CISCO Connect

Data Center Modernization for AI

Choose your path

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OCT 2026

Cisco powers how people and technology work together across the physical and digital worlds



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TIME REMAINING
5:00
The world is experiencing the **largest expansion of data centers** in history

The data center decision changed in twelve months

LANDSCAPE

Capability, economics and risk all moved at once

12 months ago

AI pilots and copilots
GPU availability dominated the discussion
Cloud-first was the default answer
Operations still moved at human speed

Now

Inference and agents are entering production
Memory, storage, network and power shape ROI
Hybrid placement is deliberate
Operations and attacks move at machine speed

- **June 2026:** Fixed 206 bugs (previous record at the time)
- **July 2026:** Fixed 570 security flaws
- **September 2026:** Set the all-time record with 974 security fixes

MATH **2025: natural-l IMO gold-med**

m received an officially 2/42

AI SAFETY **Breakouts were not yet a recurring public incident category**

BREAKOUTS **6-8 security events in the past 3 months (Jul-Aug). 10 total since December of 2025.**

The infrastructure must absorb capability gains and contain the new failure modes.

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Infrastructure economics reset for years—not quarters

LANDSCAPE

AI demand moved memory and storage from components to strategic capacity

+270%

TrendForce forecast: server DRAM contract pricing in 2026

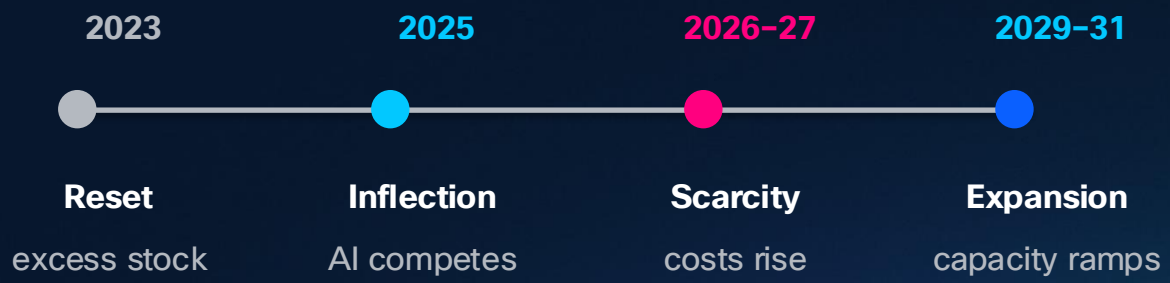
+235%

TrendForce forecast: enterprise SSD pricing in 2026

2029–31

Major new capacity ramps gradually; large buyers reserve supply

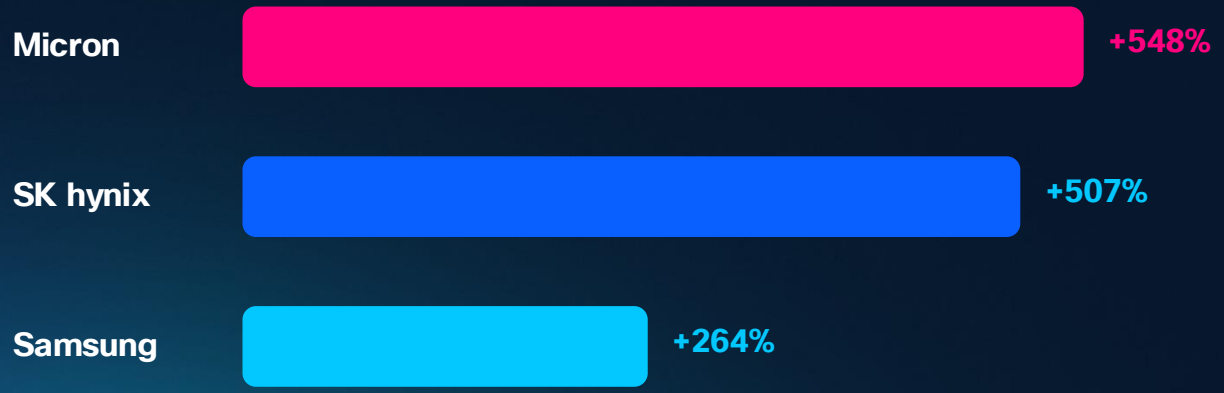
THE SUPPLY ARC



Planning implication

Forecast earlier, preserve configuration flexibility, and treat quote validity as an architecture input.

MEMORY SUPPLIERS CAPTURED THE UPSIDE · 11 SEP '25 → 11 SEP '26



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Hybrid is an operating model—not a retreat from cloud

LANDSCAPE

Placement strategy now includes control, economics and vendor optionality

73%

of organizations operate hybrid estates

Public cloud

Elastic services
Global reach
Shared responsibility

Customer-controlled

Data locality
Predictable utilization
Direct operational control

Edge / sovereign

Latency
Residency
Disconnected operation

CUSTOMER SIGNAL

86% **of surveyed enterprises are reducing VMware use**

A calculated, workload-by-workload retreat—not a forklift exit.

BROADCOM DEPENDENCY IS MULTI-DOMAIN

VMWARE / VCF

virtualization + private cloud

TOMAHAWK / JERICHO

Ethernet switching silicon

BROCADE

Fibre Channel SAN switching

Optionality starts by mapping dependencies across software, Ethernet and storage fabrics.

Sources: [3] [23] [24] [25]

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Modern AI Infrastructure needs one secure operating model

AI STRATEGY

Connect data to agents across core, edge and cloud—without integration seams

DATA
quality · locality

→

COMPUTE
capacity · utilization

→

NETWORK
movement · congestion

→

MODELS
training · inference

→

AGENTS
actions · governance

Optimize the whole system—not the parts list

Modernize flexibility

VMs + containers together; protect existing investments

Secure everywhere

Identity, policy and response wherever workloads run

Scale the fabric

Future-proof the network; prioritize Day 2 operations

Unify operations

Visibility and automation with consistent governance

VALIDATED · OBSERVABLE · SECURE — CORE → EDGE → CLOUD → THIS IS THE WAY.

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Modernize infrastructure. Modernize operations.

Build on what you have

Evolve compute, network, and security to support existing and new workloads.

+

Change with confidence

Bring visibility, automation, and policy together across domains.

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Modernize in place. Move faster. Stay in control.

Protect what runs today while creating room for new services and AI.

Move the business forward

1. Keep critical apps running
2. Launch services faster
3. Support new AI workloads

Modernize in place

Keep IT spend in control

1. Leverage existing investments
2. Unify VM and container operations
3. Roll out changes with less risk

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Three paths to modernize without starting over

Meet workloads where they are: stabilize today's VM estate, create platform choice, and build a runway to cloud-native and AI

Retain

Modernize in place

- Cisco UCS + Intersight

Rehost

Move without rewriting

- Nutanix and other converged infrastructure solutions

Re-platform

Build cloud-native

- Red Hat OpenShift on Cisco
- Nutanix NKP / NAI

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Scale with Cisco Data Center Networking

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New workloads demand more from the network

More traffic. More distributed applications. More frequent change.

Performance pressure

More east-west flows

Higher throughput needs

Tighter latency requirements

Security complexity

More distributed workloads

Limited traffic visibility

Inconsistent policy enforcement

Operational friction

Disconnected tools

Manual changes

Slower problem resolution

Evolve your network for today’s workloads and tomorrow’s demands.

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Networking for every modernization path

Strengthen what stays. Connect what moves. Enable what's next.

Retain

Scale existing fabrics

More capacity, resilience, and performance for growing demands

Rehost

Connect across platforms

Connectivity, policy enforcement, and continuity as workloads move

Re-platform

Enable dynamic application

Connect, secure, and scale containerized apps

Automation · Segmentation · Identity-based policy · Visibility

Cisco Nexus One + Isovalent | Cisco Cloud Control for Data Center

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AI-driven operations for proactive data center networks

Find root cause faster

"Why is my app slow?"

Correlate app, fabric, and server signals.

- Nexus One
- Intersight

Keep the fabric healthy

“Is my fabric at risk?”

