CISCO Connect

Secure Networking for AI-Ready Data Centers

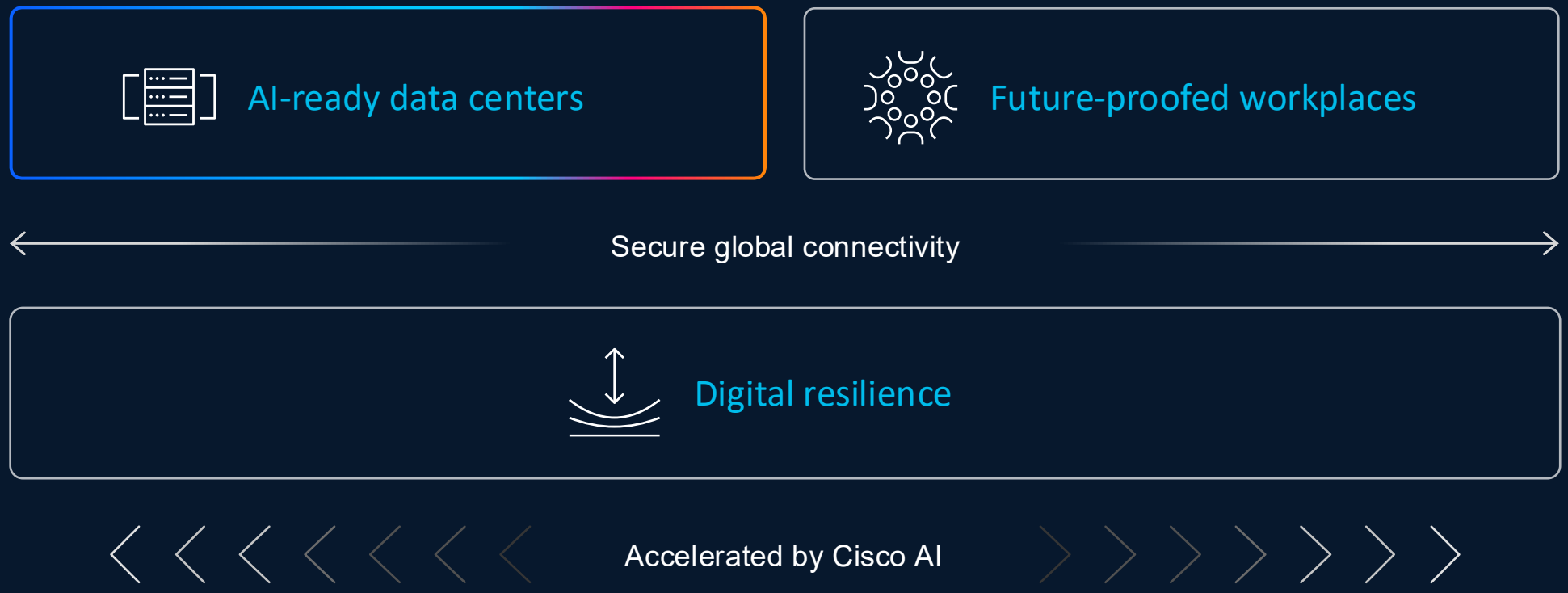


Joe Piperata
Solutions Engineer

Eric Freschi
Account Executive

September 23, 2026

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



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The three forces re-shaping security

