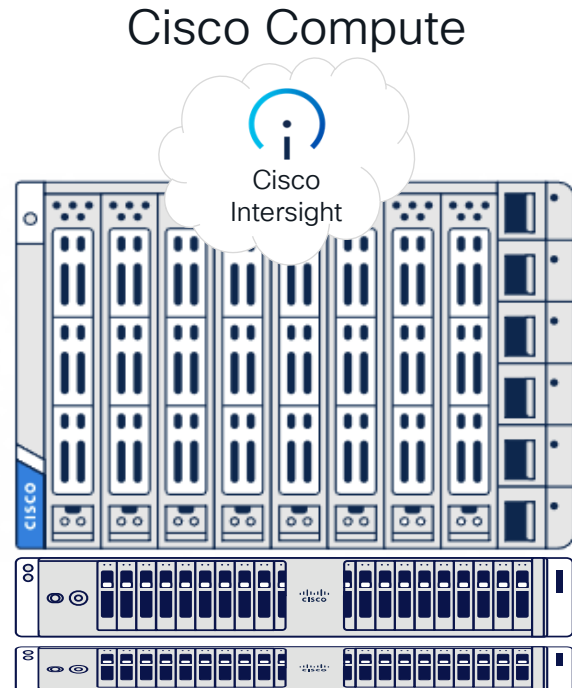
GPU-enabled

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

Stack offers

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

Full Solution Stack Through Cisco



NUTANIX Cloud Platform

NCP
Bundles

Nutanix Cloud Infrastructure (NCI)

Nutanix Cloud Manager (NCM)

Nutanix Unified Storage (NUS)

Nutanix Data Lens (NDL)

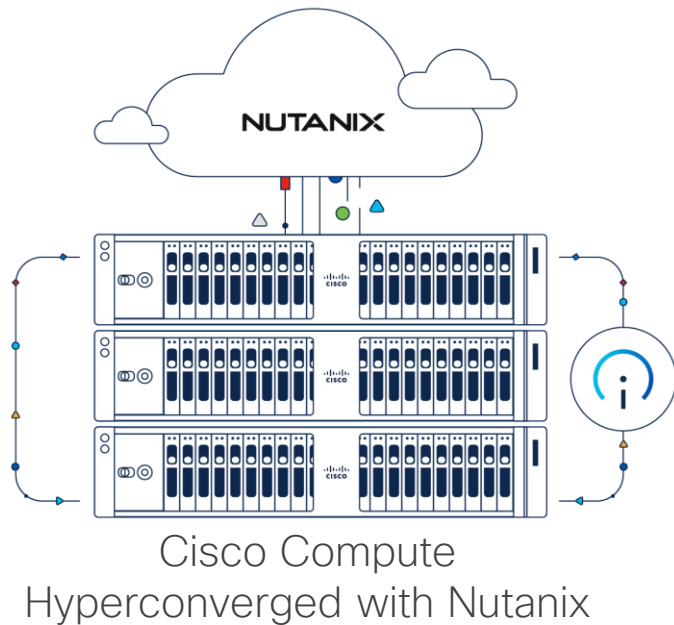
Nutanix Enterprise AI (NAI)

Nutanix Kubernetes Platform (NKP)

Nutanix Cloud Infrastructure – VDI (EUC)

Nutanix Edge Solutions (NCI-E)

Global Integrated Support Organisations



Seamless Integrated Support Model

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

Case Generation Options

Manual



Automated

NUTANIX
Insights

for Hardware &
Software Alerts



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

Minimising Support Burden on Customers

NUTANIX
Insights

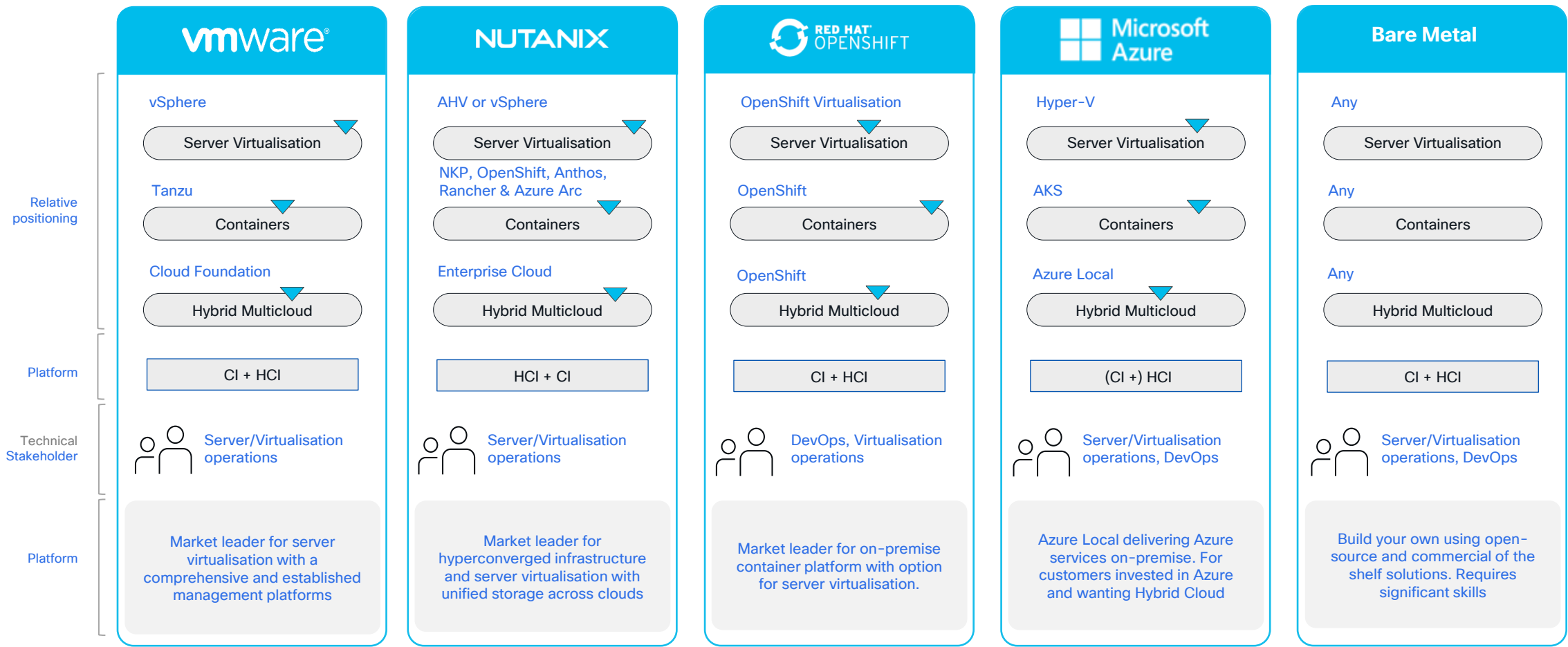


Intersight

- 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
- eBonded support & case note sharing