Detect drift, capacity, and connectivity issues before impact.

- Nexus One

Protect AI job performance

"Is the network holding back my AI workloads?"

Connect network behavior to AI job completion time.

- Nexus One

Skills powered by deep network model

Nexus One: Fabric Discovery & Topology · Health & Connectivity · Anomalies & advisories · AI Workload Observability · Network Analytics

Intersight: Compute, networking & storage Inventory · Change Correlation (audit-record)

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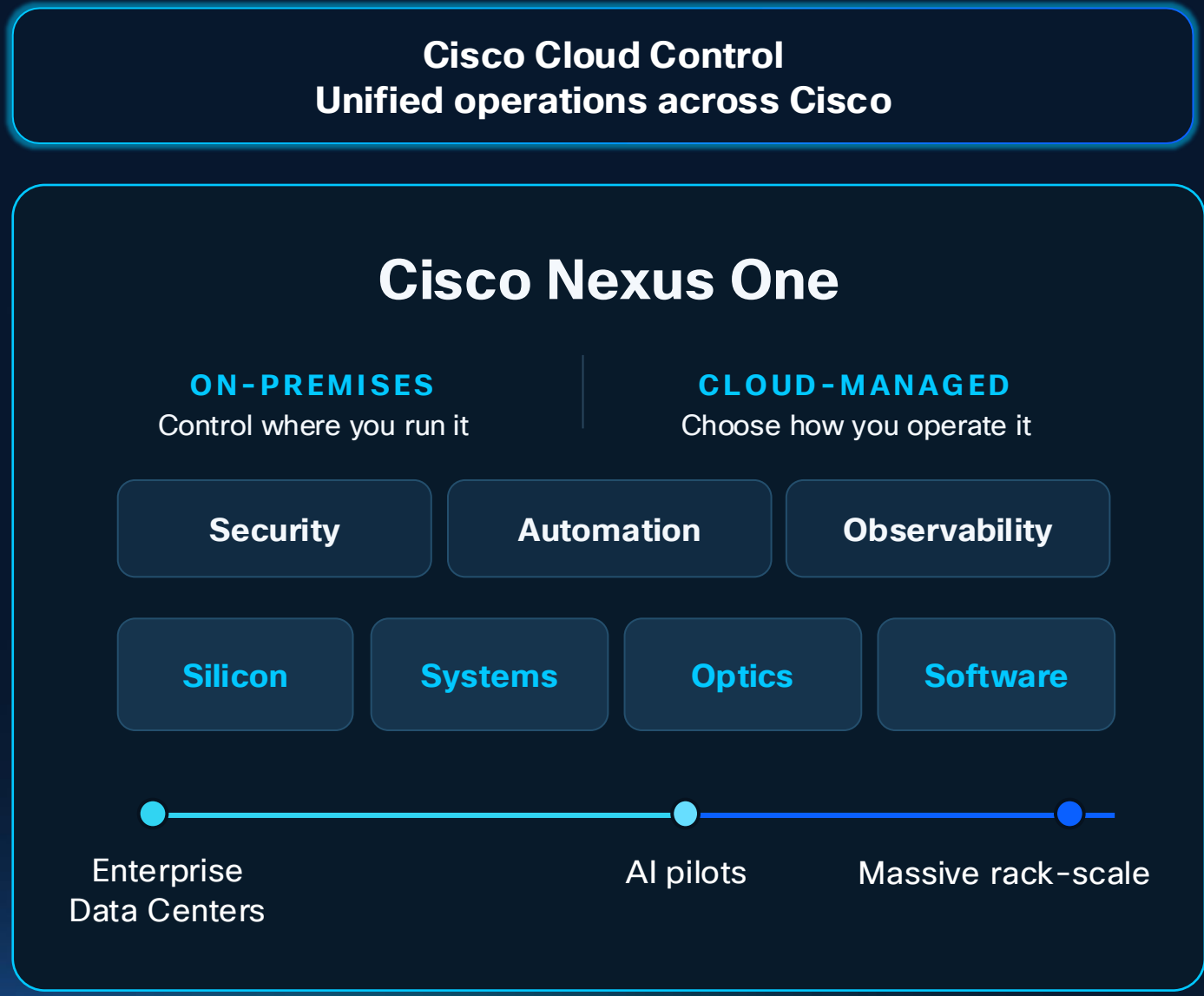
Retain

CISCO NEXUS ONE

Your data center network evolves.

Your investments carry forward.

Your choices stay open



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Cisco silicon + optics: control your path forward

Cisco-designed Cloud Scale and Silicon One ASICs + Cisco-engineered optics integration

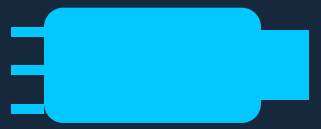
OUR SILICON. OUR SOFTWARE. OUR OPTICS ENGINEERING.

Cloud Scale

Silicon One



CONTROL THE ROADMAP



Cisco Optics

Qualified with the platform

CUSTOMER VALUE AT 100G AND 400G

01 POWER EFFICIENCY

12W vs 17.2W

400G DR4 vs four 100G DR modules: max optic power at the switch end*

02 100G DENSITY

256 × 100G

64 × 400G ports, each 4×100G breakout on Nexus 9364D-GX2A**

03 CABLING CHOICE

MPO or LC

MPO-12 for 4×100G breakout; 400G BiDi can reuse duplex LC fiber for 400G links.

* Module maximums: QDD-400G-DR4-S (12W) vs 4 × QSFP-100G-DR-S (4.3W each); not total switch power.

** Theoretical maximum with all 64 ports broken out; actual 100G count depends on uplinks, optics, cabling and software.

Cisco sources: GX2 switch · 400G optics · 100G optics · MPO breakout · Cloud Scale

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Cisco Blogs > Executive Platform >

Cisco and NVIDIA Announce USFP: Expanding the Path to AI Connectivity

Bill Gartner Will Eatherton | Executive Platform | October 12, 2026 • 3 min read • 6 min listen



The Ultra-Dense Small Form-Factor Pluggable (USFP) is industry's first pluggable form factor designed to help customers scale AI networks, providing a path to up to 12.8T of aggregate capacity while preserving proven deployment and serviceability models

https://blogs.cisco.com/news/cisco-and-nvidia-announce-usfp-expanding-the-path-to-ai-connectivity

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Simpler, smarter and agile with Cisco Compute