The Mythos moment

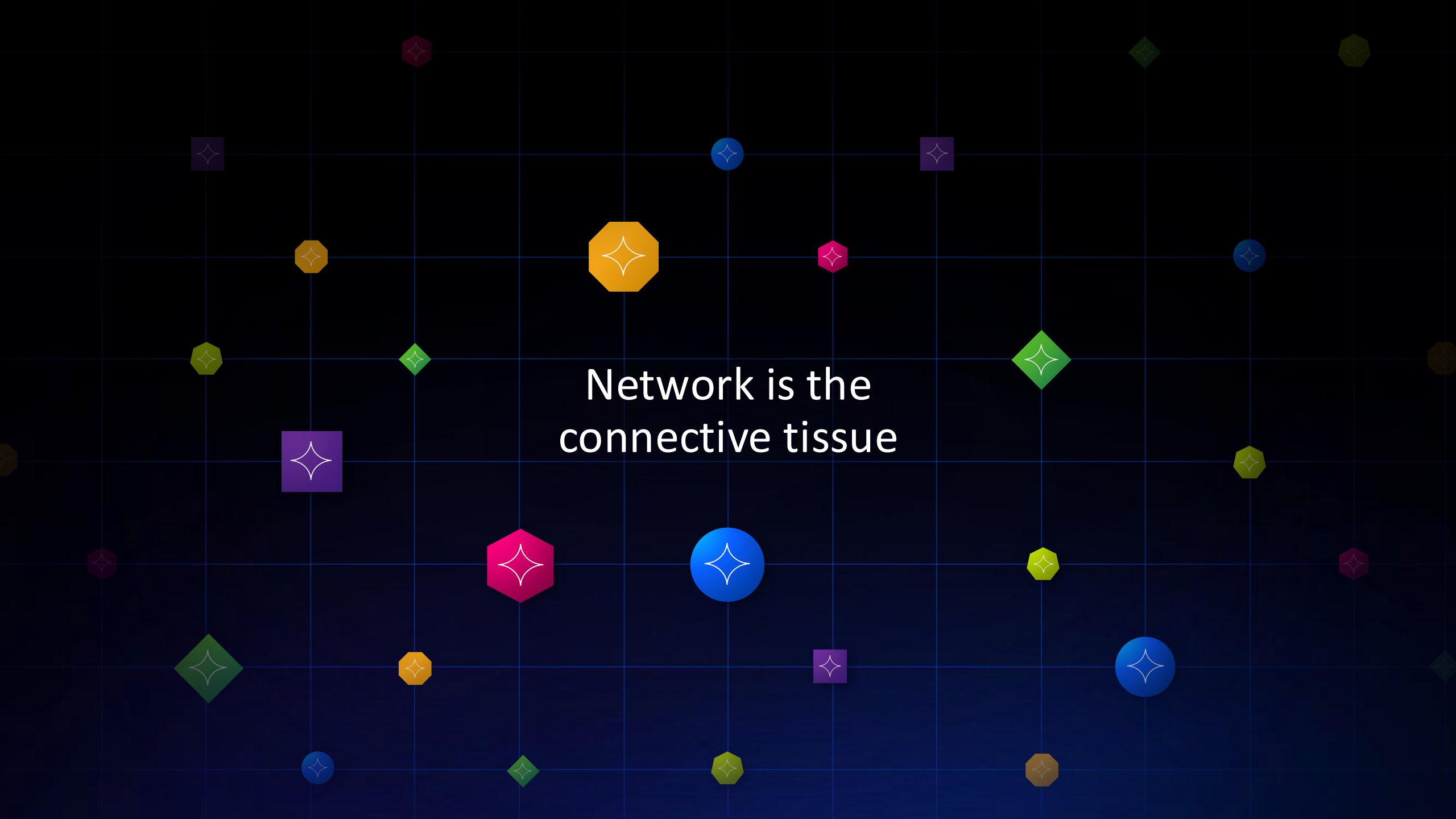
Shields Up

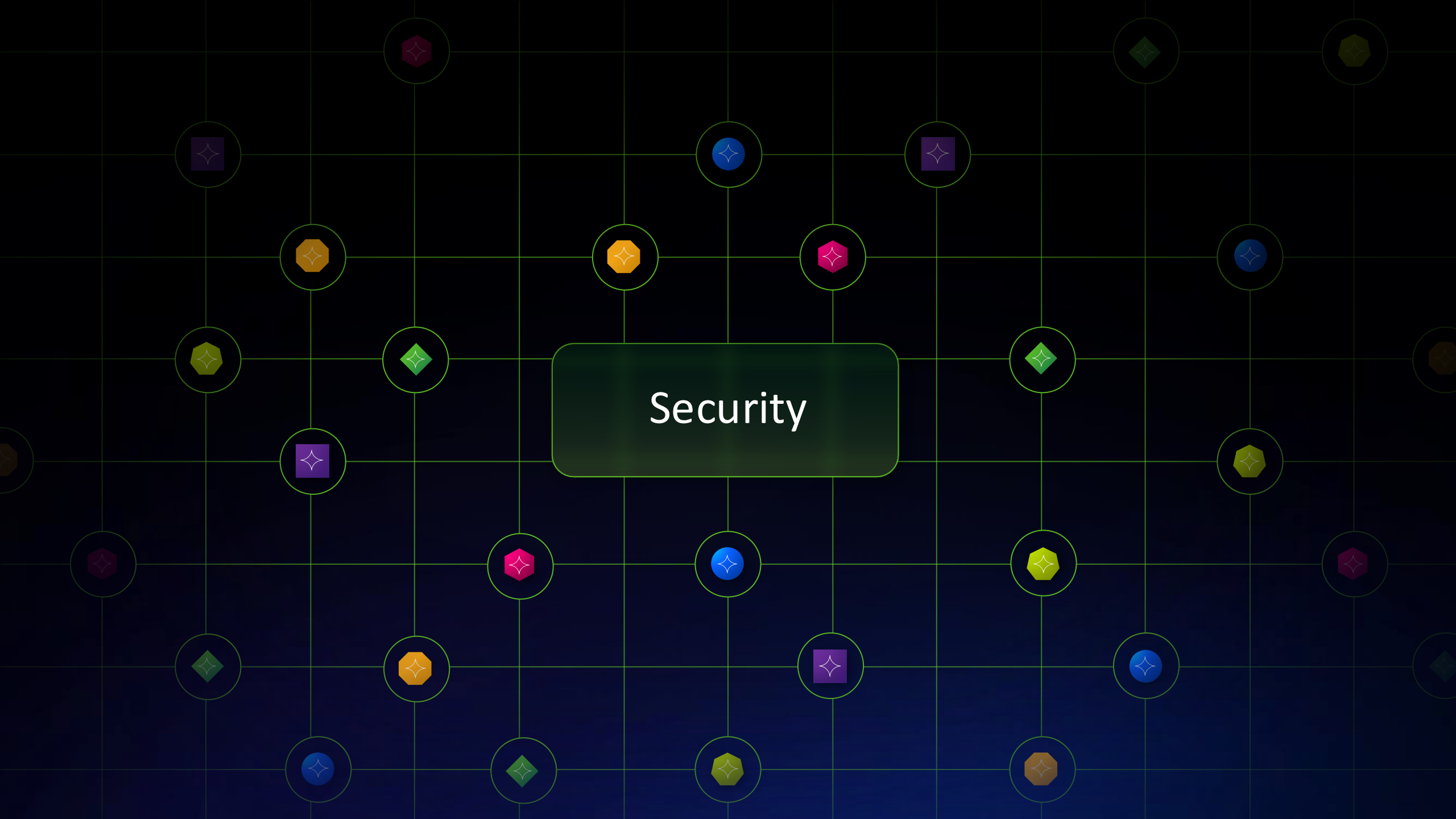
The OpenClaw moment

Security for Agents

The need for speed

Security using Agents


Network is the
connective tissue


Security

Secure Networking: security fused into the network



Resilient infrastructure



Identity



Segmentation & steering



Protection

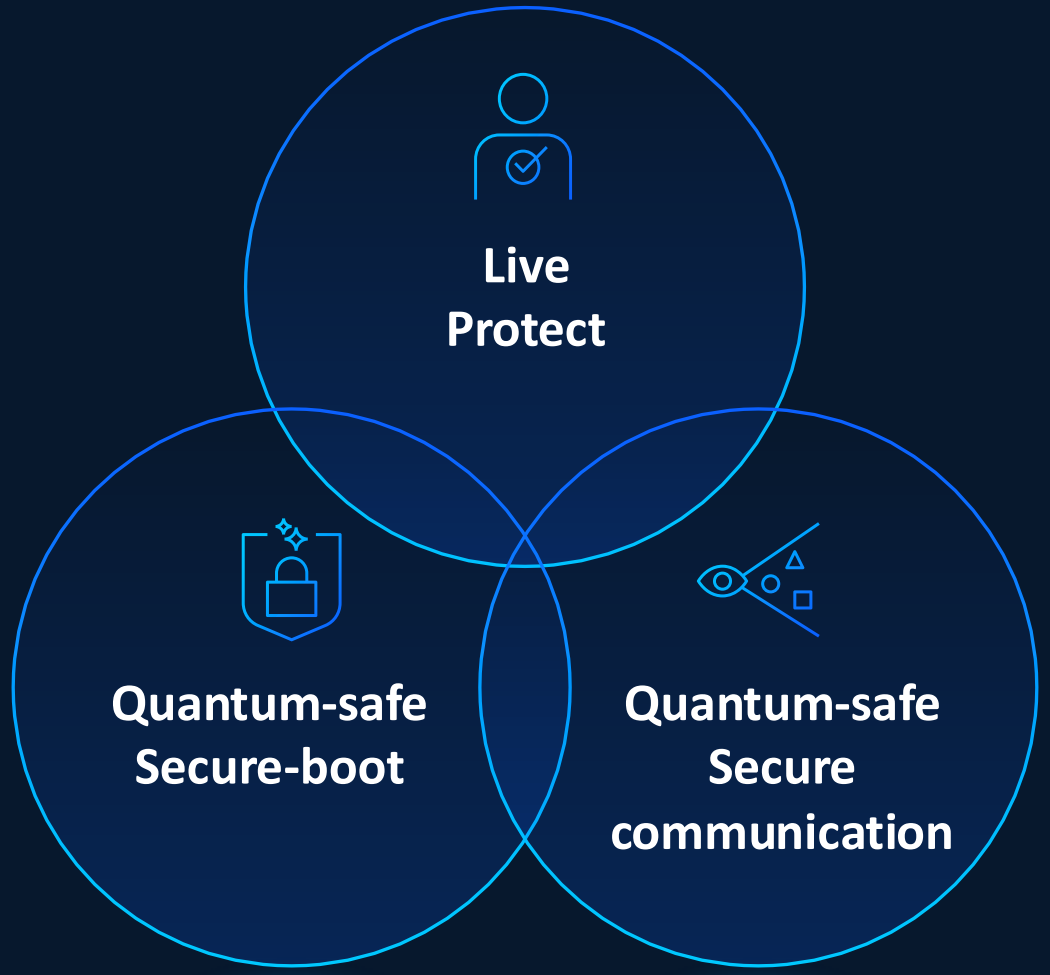


Visibility & insights

Resilient infrastructure

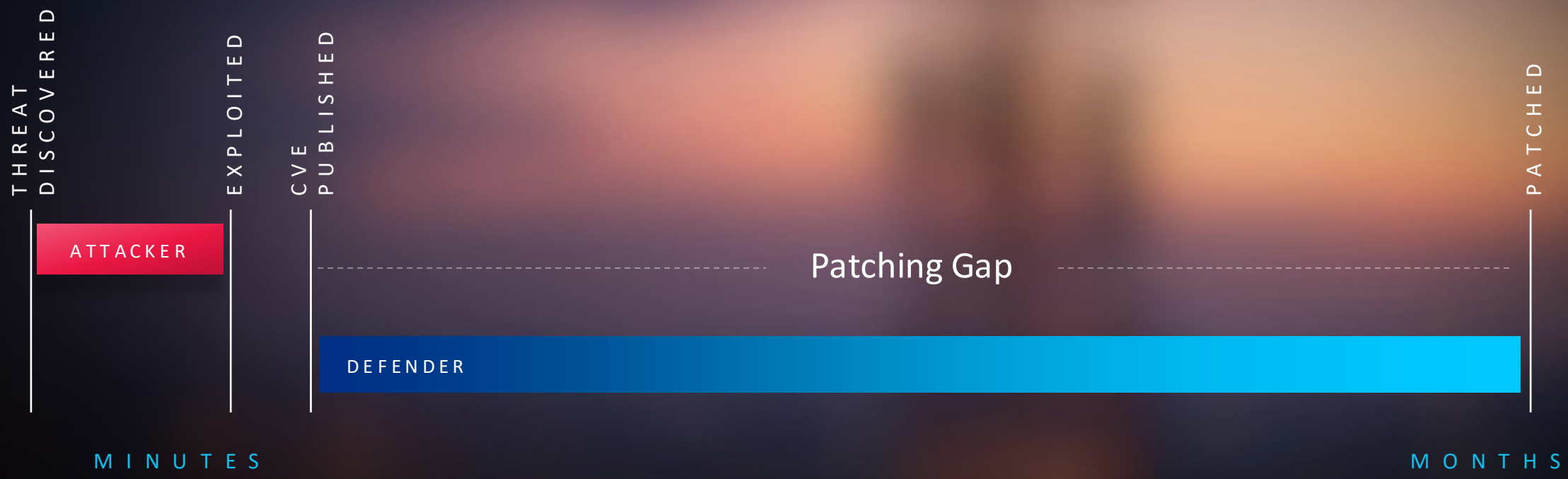
Protecting your infrastructure

From silicon to software — secured at every layer



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AI-speed attacks compress the patching window. Minutes to exploit. Months to patch.