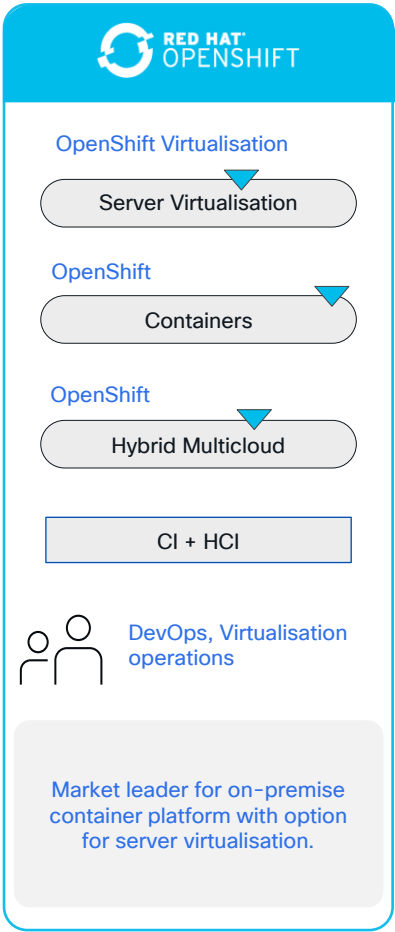
Application Platform Modernisation Crossroads

Red Hat OpenShift Container Platform



Application Platform Modernisation Crossroads

Red Hat OpenShift Container Platform



A Leader in Container Platform

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



Validated Solutions / Patterns

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



Application Modernisation

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

Cisco + Red Hat



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.



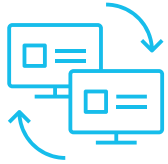
Harness the power of edge workloads with the new purpose-built edge infrastructure running the industry leading container platform. All managed at scale from the cloud.

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

✓ Discovery ISO is ready to be downloaded.

Adding hosts instructions

1. Download ~~the~~ Discovery ISO (onto a USB drive, attach it to a virtual media, etc.) and use it to boot your hosts.
2. Keep the Discovery ISO media connected to the device throughout the installation process and set each host to boot **only one time** from this device.
3. Booted hosts should appear in the host inventory table. This might take a few minutes.

[Add hosts from Cisco Intersight](#)

Discovery ISO URL

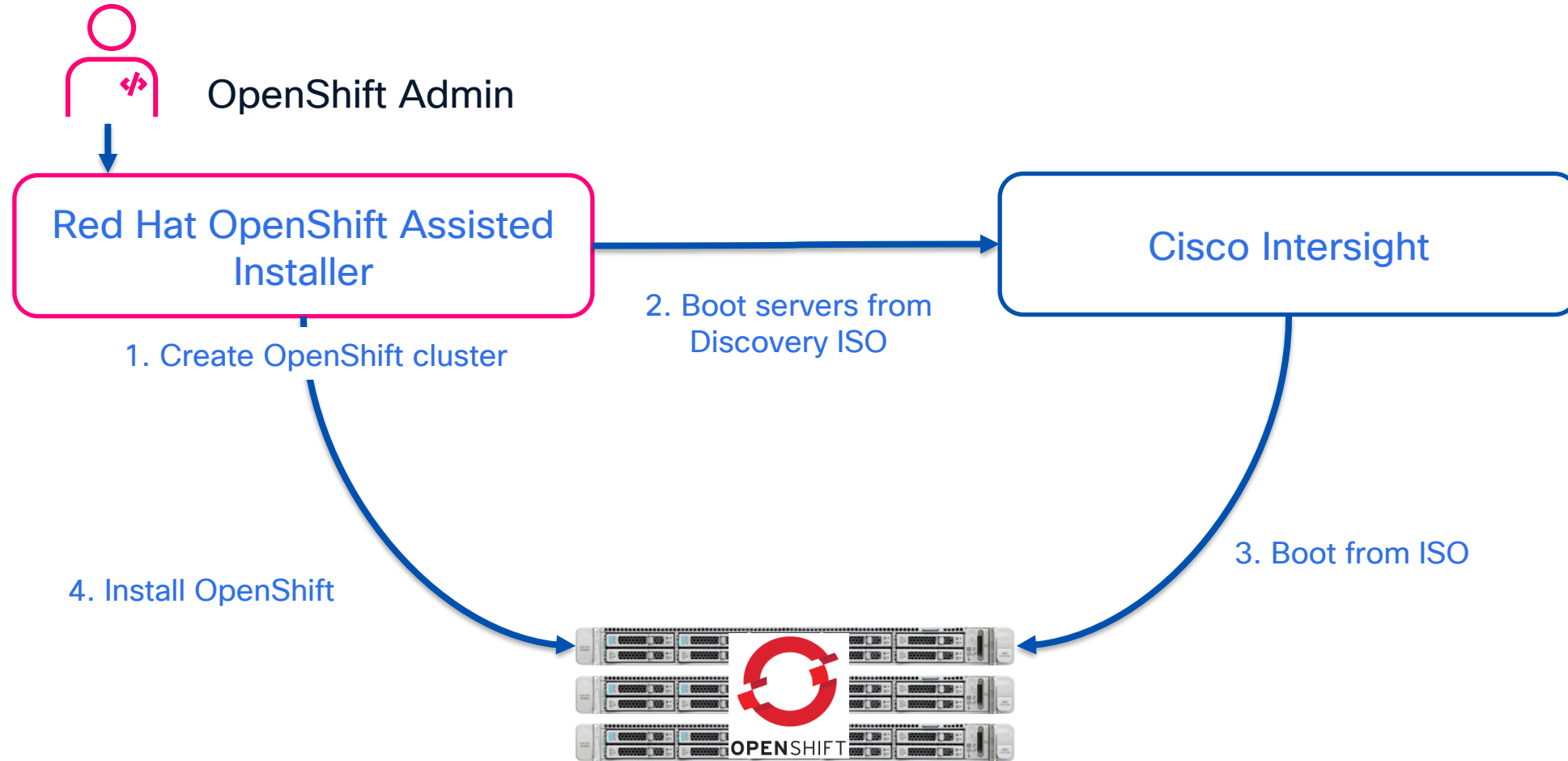
`https://api.openshift.com/api/assisted-images/bytoken/eyJh...`

Command to download the ISO:

`wget -O discovery_image_ocp-dhcp.iso 'https://api.openshift...`

ⓘ Never share your downloaded ISO with anyone else. Forwarding it might put your credentials and personal data at risk.

Intersight provisioning for Assisted Installer



What's Next with Red Hat OpenShift?