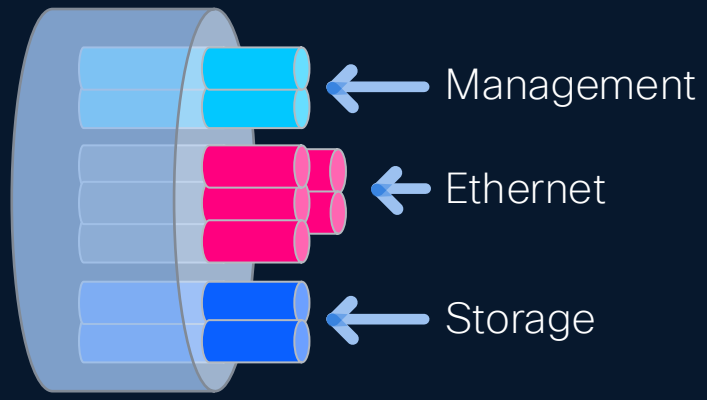
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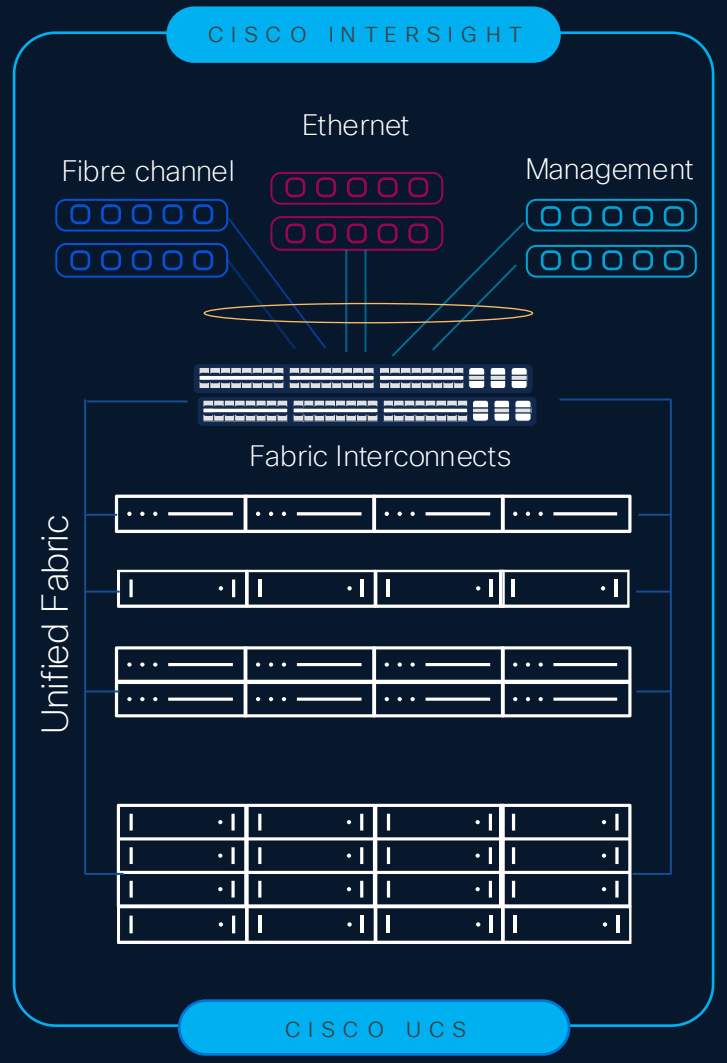
Power of UCS (Since 2008)

High Performance
10/25/40/100 Gbps Ethernet
8/16/32/64G Fibre Channel

Unified Fabric
Single Cable for Traffic
Multi-protocol IP/FC SAN
Dynamic I/O Virtualization

Simplified Infrastructure Management
On-demand virtual networks
Stateless infra Mgmt @ scale
Plug-and-play fabric





UP TO **66%** Less Cable Adapters Switches

UP TO **50%** OpEx, CapEx Savings

UP TO **30%** More sustainable

Compute for every workload, from core to edge

Retain

Enterprise applications, AI training and inference

CORE ENTERPRISE WORKLOADS

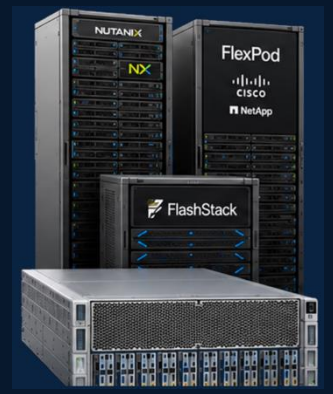
MODEL TRAINING, LARGE SCALE INFERENCE, AGENTIC AI

MODEL TRAINING

OPTIMIZATION, INFERENCING, AGENTIC AI

INFERENCING, AGENTIC AI

HCI/ CI Solutions



HCI with Nutanix | FlexPod | FlashStack

Rack-Scale Systems

NEW



Supermicro NVIDIA Vera Rubin NVL72

NEW



Supermicro NVIDIA Grace Blackwell 300 NVL72

Dense GPU Servers

NEW



Supermicro w/ NVIDIA HGX Rubin NVL8 liquid-cooled

NEW



Supermicro w/ NVIDIA HGX B300 NVL8 liquid-cooled

NEW



Supermicro w/ NVIDIA HGX B300 NVL8 air-cooled

PCIe GPU Servers

NEW



Supermicro MGX NVIDIA RTX PRO



Cisco UCS® C845A M8 NVIDIA RTX PRO & AMD Instinct MI



Cisco UCS® X-Series Modular Servers NVIDIA RTX PRO



Cisco UCS® C245 M8 NVIDIA RTX PRO



Cisco UCS® C240 M8 NVIDIA RTX PRO

Edge PCIe GPU Platform



Cisco Unified Edge NVIDIA RTX PRO

Cisco Cloud Control | Cisco Intersight – Simplified operations and fleet management

CORE

EDGE

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Cisco Unified Computing System

Retain

Simpler, smarter, more agile



Cisco UCS servers managed by Cisco Intersight

Modular, sustainable, easily upgradeable solution

Fabric-based architecture with unified fabric connectivity

Cloud-based management to automate operations

Designed with sustainability and energy efficiency in mind

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Retain

Cisco Unified Edge: Future-Ready Performance

Integrates compute, networking, storage, and security

Compute node

- Compute
- Storage
- Software

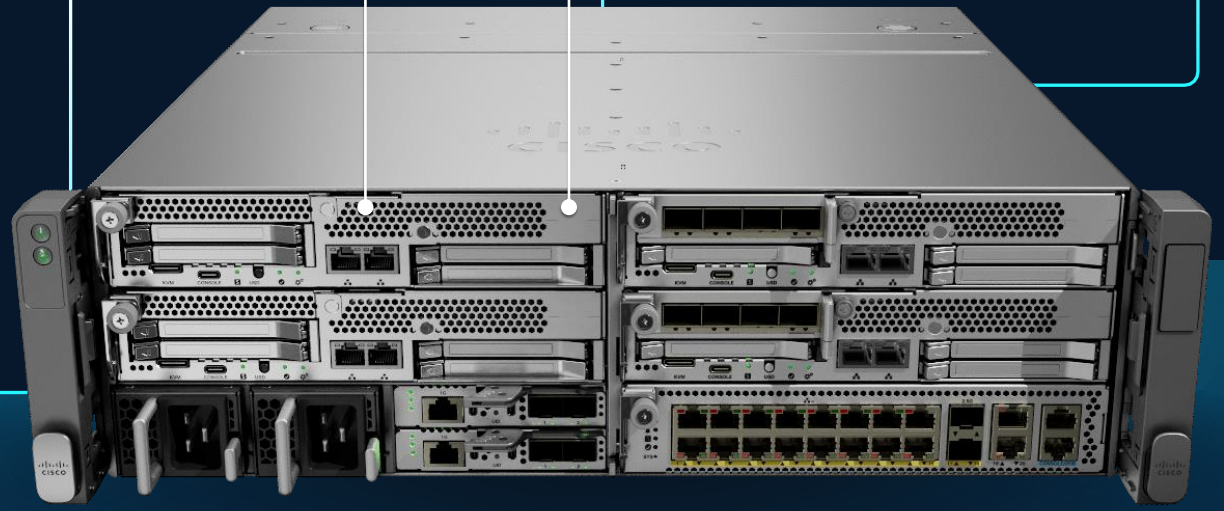


GPU

Half-height/half-length GPU

NVIDIA L4 first

Additional GPUs on roadmap



Intel Xeon 6 SoC

CPU native AI inferencing (AMX)

Confidential compute (TDX & SGX)

Integrated Ethernet

Scalable multithreaded cores (12, 20, 32)

NUTANIX · Red Hat · vmware by Broadcom · Canonical Ubuntu · Microsoft · intel · cisco · SUSE

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Fewer servers. More capacity. Lower costs.

Retain

Refresh Cisco UCS compute while retaining your platform and workloads.

1

Reduce footprint

Consolidate servers and connectivity. Reduce power, cooling, and rack space.

2

Simplify operations

Automate deployment, upgrades, and recovery with consistent policies.

3

Create room to grow

Add capacity for existing workloads and new applications.