Live Protect



EXTENDING ACROSS CISCO NETWORKING AND SECURITY

Apply policy to live system	Protect now, patch in planned window	No downtime or switch reboot	Continuous re-validation

Live Protect helps teams act before patching is complete

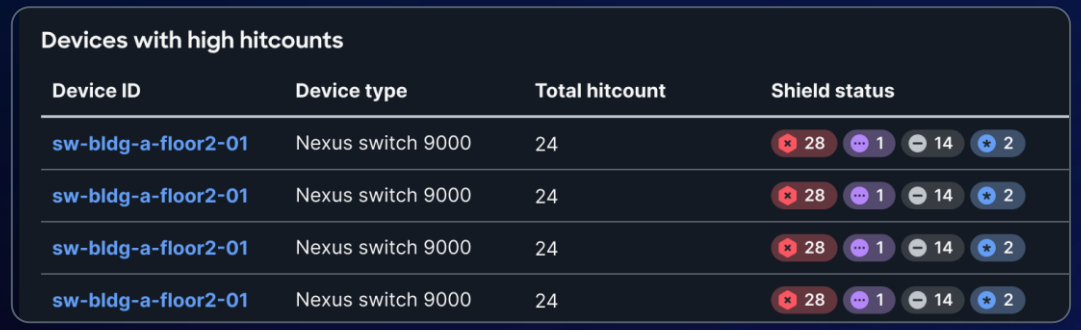
01
Identify affected assets



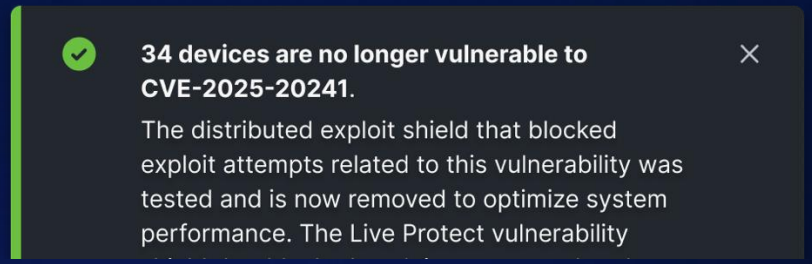
02
Deploy Vulnerability Shields



03
Monitor Shield activity



04
Patch software and retire Shields

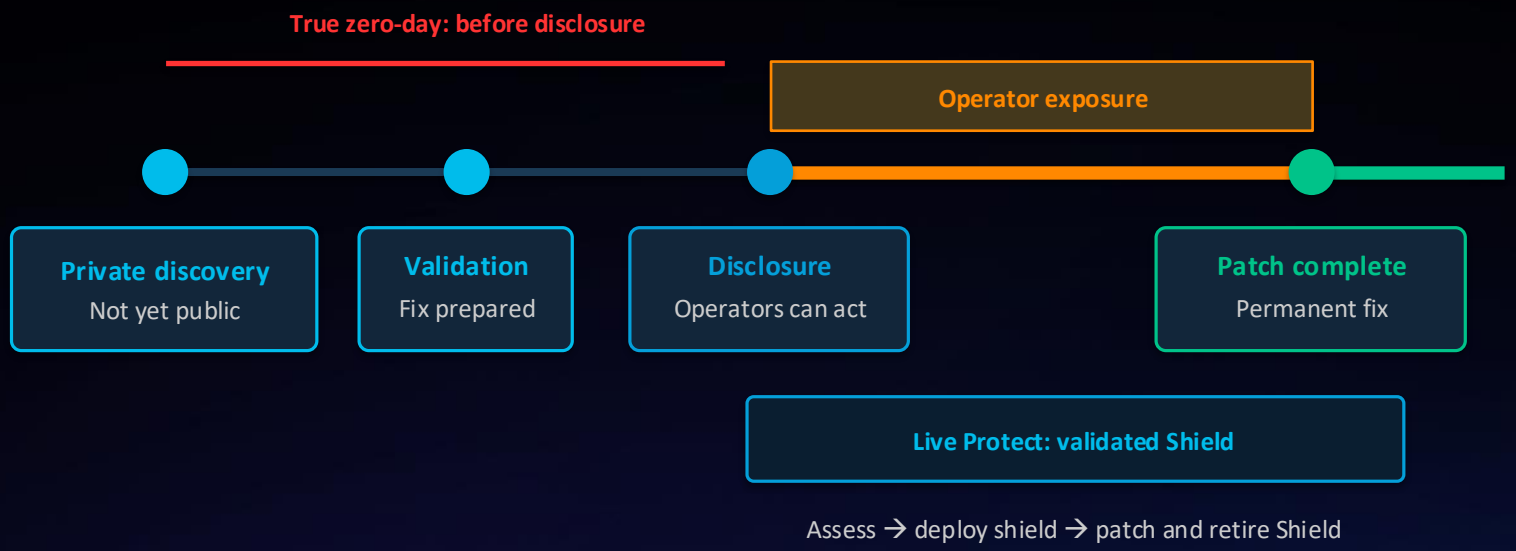


Some products and features described are in development and offered on a when-and-if-available basis. Cisco reserves the right to change delivery timelines and will have no liability for any delays or failures to deliver.

Most exploitation risk lives after disclosure

Disclosure starts the operator clock

After disclosure, operators assess affected assets, apply validated Shields where available, and patch to close exposure.



Live Protect helps operators compress post-disclosure exposure for selected, validated conditions on supported Cisco products.

Post-quantum security must protect both communications and product trust

Harvest Now, Decrypt Later risks

Secure Communications

- **Key Establishment**
  Replace classical KEMs with ML-KEM
- **Identity & Trust**
  Replace classical signatures with ML-DSA

Key Exchange & Authentication

Device and supply chain tampering risk

Secure Products

- **Secure Boot**
  Hardware root-of-trust
- **Secure Storage**
  Protected key & identity store

Quantum resistant trust in HW systems

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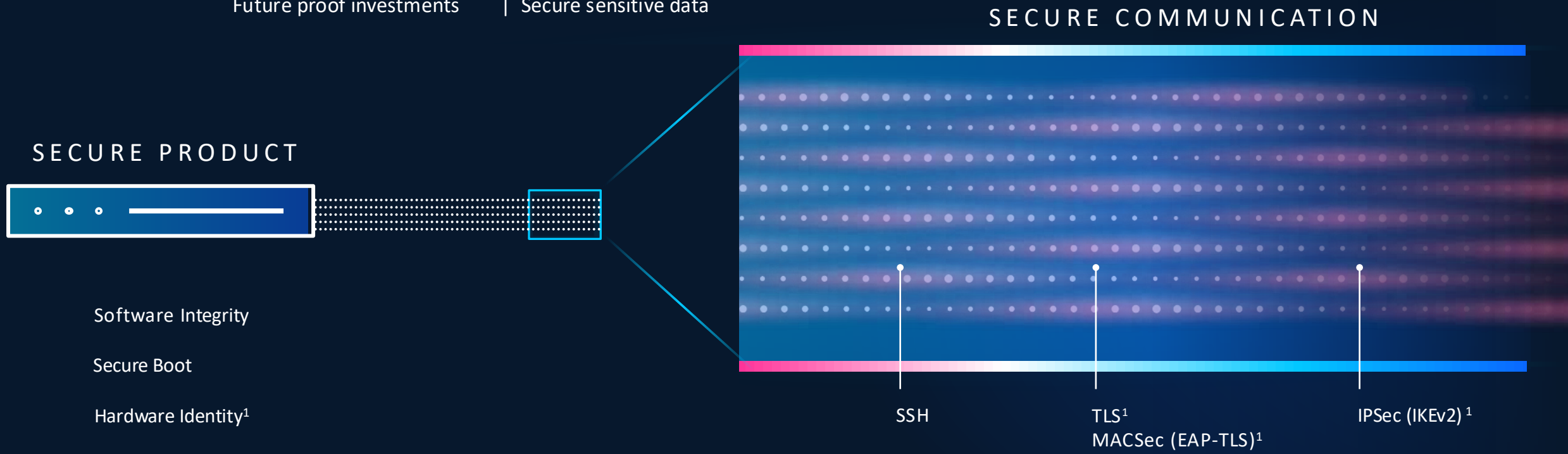
NEW Q4 CY26

Quantum-safe data center networks

Protect your data from Harvest Now, Decrypt Later

Post-Quantum Cryptography (PQC) Resilience in Cisco N9000 Series Switches

Future proof investments | Secure sensitive data



[1] Support planned for NX-OS and ACI CY-2027 releases

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Identity

Identity is at the heart of networking & security



All kinds of users, things



All kinds of workplaces



Managed and unmanaged devices



All kinds of things (IT/IOT)