MCE / ACM Integration

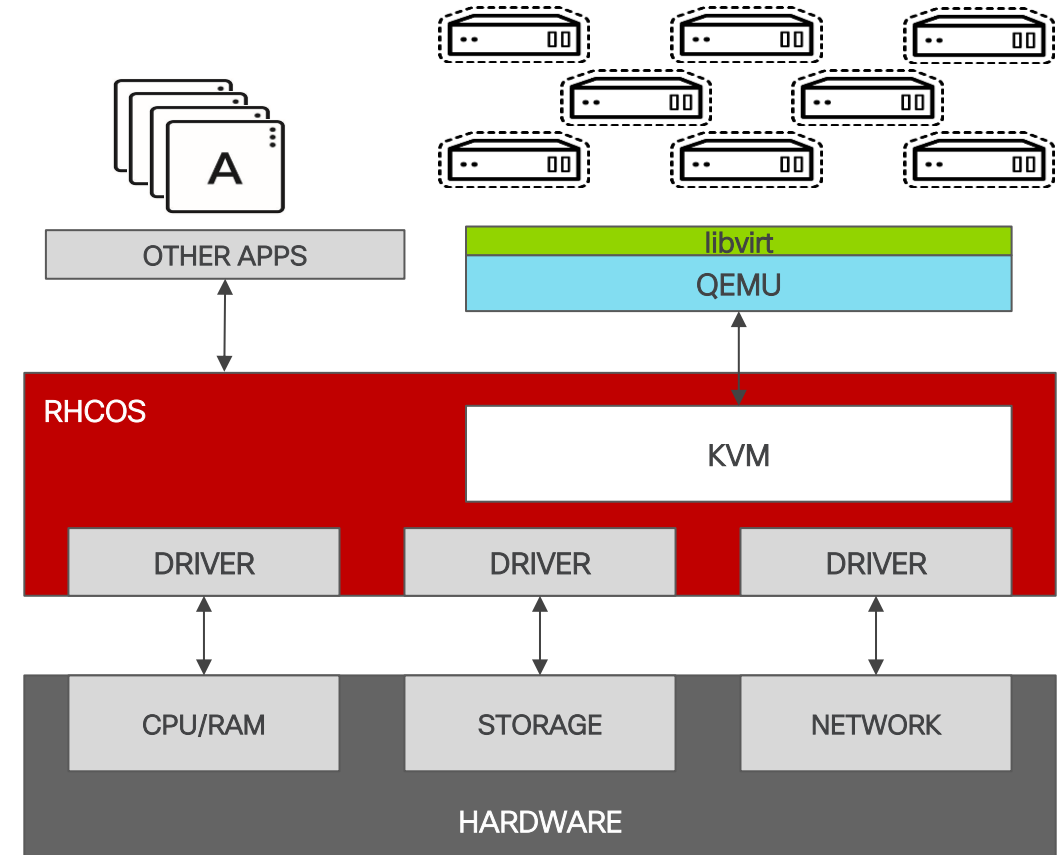
Intersight / Hybrid-Cloud
Console integration