Lower hardware and operating costs

Servers · Network & SAN ports · Optics / NICs / HBAs · Power & cooling · Rack space · Ops labor

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Rehost with Cisco + Nutanix

Rehost

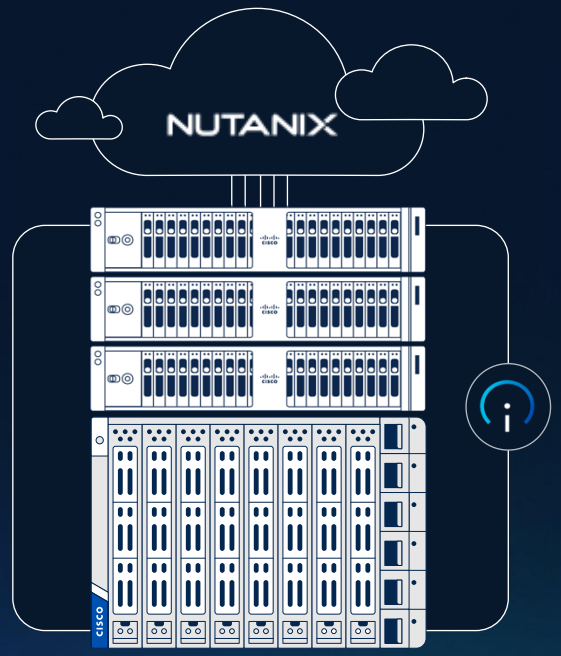
A validated platform for VMs and containers.

Keep your VMs

Move workloads without converting them to containers.

Simpler adoption

Simplify buying, deployment, and scaling.



Cisco Compute and Networking

Validated platform

Cisco compute and networking, validated with Nutanix.

Coordinated support

Cisco and Nutanix support, working together.

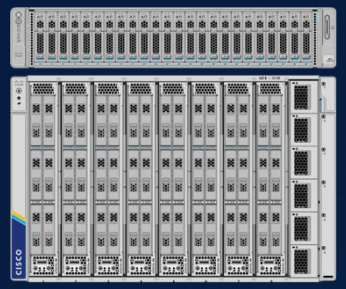
Keep your applications. Modernize the platform.

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Rehost on Nutanix.
Build on your UCS investment.

Rehost

1



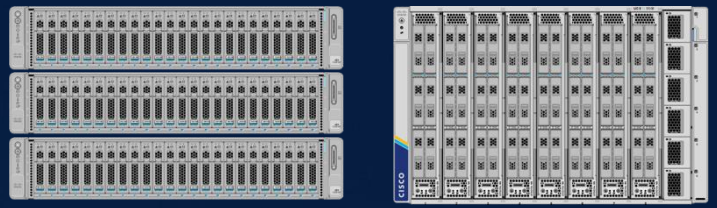
Reuse existing UCS*

Convert qualified UCS servers into Nutanix-ready nodes

Provision & manage
with Cisco Intersight

2

Cisco Compute Hyperconverged with Nutanix Cluster



Keep deployment options open

Deploy as HCI or repurpose
for general-purpose compute as needs change.

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*Supported hardware: Cisco UCS rackmount M6/M7/M8, X-Series M6/M7/M8modular servers, and B-Series M5/M6

Cisco UCS Converged Infrastructure Portfolio

Rehost

Offering choice and flexibility

20,000+
Customers

200+
Validated Architectures

12+
Years of Innovation



FlexPod

NetApp



FlashStack

PURESTORAGE®



Cisco and Hitachi adaptive solutions

HITACHI

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

USE CASES

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Nutanix AI and Kubernetes on Cisco AI PODs

Re-platform

Enterprise AI, ready to scale

Security
Protect data.
Maintain control

Network
High-performance networking
for AI inference

Assurance
Validated infrastructure.
Repeatable deployment.



Comprehensive Turn-Key AI Platform

- NVIDIA — Applications & Agents
- NUTANIX — Enterprise AI
- NUTANIX — Kubernetes Platform
- Compute — cisco — Network
- NUTANIX — Unified Storage

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Modernize applications with Cisco + Red Hat

Re-platform

Run VMs alongside containers as you modernize existing apps and build new ones.

Modernize at your pace

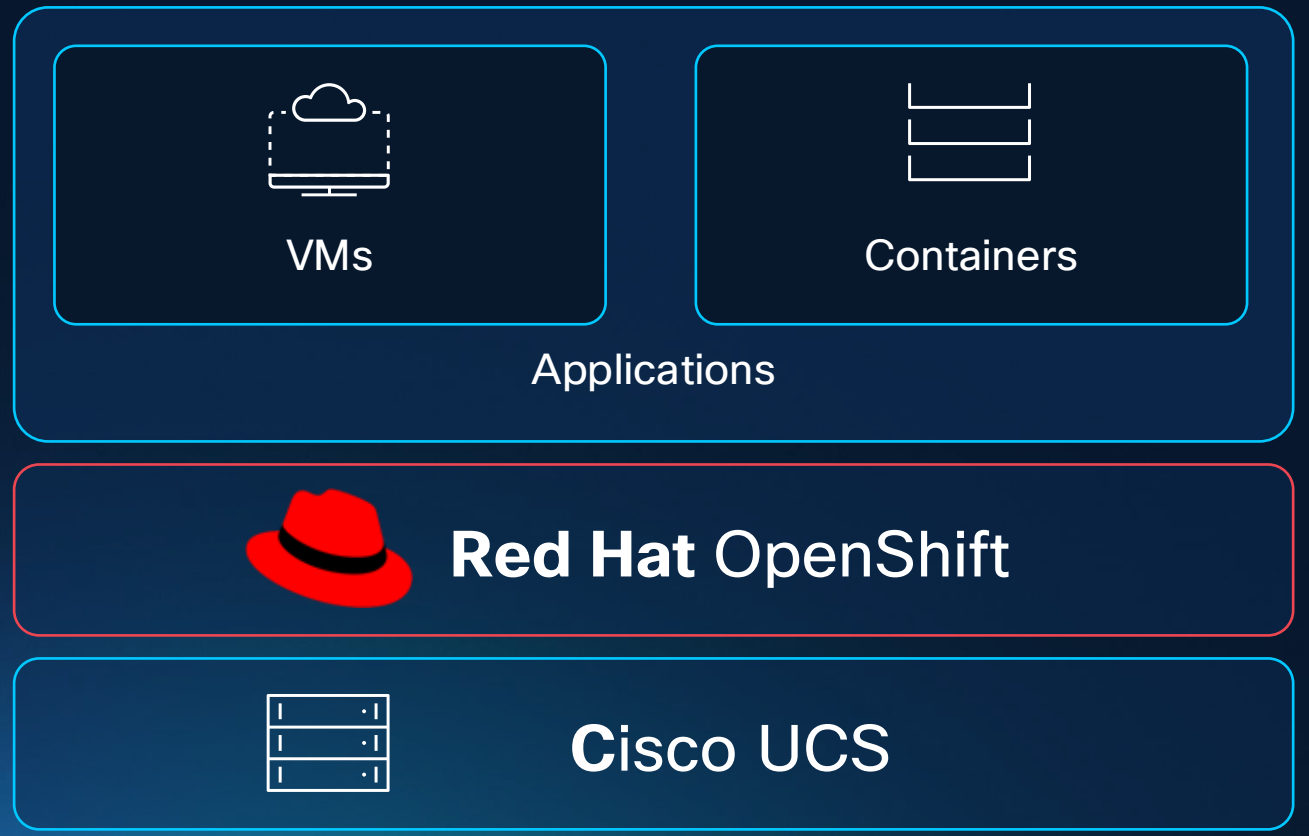
Bring applications to containers when they're ready.

Automate operations

Combine Cisco infrastructure management with Red Hat automation.

Deploy with confidence

Use validated designs and coordinated solution support.