Cisco Identity



Public SaaS apps



Web



Modern/ZTNA private apps



Gen AI apps



Legacy private apps

Cisco Nexus One



Network Policy



Security Policy

Hybrid Mesh Firewall

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GA in Oct 2026

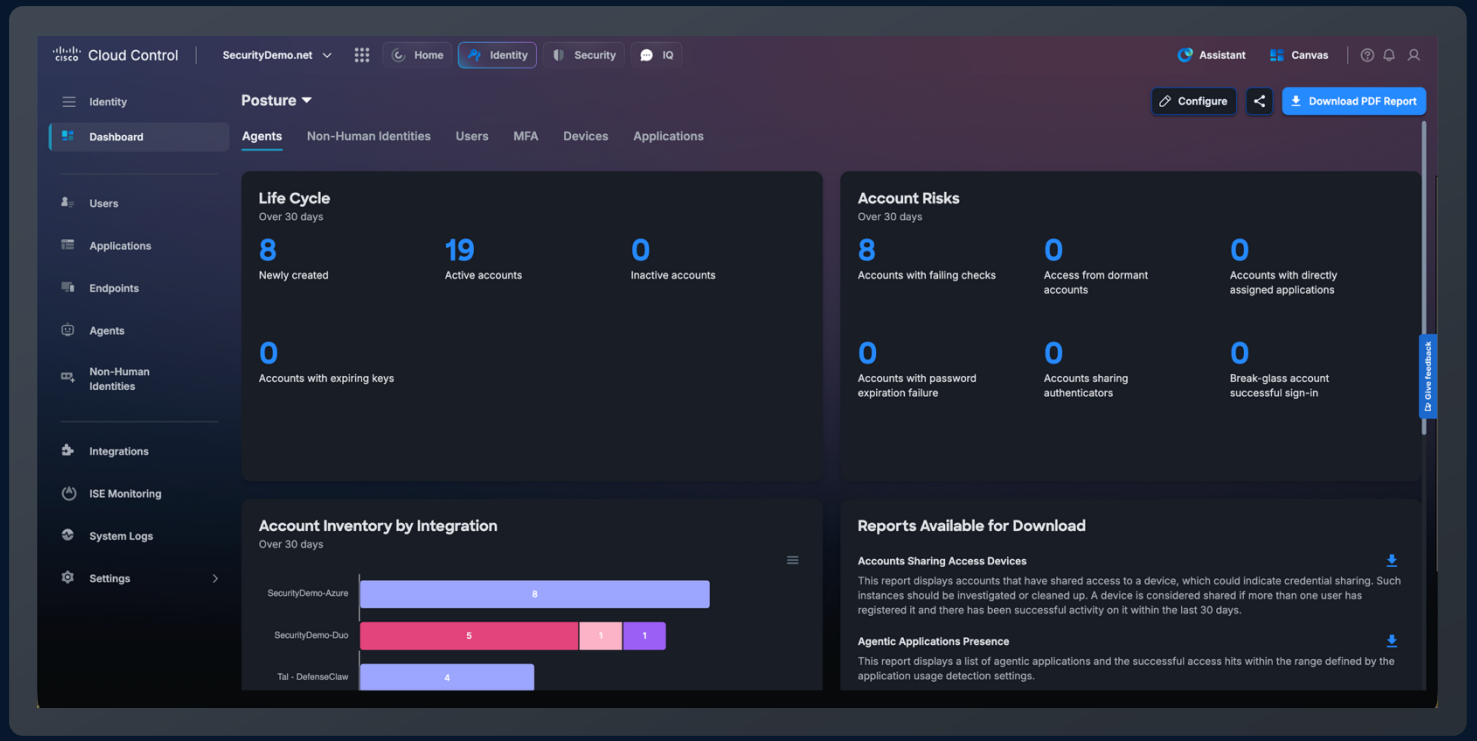
New

Cisco Cloud Control: identity built-in

Unified visibility of all identities human, device and agent

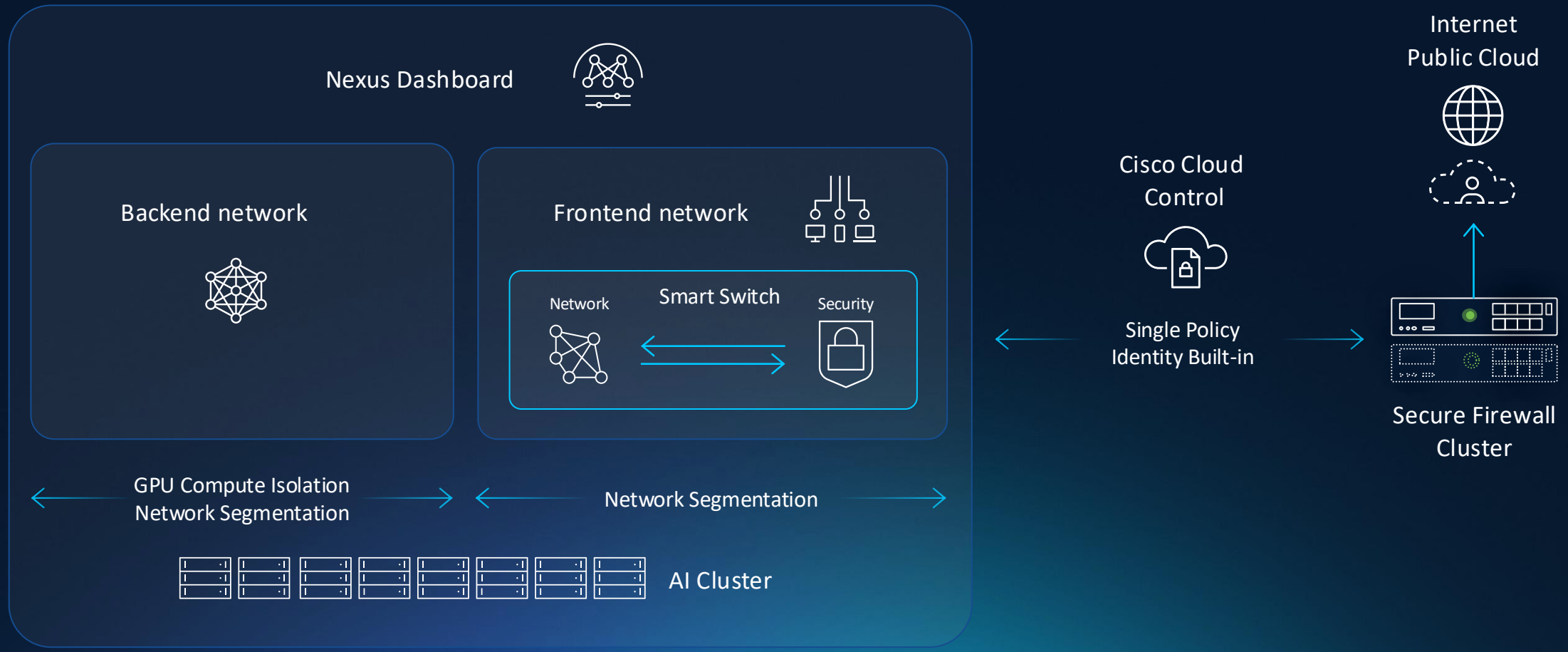
Enhanced dynamic trust score single identity signal from Cisco and vendor systems

Identity powered AgenticOps across Identity, Security and Networking domain



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Secure your AI networking fabrics using identity



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Segmentation

Threat containment at massive scale built into your network



Hardware-accelerated segmentation on every port

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Nexus Smart Switches

The new standard for top of rack switching

Accelerate
DC modernization



N9348Y2C6D-SE1U

Front panel ports: 48x25G, 2x100G, 6x400G | 800G L3/L4 stateful firewall

Runs on
feature-rich NX-OS



Nexus 9324C-SE1U

Front panel ports: 24x100G | 800G L3/L4 stateful firewall

Silicon One E100 NPU

AMD DPU

Primary roles

Leaf | Border Leaf | Border Gateway

Built for DC verticals

Enterprise | Service provider | AI data center | Cloud/ managed services | Financial services | Public sector

Future-proof new builds and LDOS refresh for the future

Segmentation with Smart Switches

Turn every switch port into an enforcement point for every workload

Workloads

- KVM
- ESXi
- K8s
- Bare metal
- Mainframe
- IP storage

Network-aware segmentation

Security enforced in switch

NPU

Networking

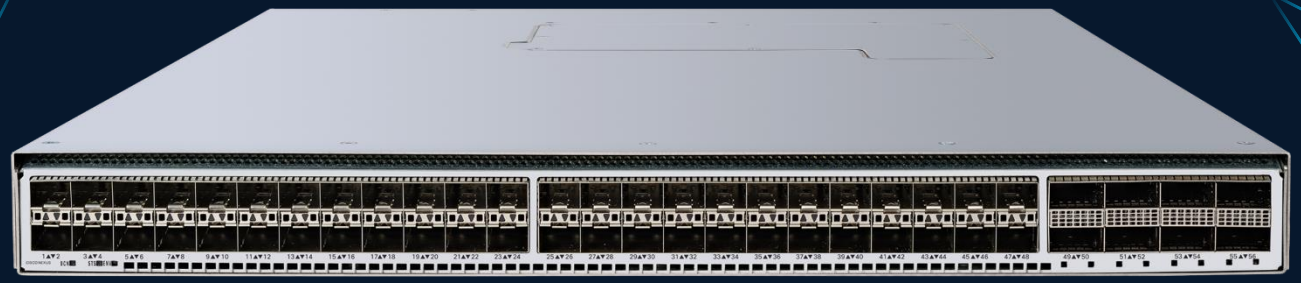
VLAN | VRF | VXLAN content

Traffic flow

DPU

Security

800G stateful L3/L4 firewall



Protected applications

- Web apps
- Business apps
- Databases
- AI/ML

Consistent segmentation across virtualized, containerized, and bare metal workloads

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Persona-based workflow for NetOps and NetSecOps