Validated-Pattern /
Edge Solution

Red Hat OpenShift Virtualisation

- 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

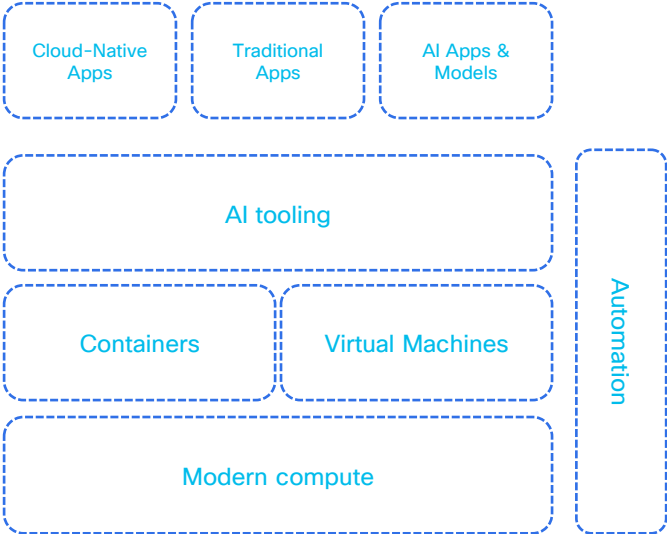


How Cisco and Red Hat helps



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



Application Platform Modernisation,
AI-ready Infrastructure



Reduce costs

With future-ready, sustainable, and secure compute infrastructure



Deploy apps faster and securely

Consolidate container and virtualisation platforms

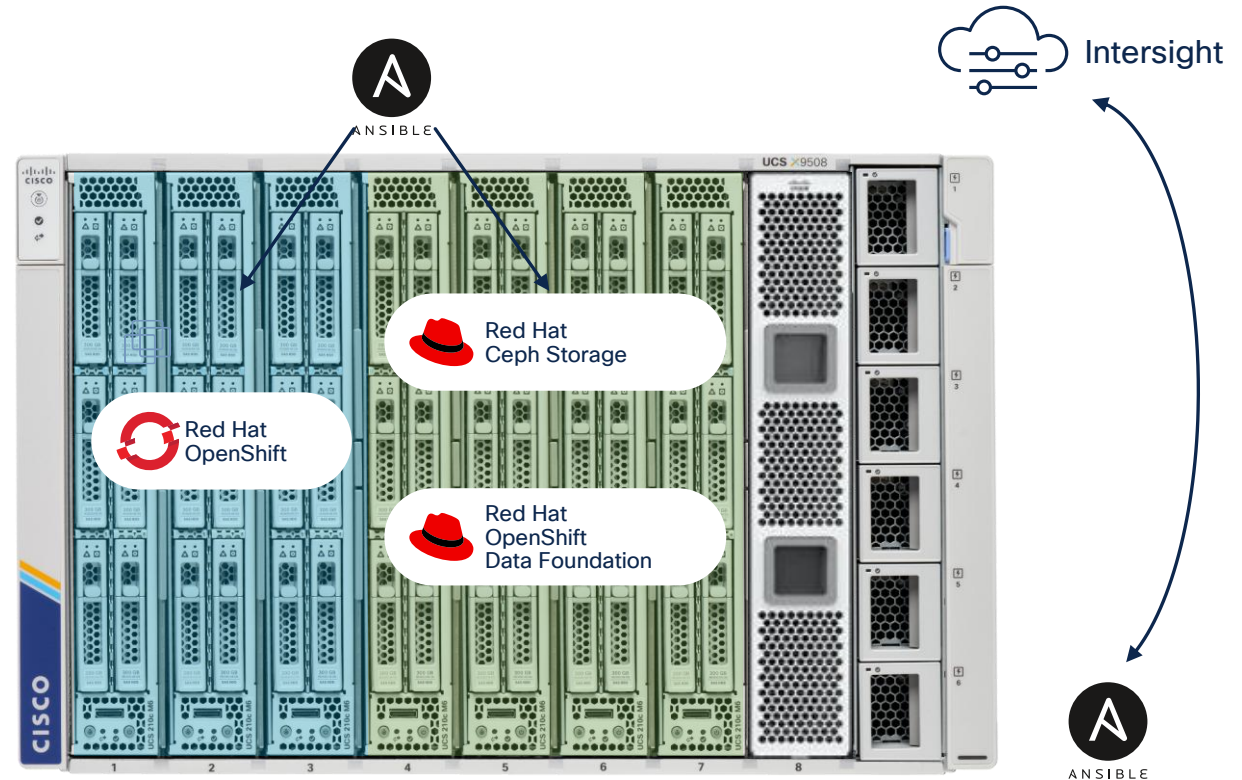


Support AI initiatives

Build, train, and maintain inferencing solutions to delight your customers

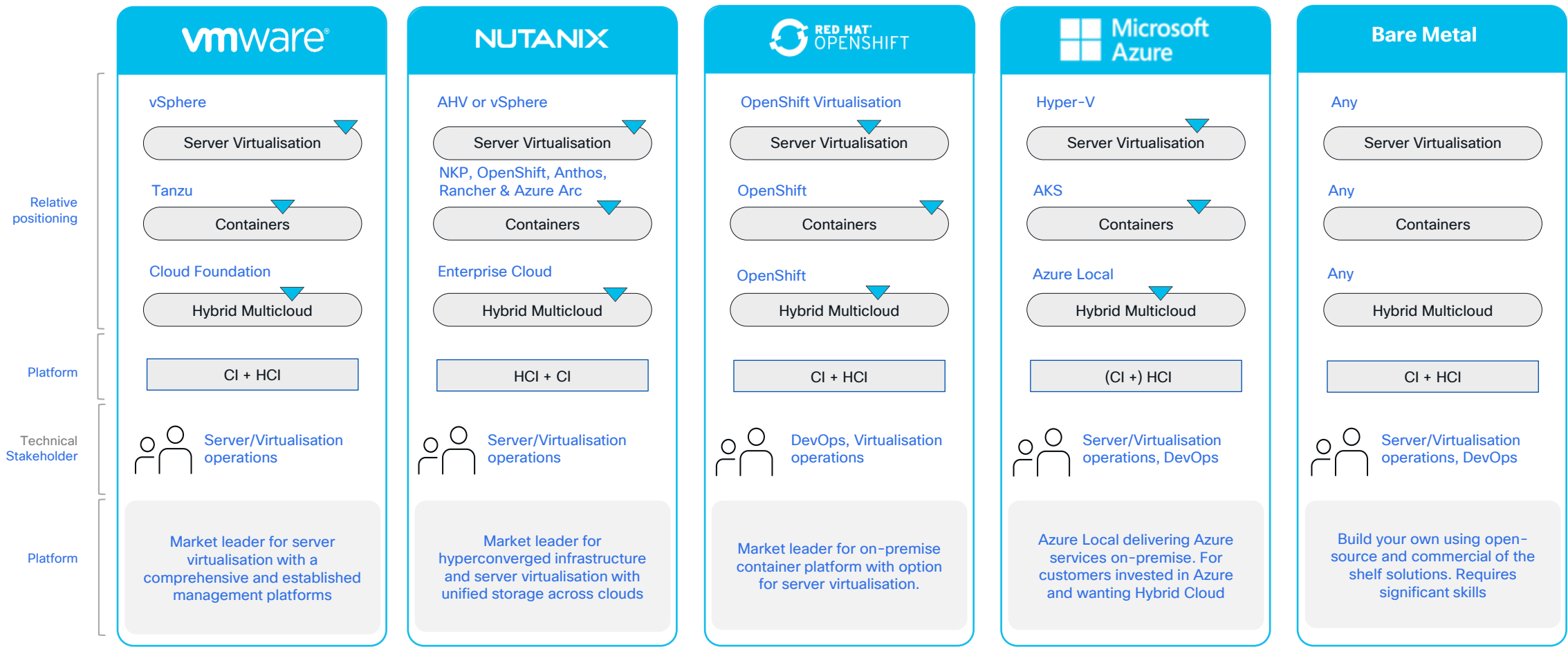
Red Hat Hyperconverged Container Platform

- 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



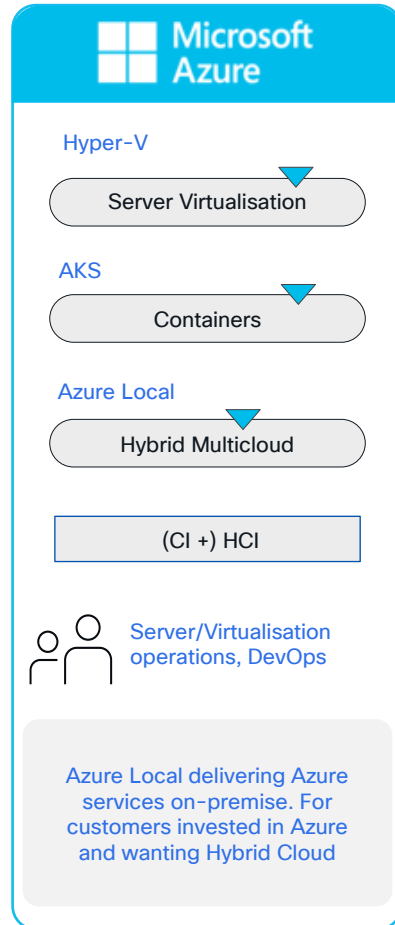
Application Platform Modernisation Crossroads

Microsoft Azure Local with Hyper-V



Application Platform Modernisation Crossroads

Microsoft Azure Local with Hyper-V



A Leader in Virtualisation

Hyper-V provides an extremely feature rich virtualisation 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 Modernisation