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Secure every layer of the modern data center

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Security for every modernization path

Retain

Modernize existing fabrics

Upgrade inspection and shield infrastructure

Rehost

Embed security in infrastructure

Protect within workloads and switches

Re-platform

Enable security in applications

Control access between services

Unified policy & operations · Identity · Visibility

Hybrid Mesh Firewall

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Cisco Hybrid Mesh Firewall

Distributed security at the speed of change

Define policy once, enforce everywhere



Cisco Firewalls

Physical | Virtual | Cloud | FWaaS



3rd Party Firewalls



NVIDIA Bluefield DPU Firewall on AI Servers



Smart Switches



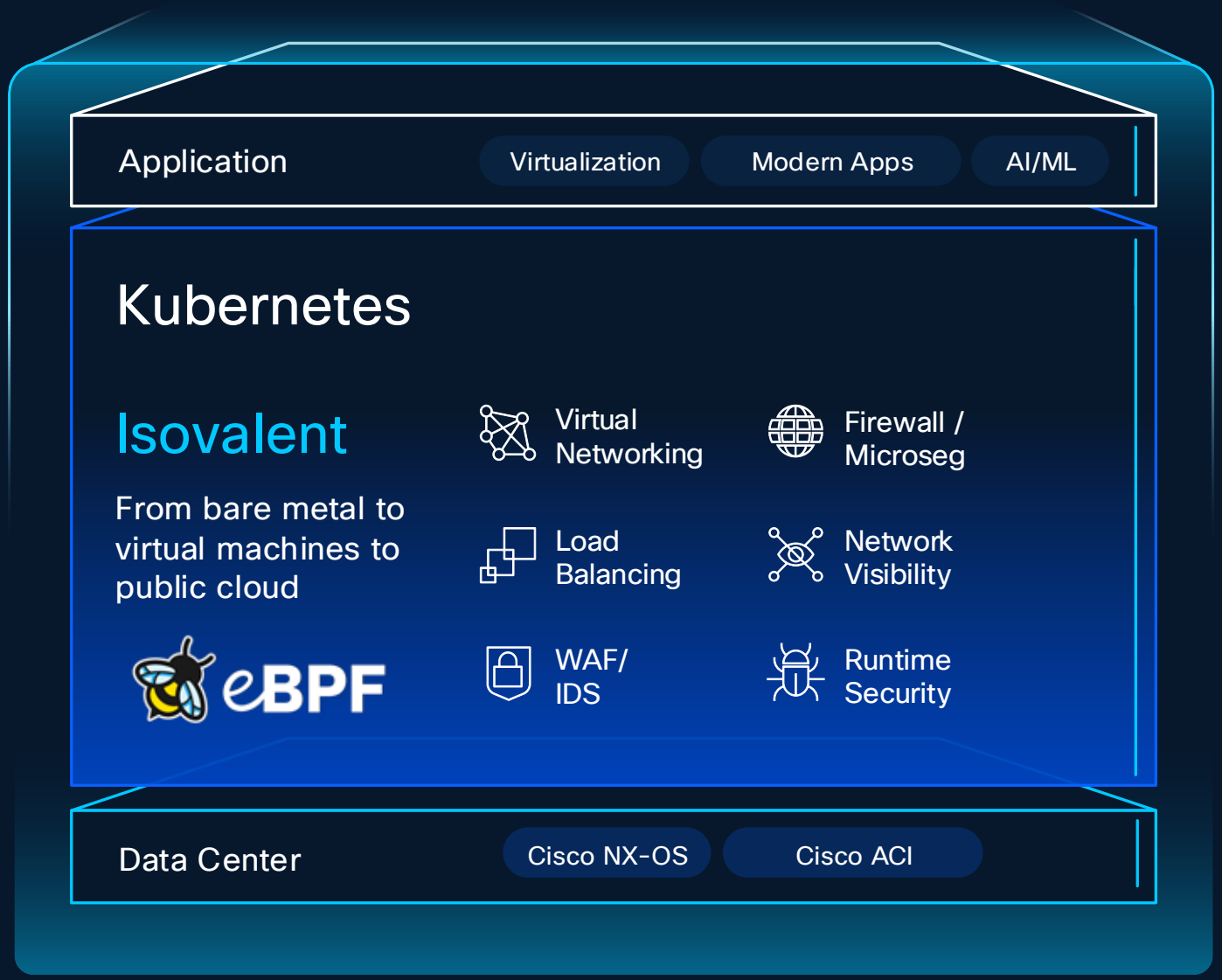
Workload Agents

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Isovalent

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Where does Isovalent operate?



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Re-platform

Consistent visibility, policy, and connectivity from Kubernetes to fabric



NEXUS ONE

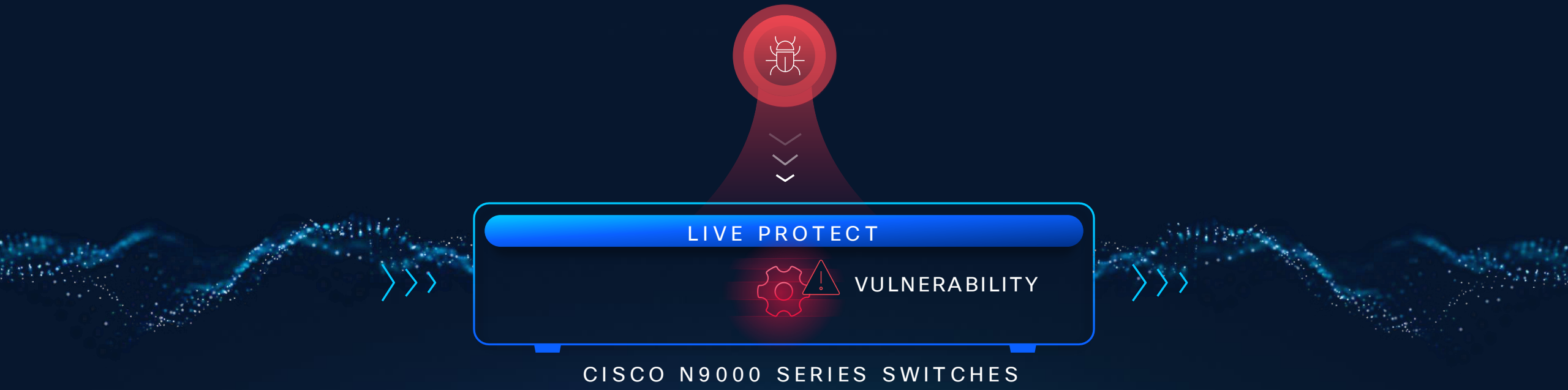
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Retain

Live Protect

Vulnerability shielding for Cisco products

Stop the attack... but don't stop the network.



Apply policy to live system

Protect now; patch in planned window

No downtime or switch reboot

Continuous re-validation

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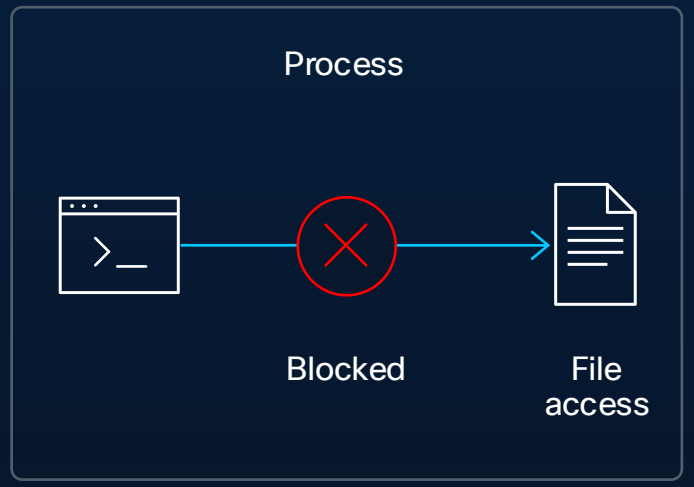
Rehost