Separate operational ownership with a shared troubleshooting workflow

NetOps

- Switch lifecycle
- Deploy network policy
- NPU telemetry

Nexus Dashboard

NX-API

NX-CLI

NPU

Networking

Policy + telemetry

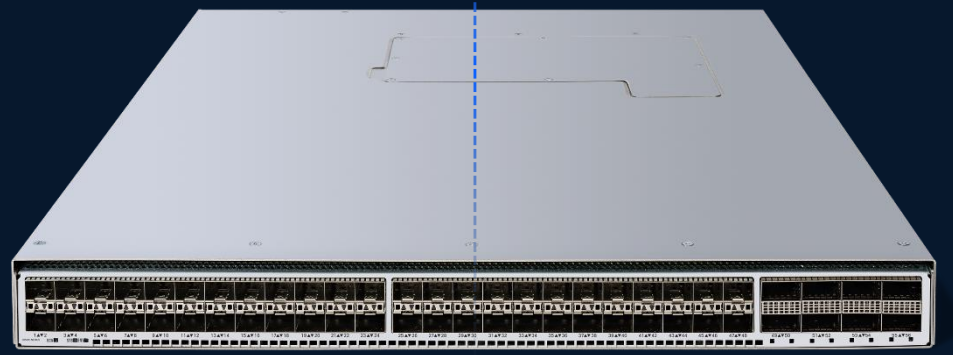
VLAN/VRF/VXLAN

DPU

Security

Security policy +

logs/telemetry



NetSecOps

- DPU security policy lifecycle
- Controller UI or API
- Security logs + telemetry

Hypershield On-prem controller

API

Shared troubleshooting workflow

1 Packet tracer

2 Context sharing

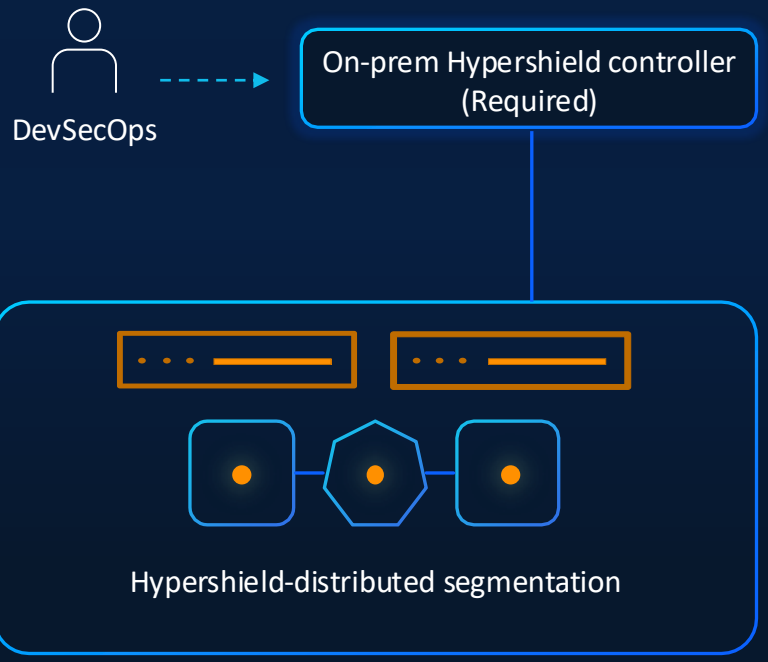
3 Root cause analysis

Common workflow used by NetOps and NetSecOps

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Management flexibility

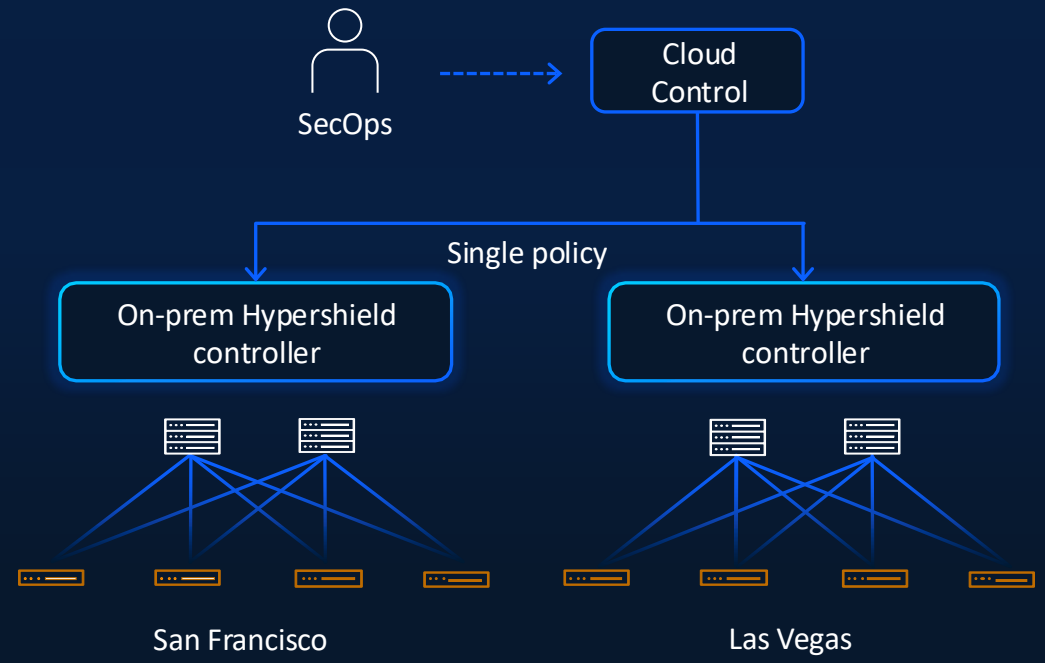
On-prem



Local control

Unified visibility and policy
across agents and Smart Switch

SaaS



Global control

Single policy across on-prem and cloud
in smart switch and workload agents

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Top of rack: Distributed stateful L4 segmentation

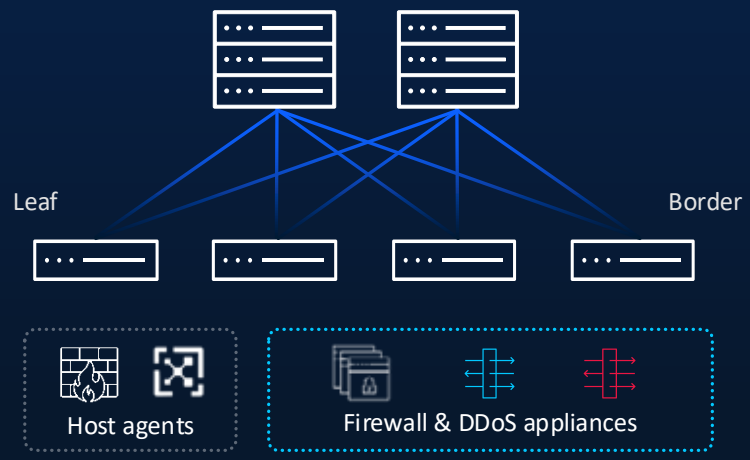
Currently under controlled availability

NX-OS Fabric use cases

Before

Security “attached” to network

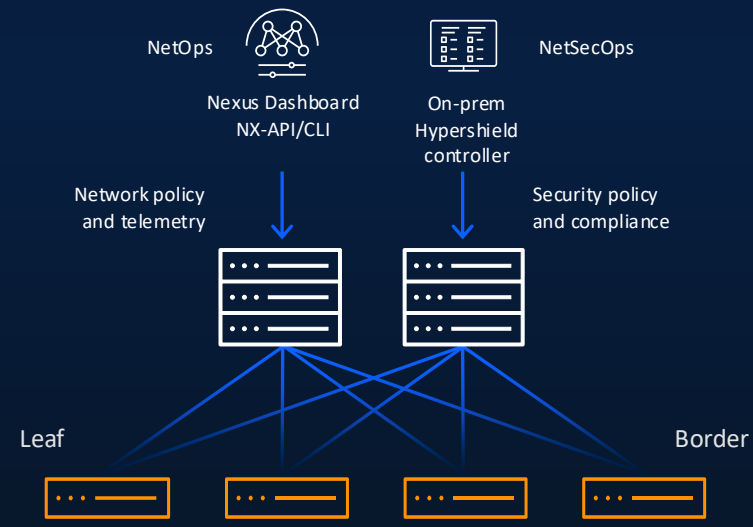
- Many security tools and dashboards
- Fragmented security policy domains
- Higher renewal cost
- Complexity -> Higher Risk