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

Cisco + Microsoft



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



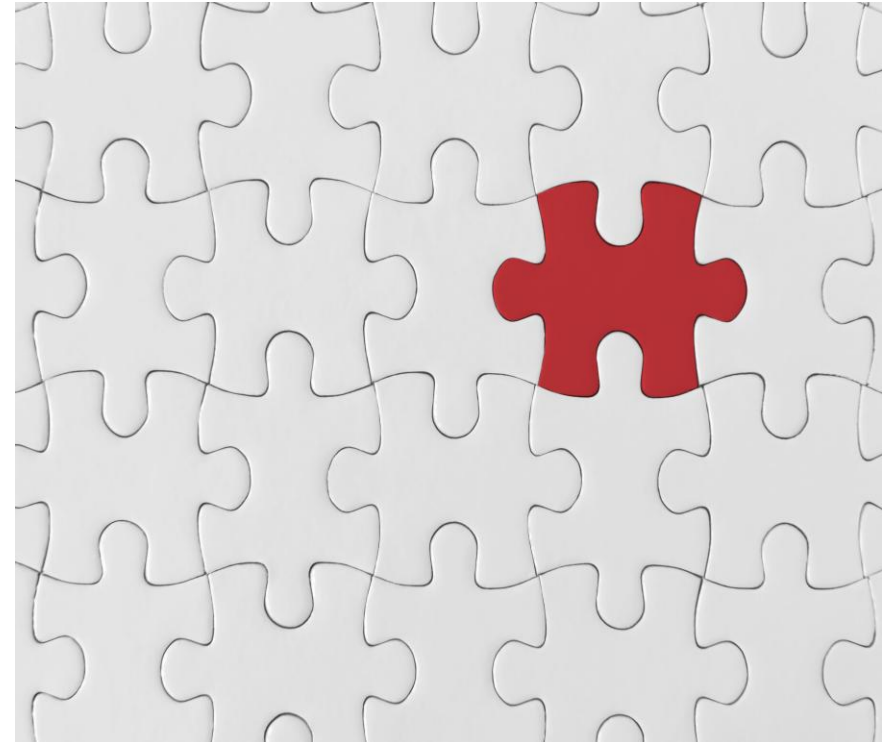
Flexible, powerful designs hosting a wide range of workloads from AI to VDI. Leveraging the latest in Cisco and MSFT technology.



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

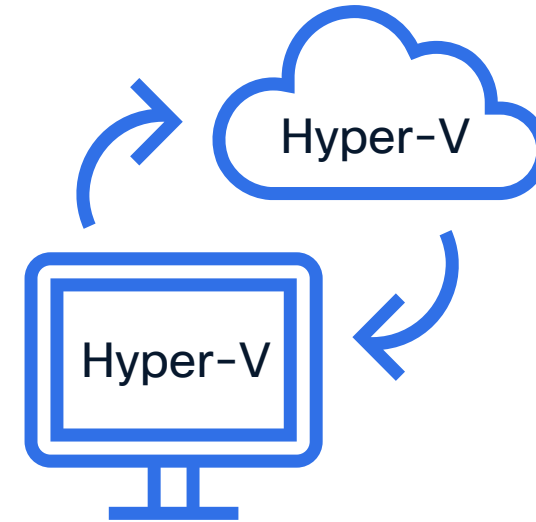
Hyper-V is core to Microsoft Solutions

- 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



Cisco UCS C240 M7SN Azure Local Scalability

Maximum configuration (16 nodes):

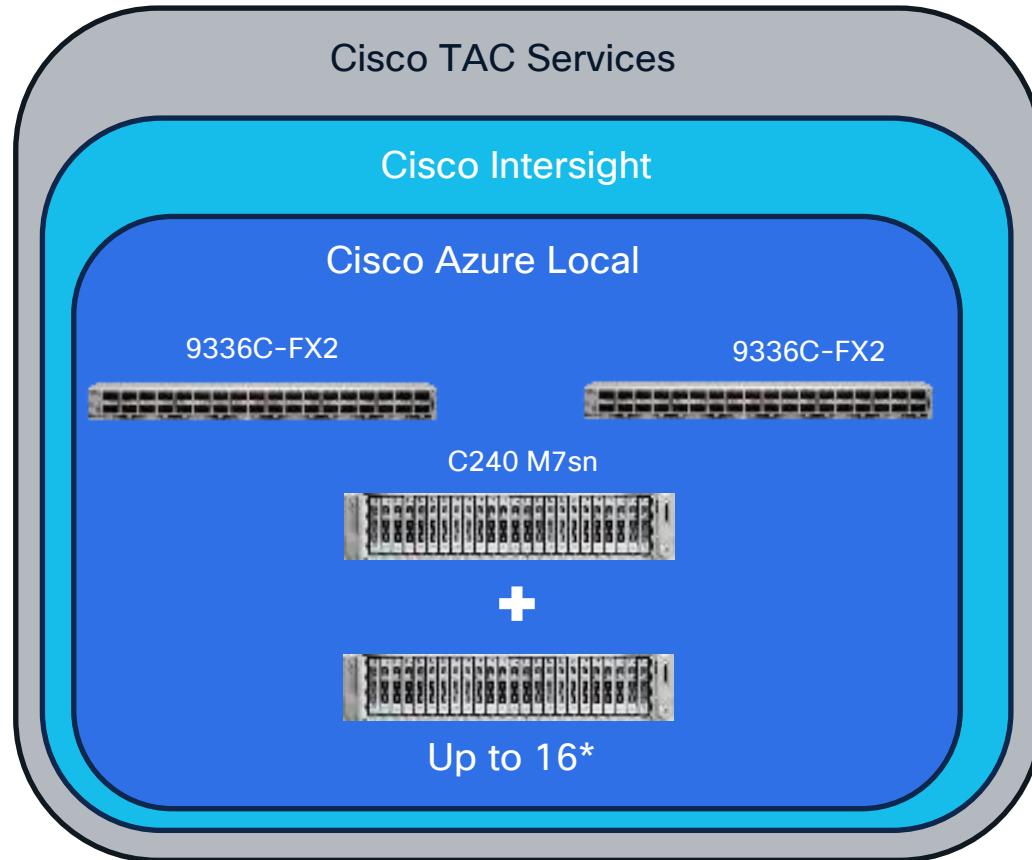
- Up to 5.8 PB of system raw storage
- Up to 128 TB of system memory
- Up to 2048 Intel processor cores

**2x Cisco 9336C-FX2
Nexus Switch**

**Cisco UCS C240 M7SN
Rack Server**



Validated Azure Local Design

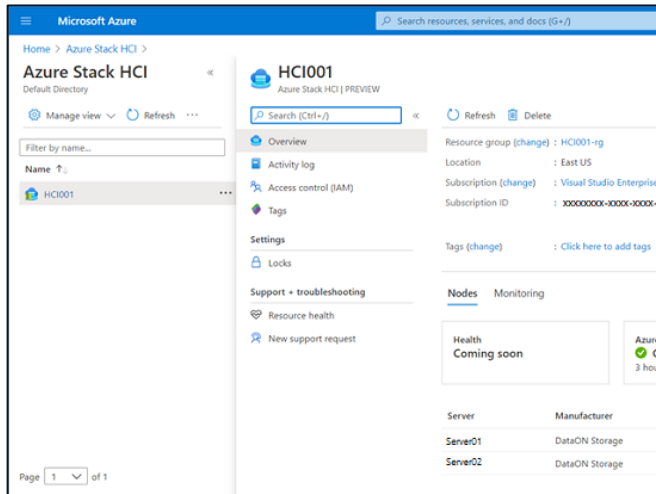


- Scale from 1 to 16 nodes, initially or add-on*
- 5th gen Intel Xeon Scalable processors
- Storage: Single tier all NVMe**
- Up to 100G End to End
- Support for optional Nvidia GPUs
- Intersight cloud-based management
- Nexus 9300-Series ToR switches
- NX-OS or ACI choice
- No single points of failure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