Stop threats from process to network

Process actions

Control what processes do

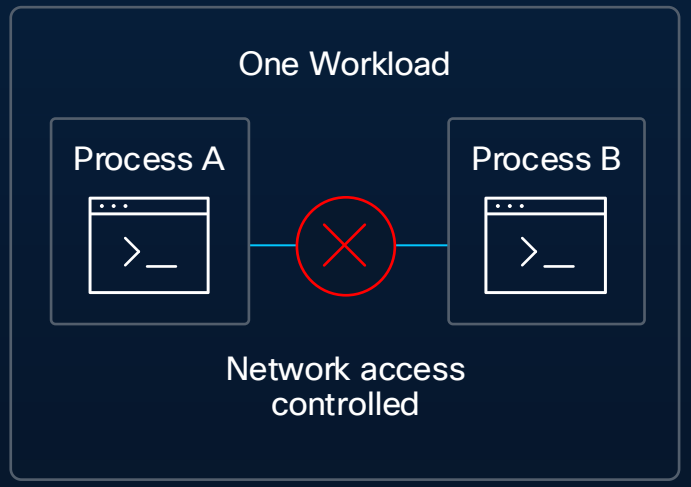
Enforce specific runtime actions



Process connections

Control traffic between processes

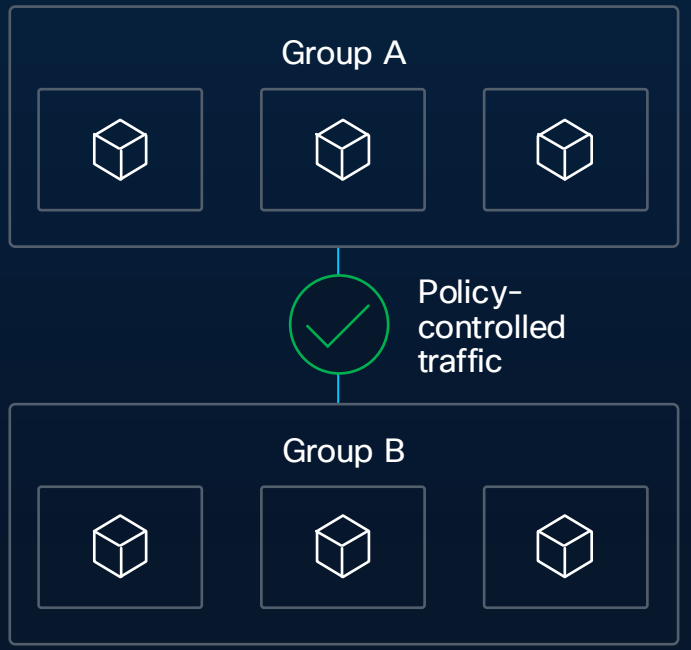
Process-aware network enforcement



Workload groups

Control traffic between groups

Segmentation across groups or zones

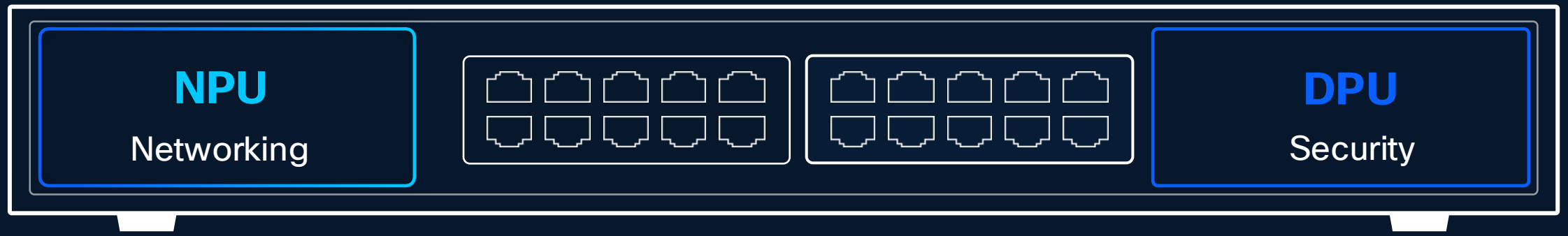


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Threat containment at massive scale built into your network

Rehost

AVAILABLE NOW



CISCO N9300 SMART SWITCH & HYPERSHIELD

Hardware-accelerated **segmentation** on every port

Single appliance, dual personality

Greater visibility, fewer dropped packets

More easily scale security as traffic increases

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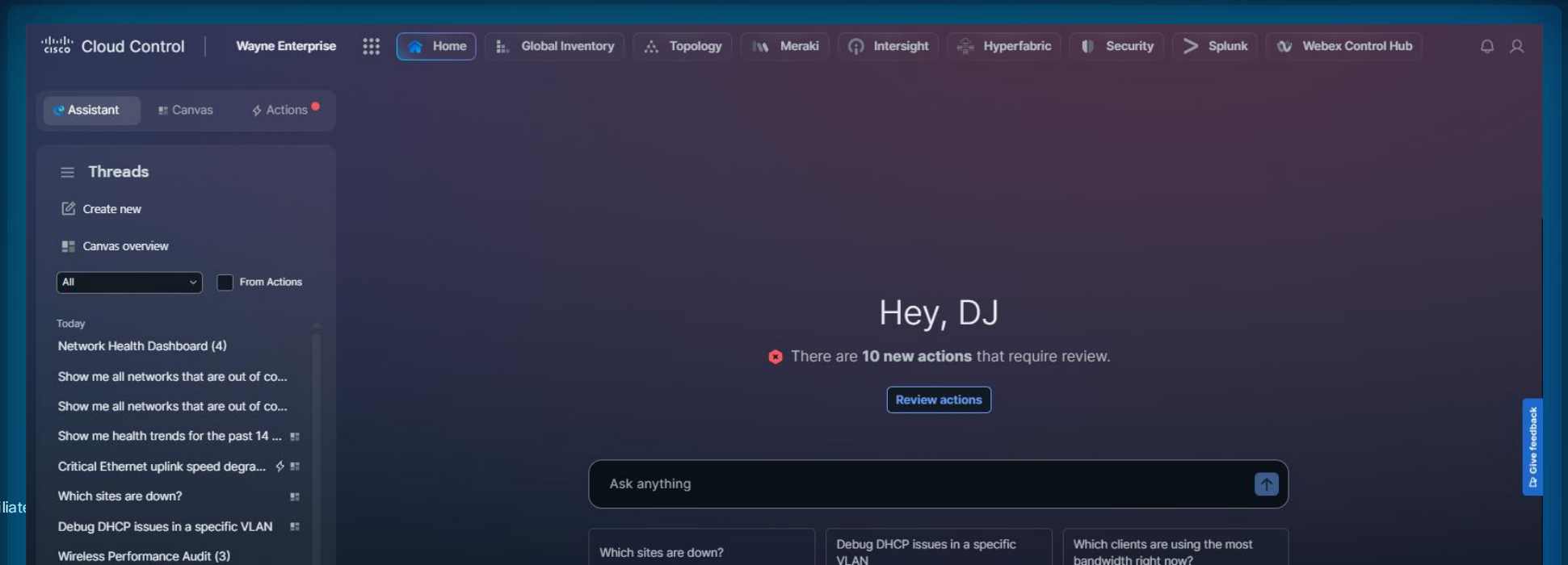
Start your journey with Cisco Cloud Control

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Cisco Cloud Control

One platform. Every domain. The foundation everything else is built on.

Meraki · ThousandEyes · Security Cloud Control · Splunk · Nexus Dashboard · Catalyst SD-WAN · Intersight · Webex · IQ · & more



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AI-driven operations for proactive data center networks

Find root cause faster

"Why is my app slow?"

Correlate app, fabric, and server signals.