After

Smart Switch Stateful L4 Segmentation

- Lower cost and higher ROI
- 800G services throughput
- High policy scale



Cisco N9300 Series Smart Switch

Stateful L4 distributed segmentation deployed across the fabric

N9348Y2C6D-SE1U: 25G ToR
N9324C-SE1U: 100G ToR

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Nexus One Fabric use case

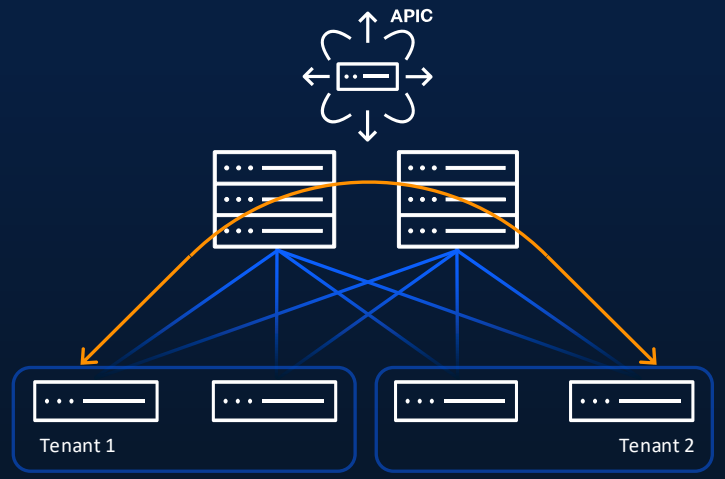
Currently under controlled availability

Zone segmentation with Cisco ACI

Before

ACI stateless network segmentation

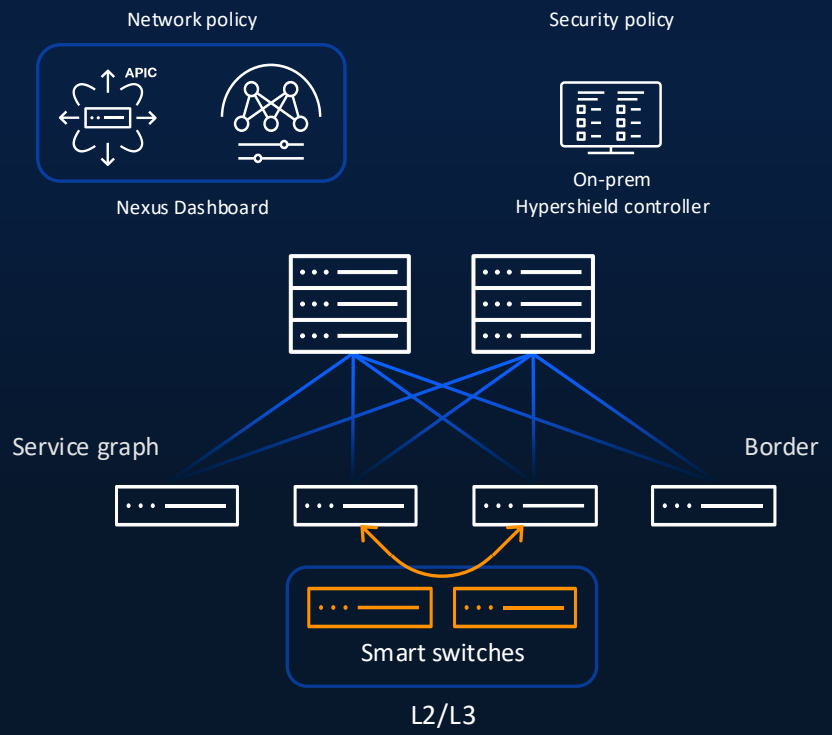
- ESG or EPG network segmentation
- Inter-tenant stateless contracts
- Limited ACL (TCAM) Resources
- Cost prohibitive firewalls at scale



After

Stateful zone firewalling for ACI fabrics

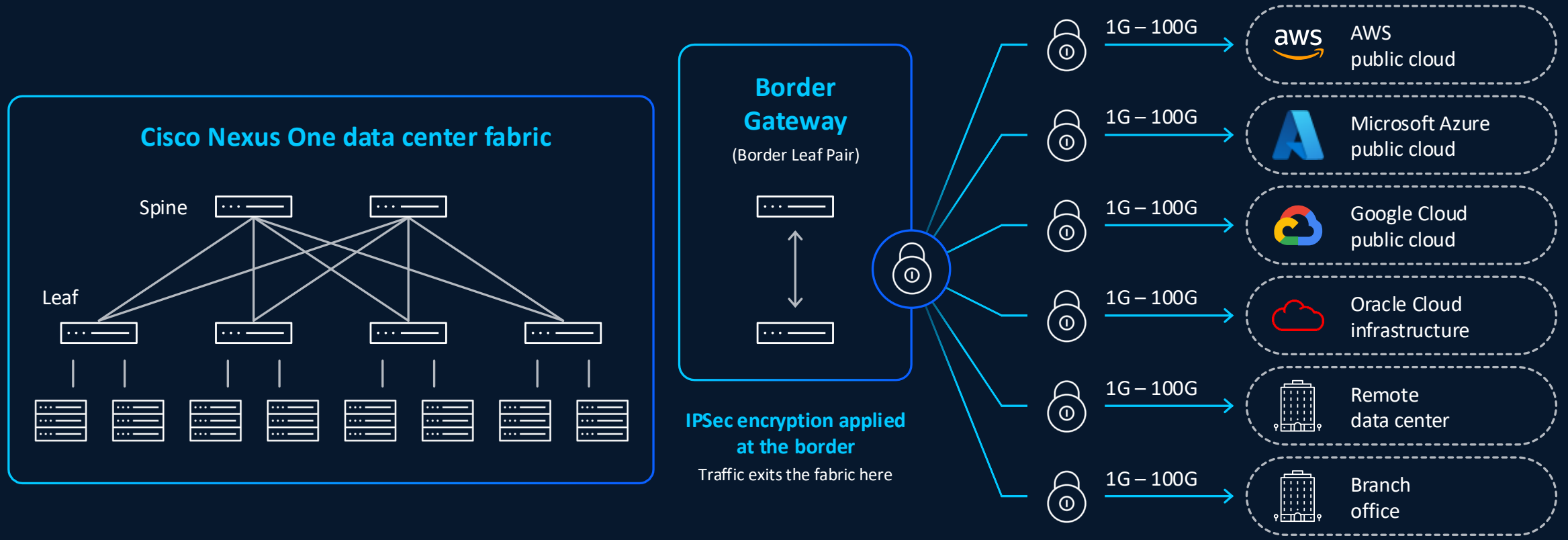
- Smart Switch as external L3/L4 firewall
- Cost effective, 800G firewalling, high scale
- Supported with ACI service graphs



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Native IPSec encryption use case

Secure, scalable, high-performance connectivity



Native IPSec encryption | IKEv2 for key exchange | 1G – 100G IPSec tunnels | 1K tunnel scale | 800G IPSec capacity