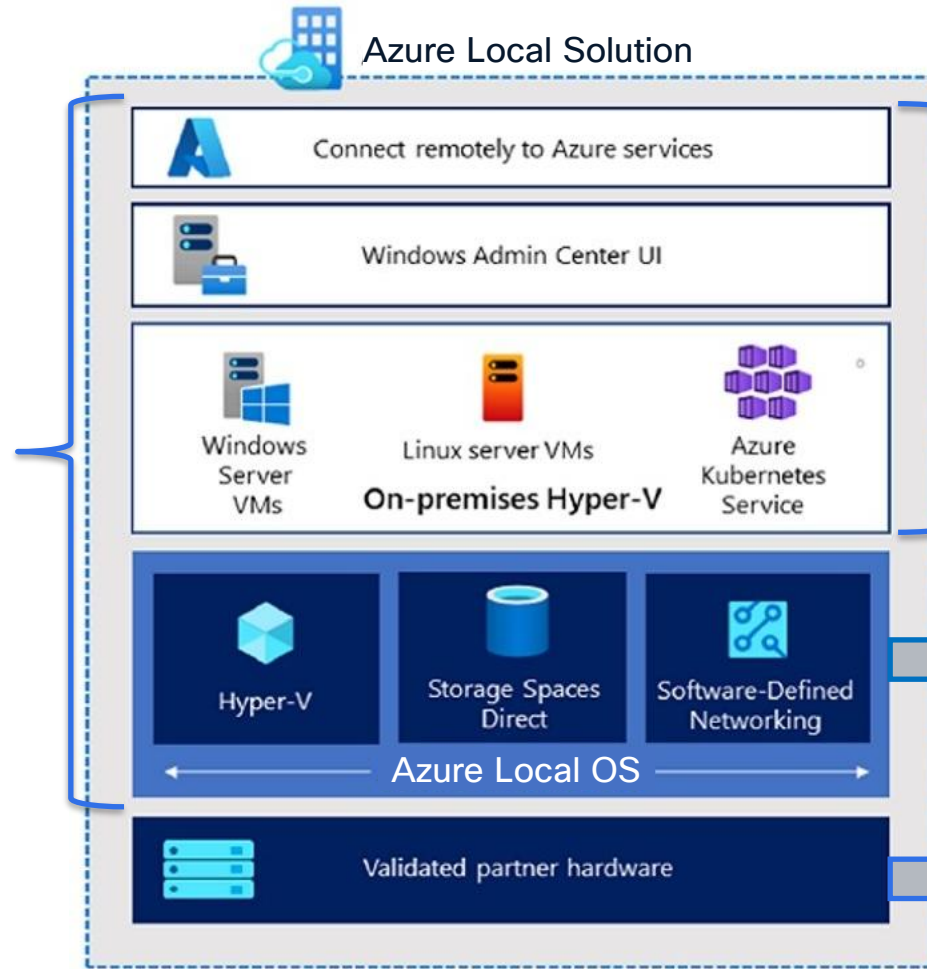
* Microsoft requires server nodes configured **EXACTLY** same.
** Windows Server 2025 increase NVMe performance by 60%.

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

Azure Local Software Architecture



Azure Portal



Range of services become available with Azure Local OS

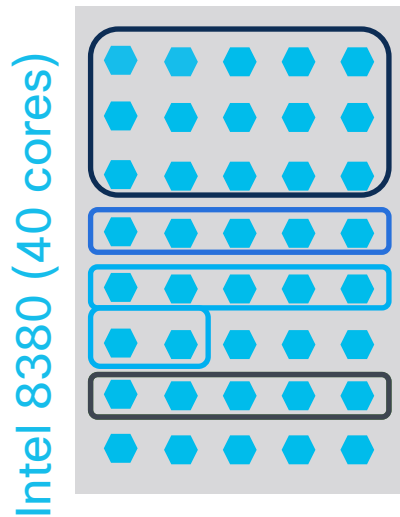
- Azure Backup
- Azure Site Recovery
- Azure File Sync
- Azure Monitor
- Azure Update Management

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



Cisco – 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)



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

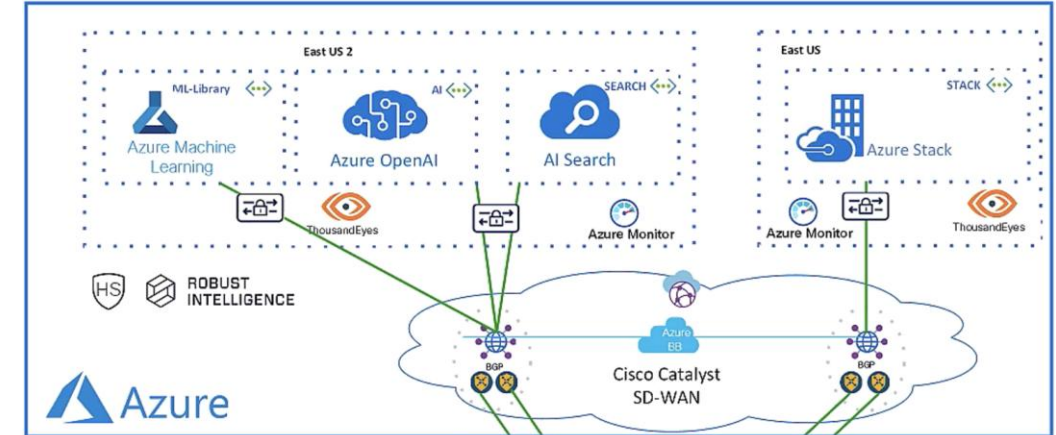
Note: Azure Local OS is \$10/core/month

Cisco AI-Driven Secure Enterprise Data Architecture

Cisco AI-Driven Secure Enterprise Data Architecture Overview

Leverage Azure OpenAI, based in Azure to help deliver on you AI driven challenges.