- Nexus One
- Intersight

Keep the fabric healthy

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Protect AI job performance

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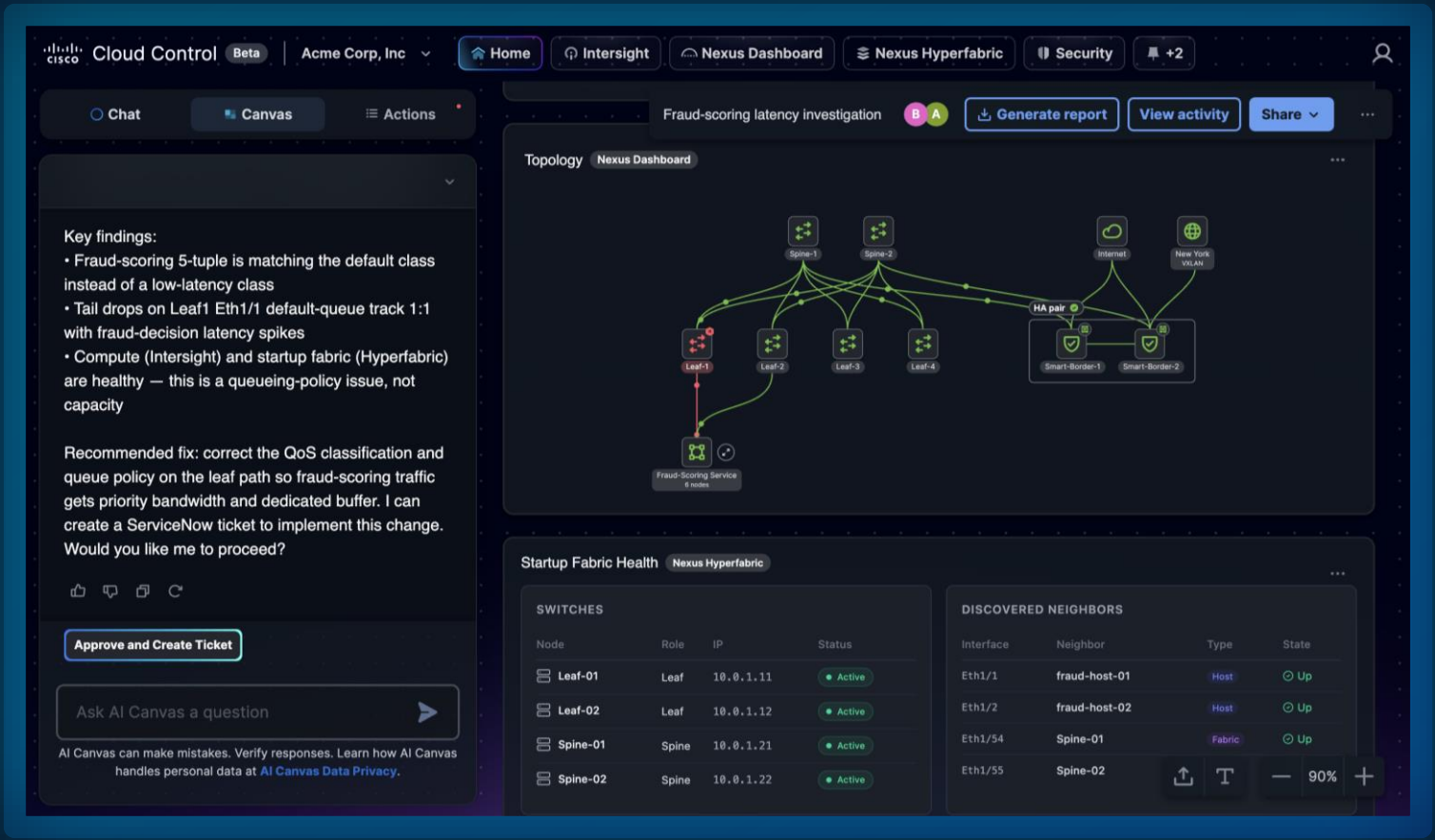
- Nexus One

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Cisco Cloud Control

Extend insights to the data center

Connect insights across networking, compute, and security for faster troubleshooting and continuous management



Nexus One

- Fabric Discovery & Topology
- Health & Connectivity
- Anomalies & advisories
- AI Workload Observability
- Network Analytics

Intersight

- Compute, networking & storage Inventory
- Health and connectivity context
- Change Correlation (audit-record)

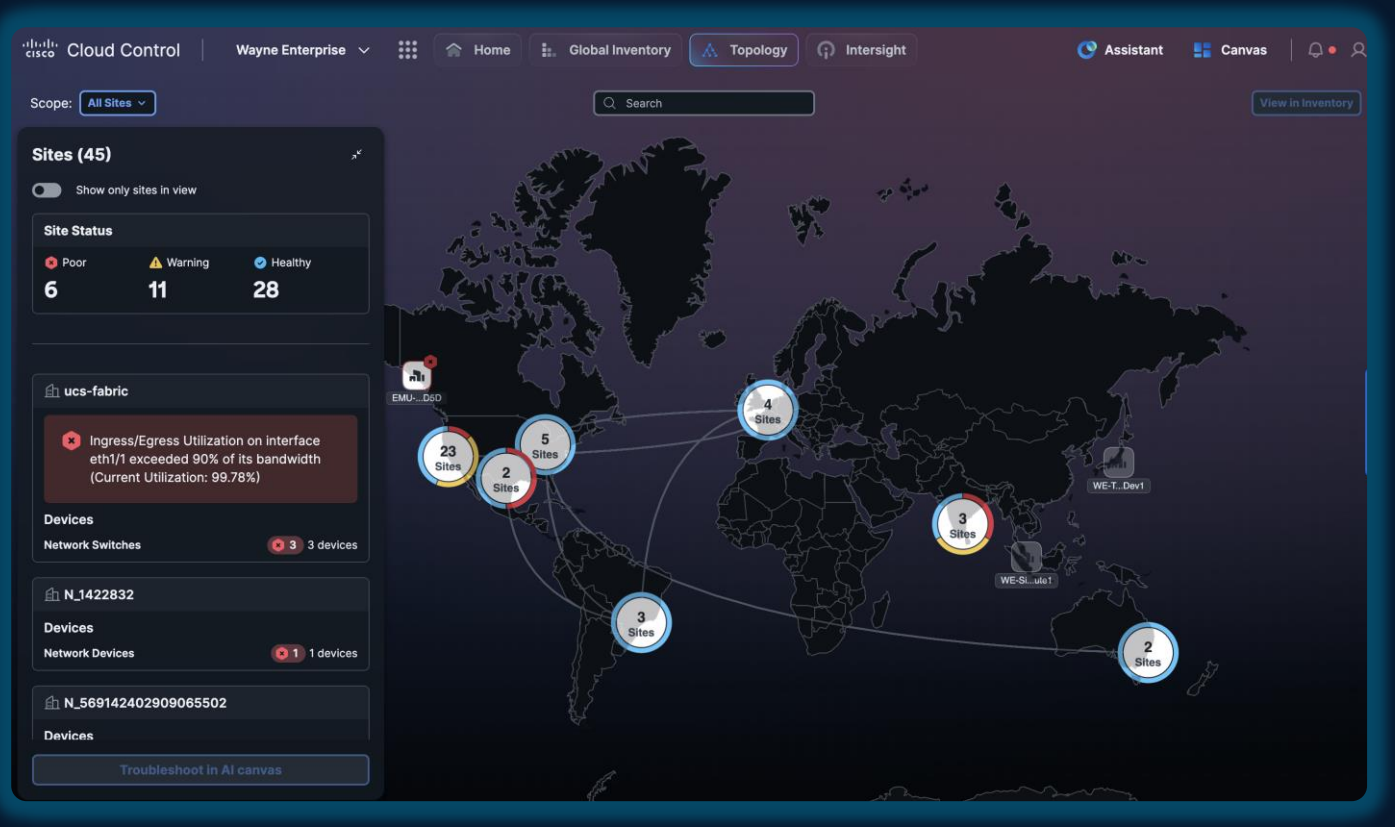
Security Cloud Control

- VPN tunnel health
- Traffic flow & routing context
- Guided remediation

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Simplify compute operations with Cisco Intersight

Integrated with Cisco Cloud control



Single point of management

From rack to modular to edge...any design, one management platform! SaaS and on prem.