Built on NX-OS | Smart Switches and E100 platforms

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AI runs on Kubernetes

Process hiding

Credential harvesting

Privilege escalation

Container escape

Kernel exploit

File tampering

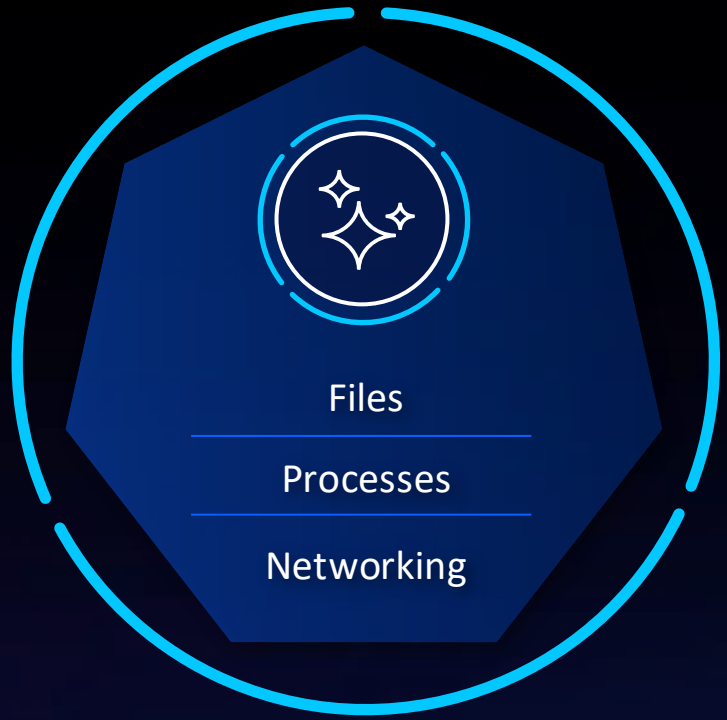
Sidecar injection

Shell injection

Network scanning

Reverse shell

Segmentation



Runtime shields

Host file system access

Service discovery abuse

API server probing

Token theft

Host container abuse

DNS tunneling

Deserialization

Unauthenticated service

Runtime socket exposure

Command injection

Process-level visibility

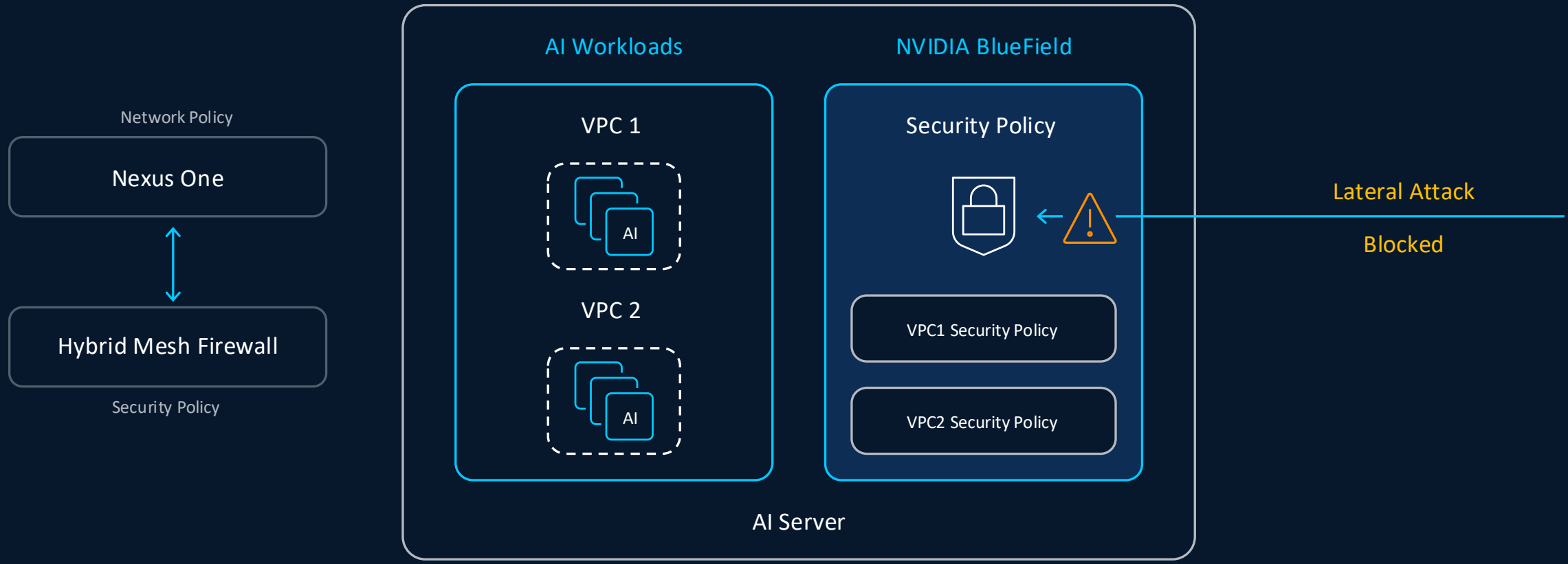
Segmentation is no longer optional



AI workload protection for frontend fabric servers

NEW

NVIDIA BlueField DPUs with Cisco Hybrid Mesh Firewall to embed security on AI servers



Integrated Inline Security | High-Performance Scalability | Chokepoint-Free Enforcement

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Protection

Secure Firewall 6100: near-limitless scale for AI readiness



Cisco Secure Firewall 6100 series

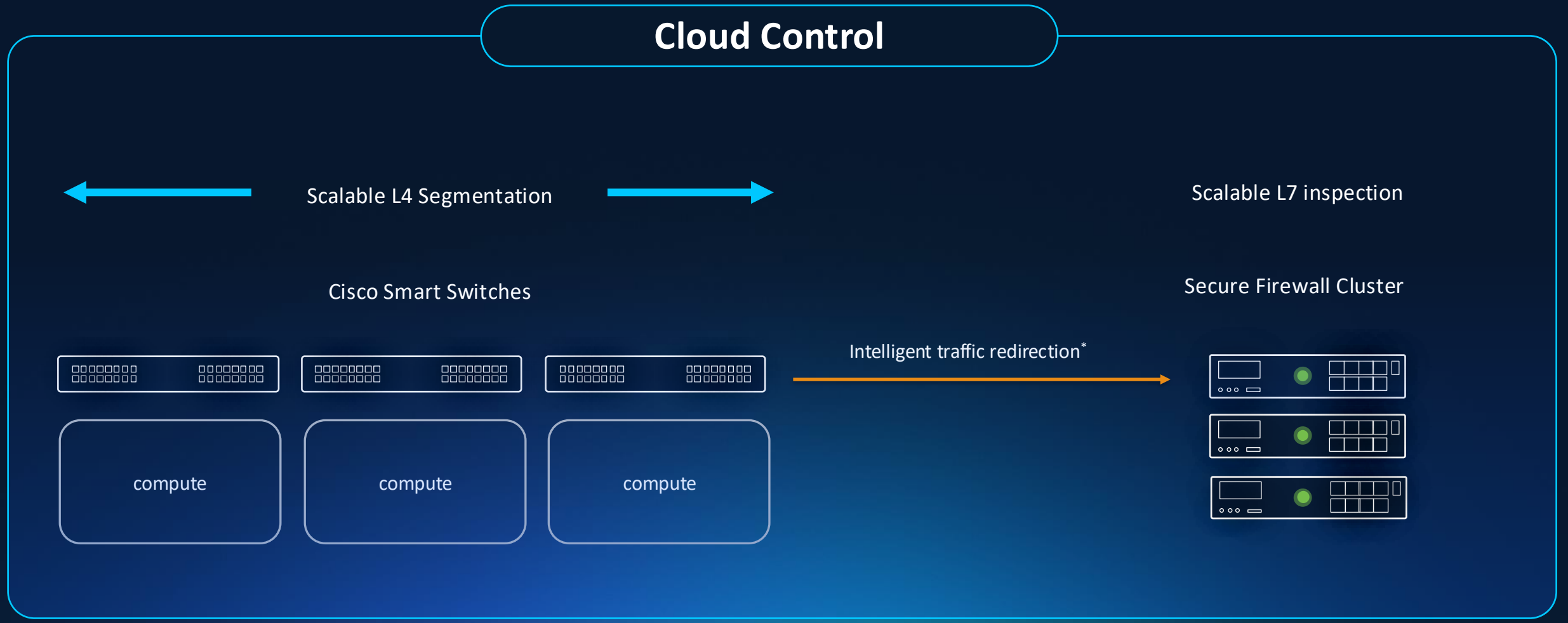
Scales linearly to 8Tbps of L7, appID, threat inspection

Changes math per protected Gbps: 80% less space, 60% less power, 1/3 the cost

No-compromise security: encrypted traffic performance, zero-day protection

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Scalable security with Smart Switch + Secure Firewall



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Securing custom agents and AI apps