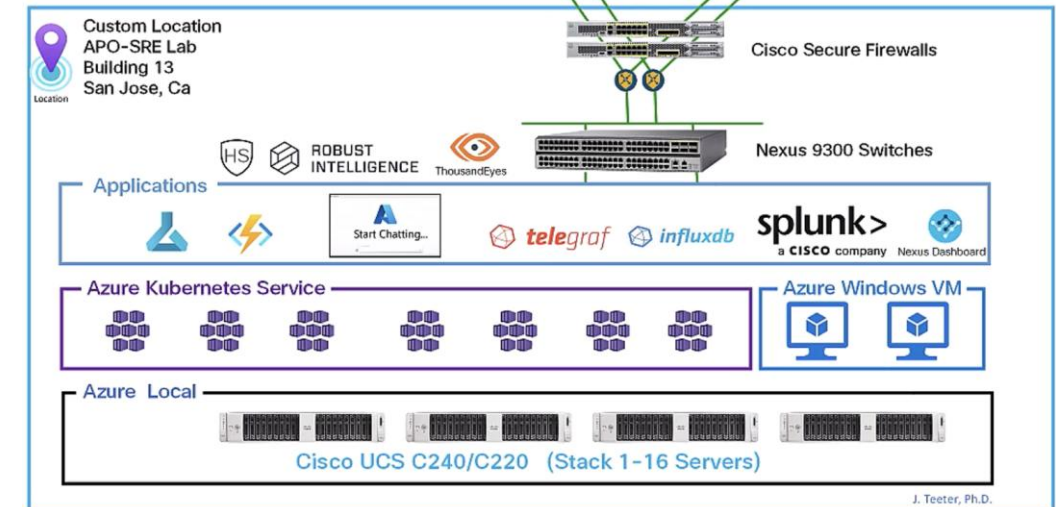
Azure
Cloud



Cisco Technologies:

- Azure Local System
- Splunk
- ThousandEyes
- SD-WAN
- Hypershield
- Robust Intelligence
- Secure Firewalls
- Nexus Dashboard
- Nexus Networking

Your
Data Centre



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.

Utilise customer's choice of rack in data centre



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.

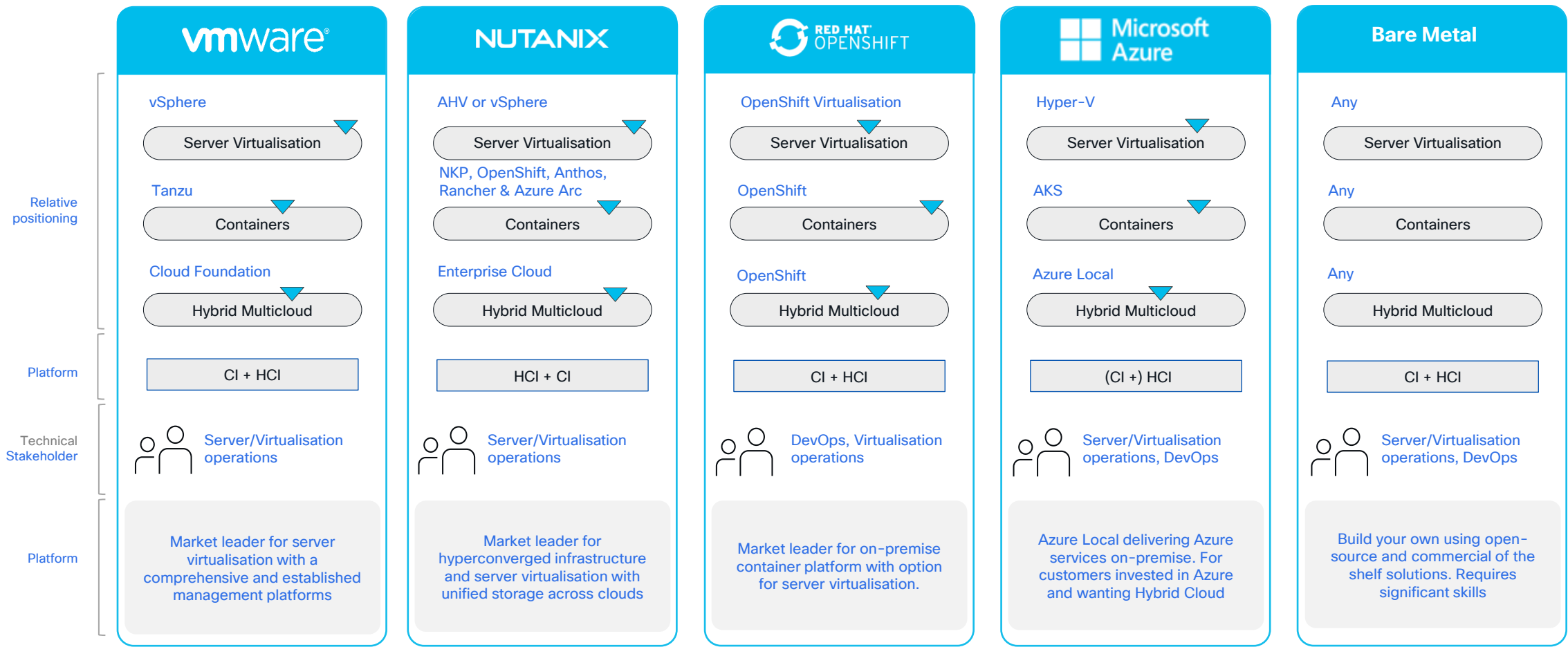
Cisco Support



Collaborative Support - Contact either Cisco or Microsoft.

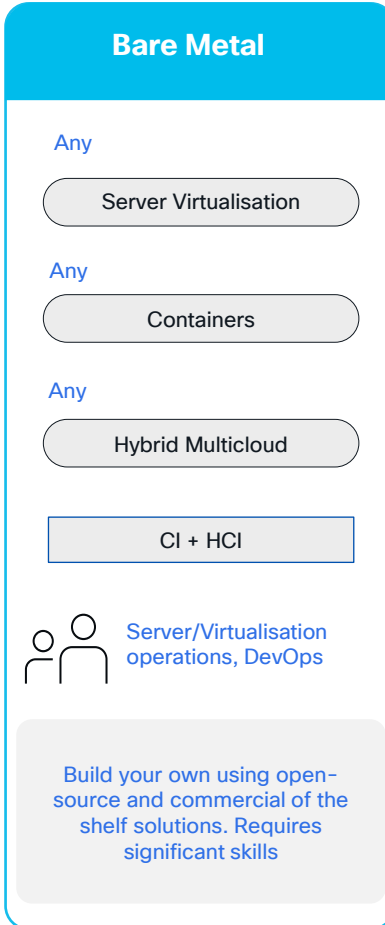
Application Platform Modernisation Crossroads

Bare Metal and other Solutions



Application Platform Modernisation Crossroads

Bare Metal and other Solutions



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 virtualisation and container solutions of any scale.



Application Modernisation

Cisco UCS provides a versatile platform to help customers running bare-metal, virtualised, and containerised 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



Utilise recognised best practices to design and implement and manage your solution stack.



Integrate with the forthcoming Cisco Unified Edge compute platform to efficiently manage bare-metal, virtual, and container workloads across any location.

Bare-Metal = Build your own Stack?