Management at Scale

Automate compute deployment, configuration, and lifecycle management

Operate proactively

Anticipate issues and simplify troubleshooting with AI-assisted insights

Connect your ecosystem

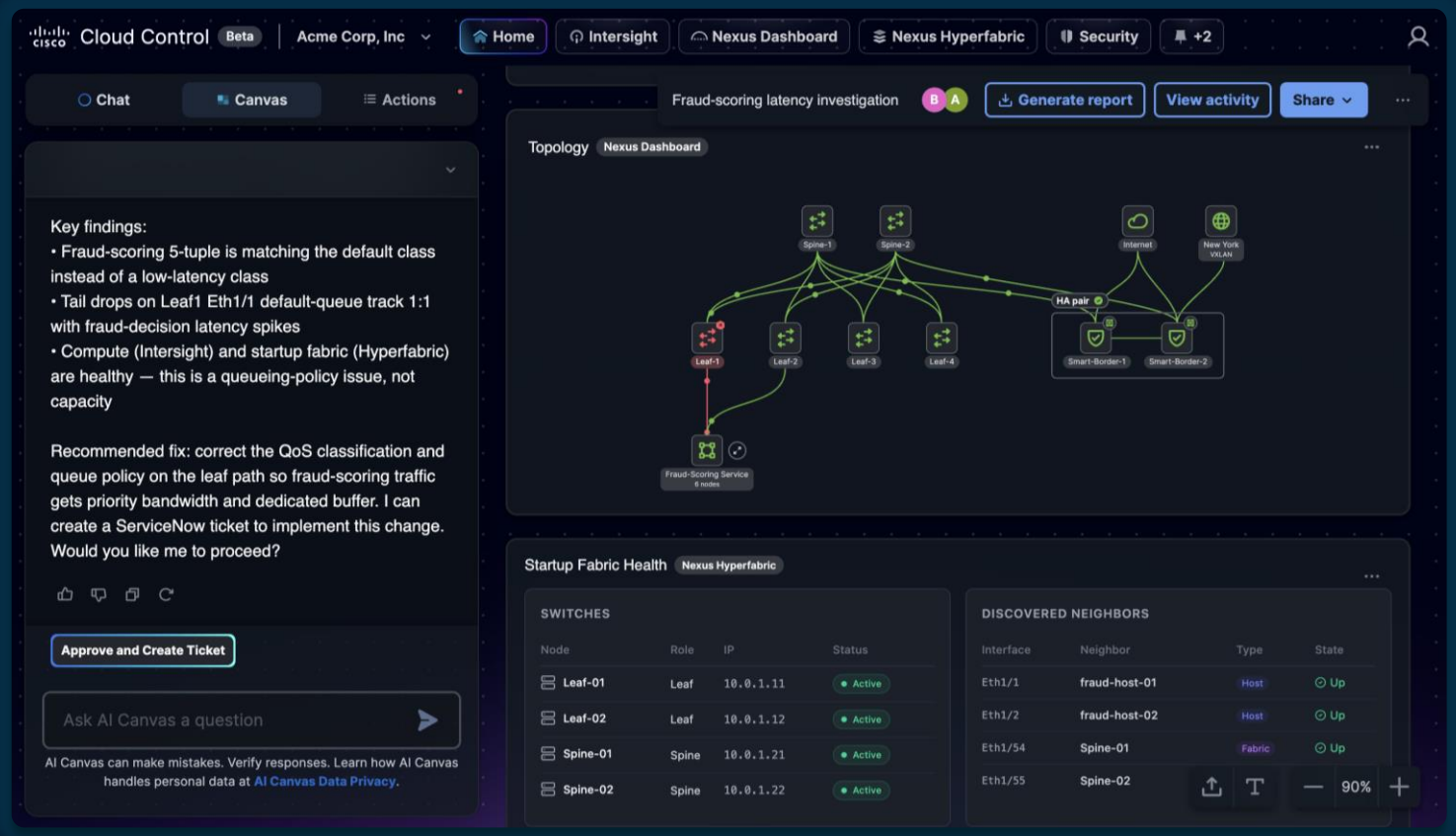
Integrate with platforms like Nutanix and Red Hat, automate with Ansible and Terraform, and connect service workflows through ServiceNow.

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Cisco Cloud Control

Nexus One and Isovalent

Leverage cross-domain visibility and telemetry for autonomy – from troubleshooting to continuous management.



Skills powering deep reasoning agents

Nexus One

- Fabric Discovery & Topology
- Health & Connectivity
- Anomalies & advisories
- AI Workload Observability
- Network Analytics

Isovalent

- Formulation/auditing of Segmentation Policy
- Vulnerability Management

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Deploy production-ready stacks in-minutes

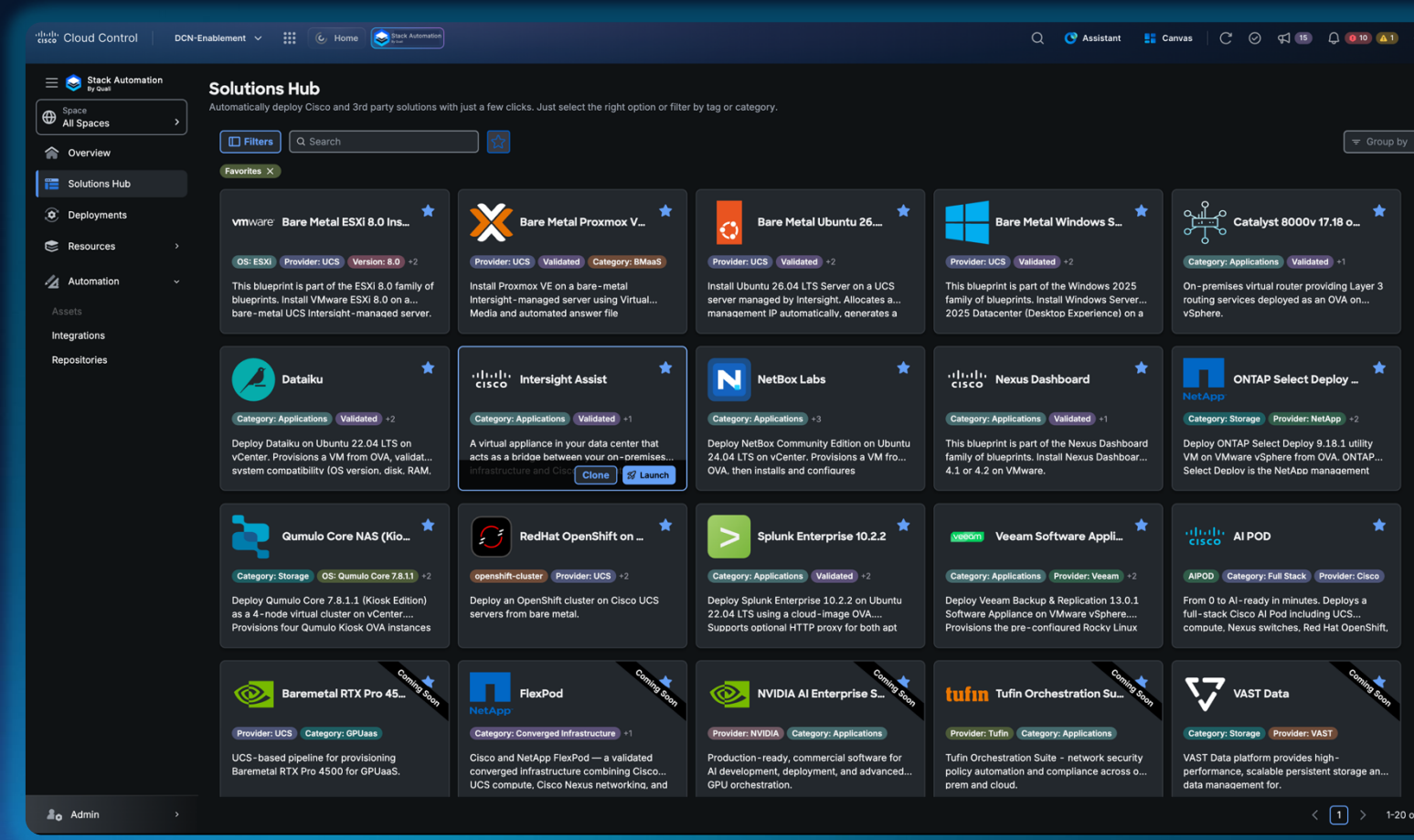
Introducing Stack Automation by Quali. Co-developed with Cisco

Available in Cisco Cloud Control

Deploy Cisco and third-party solutions.
On-premises or in the cloud.

Enterprise hardware, security, and validated designs

Automation to orchestrate and manage the full stack



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Resources

GET STARTED

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Cisco Compute ↗

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DEEPER DIVE RESOURCES

Compute design guides ↗

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