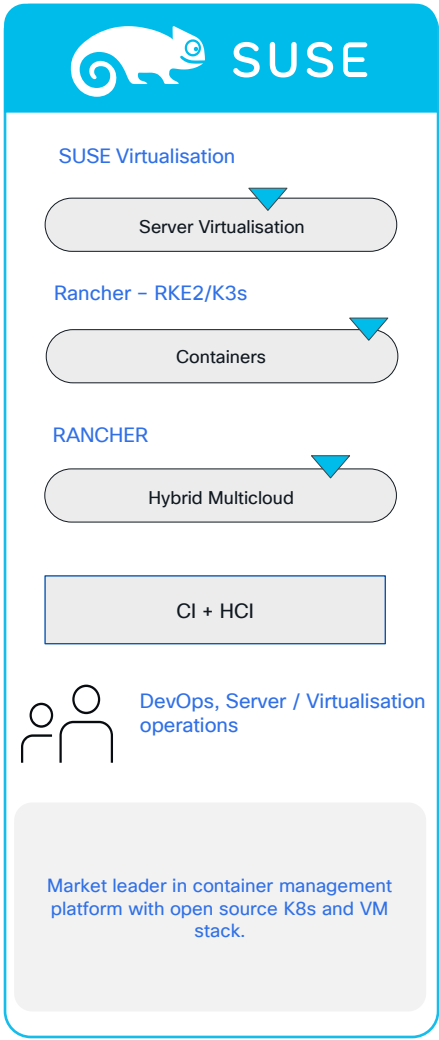


Any supported
Operating
System

Any supported
Virtual Machine
Manager or
Container
Manager

Any OS, VM
and Container
Management
tool

SUSE Virtualisation and SUSE Rancher



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 maximise 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 virtualisation. Helping customers Modernise applications for secure scaling across any infrastructure



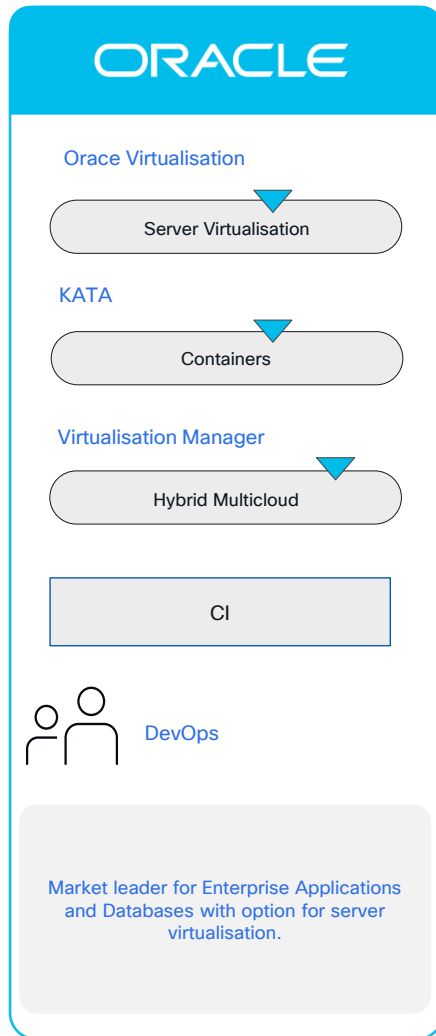
Open-Source architecture to right-size the solutions to your ideal technical and business outcomes.

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



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

Oracle Virtualisation



Oracle Virtualisation 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

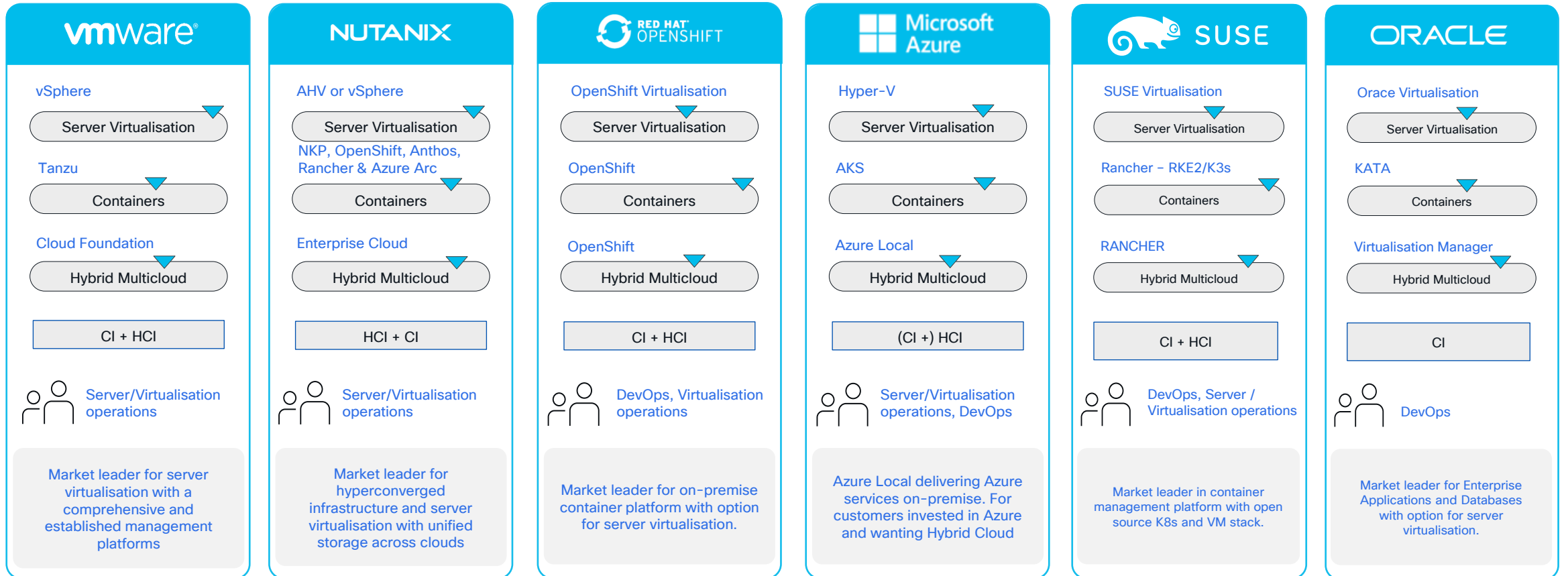
Kata Containers is an Open Container Initiative compliant runtime that uses lightweight virtual machines to provide isolation using hardware virtualisation technology.



Integration

Oracle VM server virtualisation 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



Complete your session evaluations



Complete a minimum of 4 session surveys and the Overall Event Survey to claim a Cisco Live T-Shirt.



Earn up to 800 points by completing all surveys and climb the Cisco Live Challenge leaderboard.



Level up and earn exclusive prizes!



Complete your surveys in the Cisco Live Events app.

Continue your education

BRKCOM-2116: Intersight Unlocked: Strategies and best practices to get the most out of Intersight



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

Contact me at: cgascoig@cisco.com

Thank you

CISCO Live !