Cisco AI Defense



Discover



Validate



Protect

NEW

Adaptive red teaming and custom guardrails

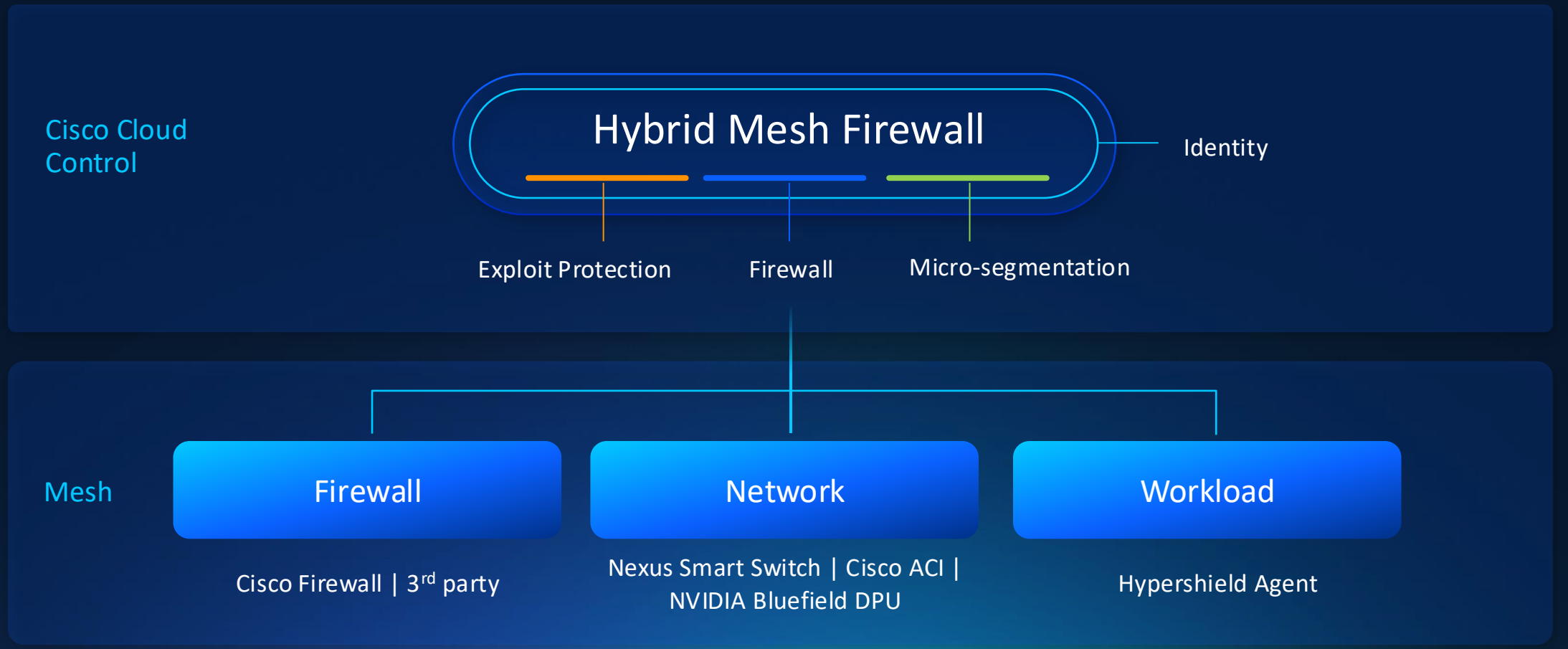
NEW

Protecting the full agent supply chain

NEW

Ecosystem to work with any cloud, any GPU

Protecting your apps and infrastructure, including AI



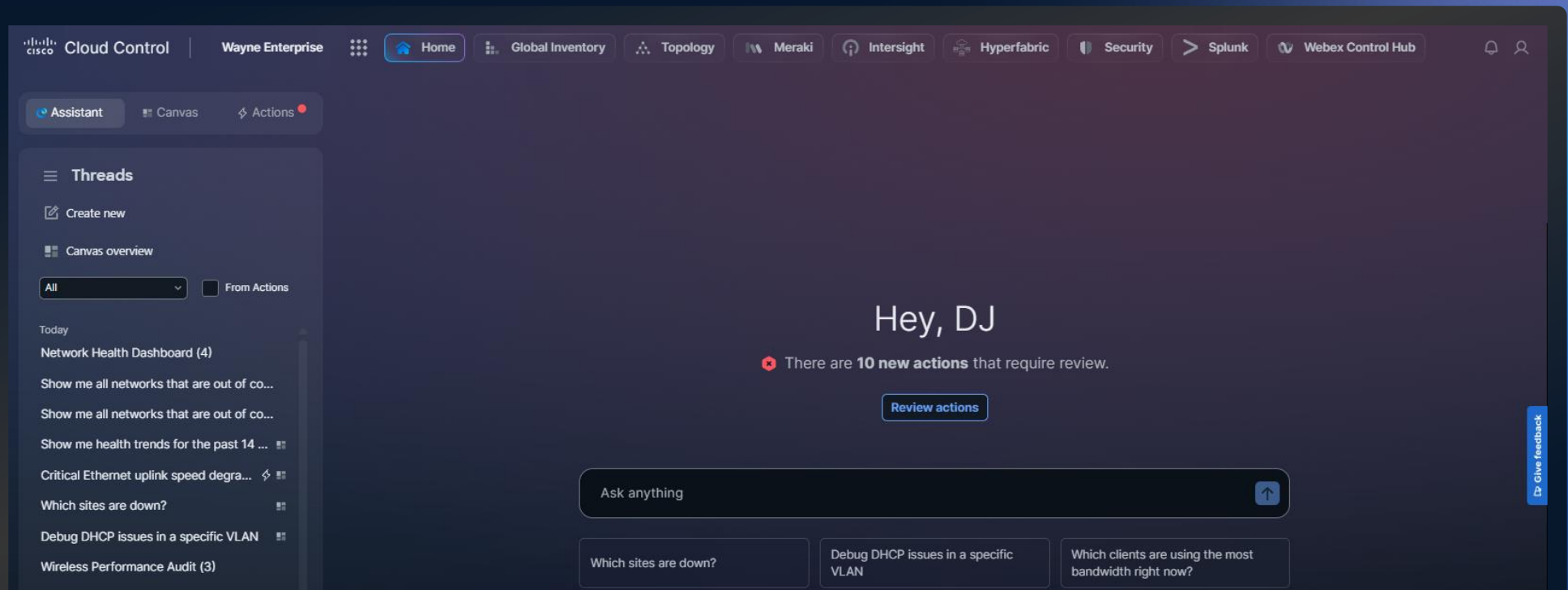
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Visibility and Insights

Cisco Cloud Control

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

ThousandEyes • Security Cloud Control • Splunk • Nexus Dashboard • Nexus Hyperfabric • Catalyst SD-WAN • Intersight • & more



CISCO CLOUD CONTROL

Unified operations with Cisco Nexus One

FULLY INTEGRATED STACK

Nexus Dashboard

On premises

Nexus Hyperfabric

Cloud management

SILICON	SYSTEMS	OPTICS	SOFTWARE
Cisco Silicon One Cisco Cloud Scale NVIDIA Spectrum-X Ethernet	Cisco N9000 Systems	Cisco Optics	Cisco NX-OS Cisco ACI, SONiC

SECURITY AND OBSERVABILITY

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Why now?

Secure your networks today with security fused into the network



Resilient infrastructure



Identity



Segmentation & steering



Protection



Visibility & insights

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Secure your AI data center. Start now.

Talk to your Cisco account team to map these capabilities to your fabric.



Learn more about Cisco N9300 Smart Switches



Experience no downtime with Live Protect



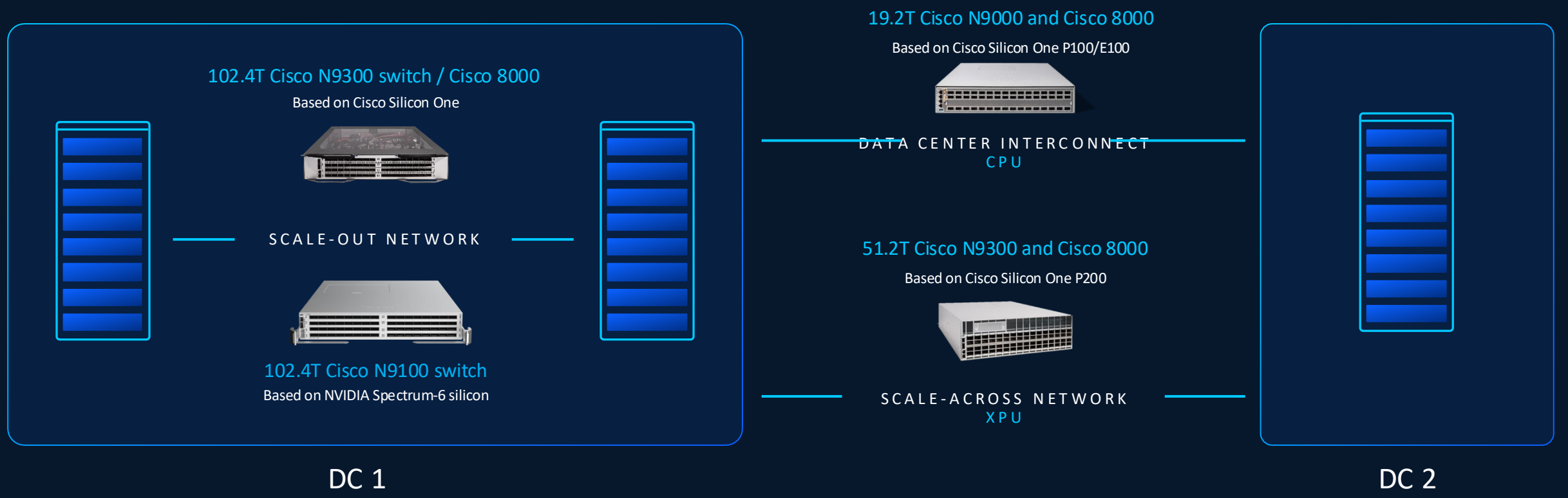
Nexus One: unified management plane

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Scale-out and Scale-across

Scale-out, DCI and scale-across networking

Validated architecture choices for AI scaling



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Scale across/DCI

Scale Across Networks

Cisco N9000 and Cisco 8000 Systems powered by Cisco Silicon One P200



NX-OS ACI SONiC IOS-XR









P200 Silicon One

51.2T deep-buffer, programmable packet processing

Fixed Systems

51.2T scalable fabric

Modular System

28.8T line-card scale

Coherent Optics

800G ZR/ZR+ for 1000km+ reach

Open Line Systems

NCS 1010

Pool AI capacity across sites

- Overcome power, space, and data limits

Predictable performance for GPU traffic

- Manage bursts and congestion over distance
- Quantum-resistant line-rate encryption

Reduce transport cost

- 800G ZR/ZR+ coherent pluggables
- High-performance interop and reaches

Scale across fiber pairs

- C&L Band spectral efficiency
- In-line amplification

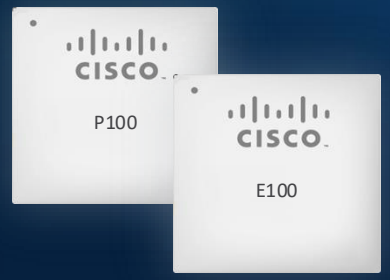
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Scale across/DCI

Data Center Interconnect

Cisco N9000 and Cisco 8000 Systems powered by Cisco Silicon One P100 and E100



NX-OS ACI SONiC IOS-XR







P100/E100 Silicon One

19.2T P100 / 6.4T E100 deep buffer, programmable packet processing

Fixed Systems

Up to 19.2T compact DCI

Modular Systems

28.8T per slot
36x800G

100G-800G ZR/ZR+

Long-reach coherent optics
800G ZR/ZR+ for 1000km+ reach

Long-reach, lower-complexity DCI

- 100G-800G ZR/ZR+ optics
- Fewer transport layers, up to 60% lower TCO

Predictable transport under load

- Silicon One P100/E100 deep/shared buffering

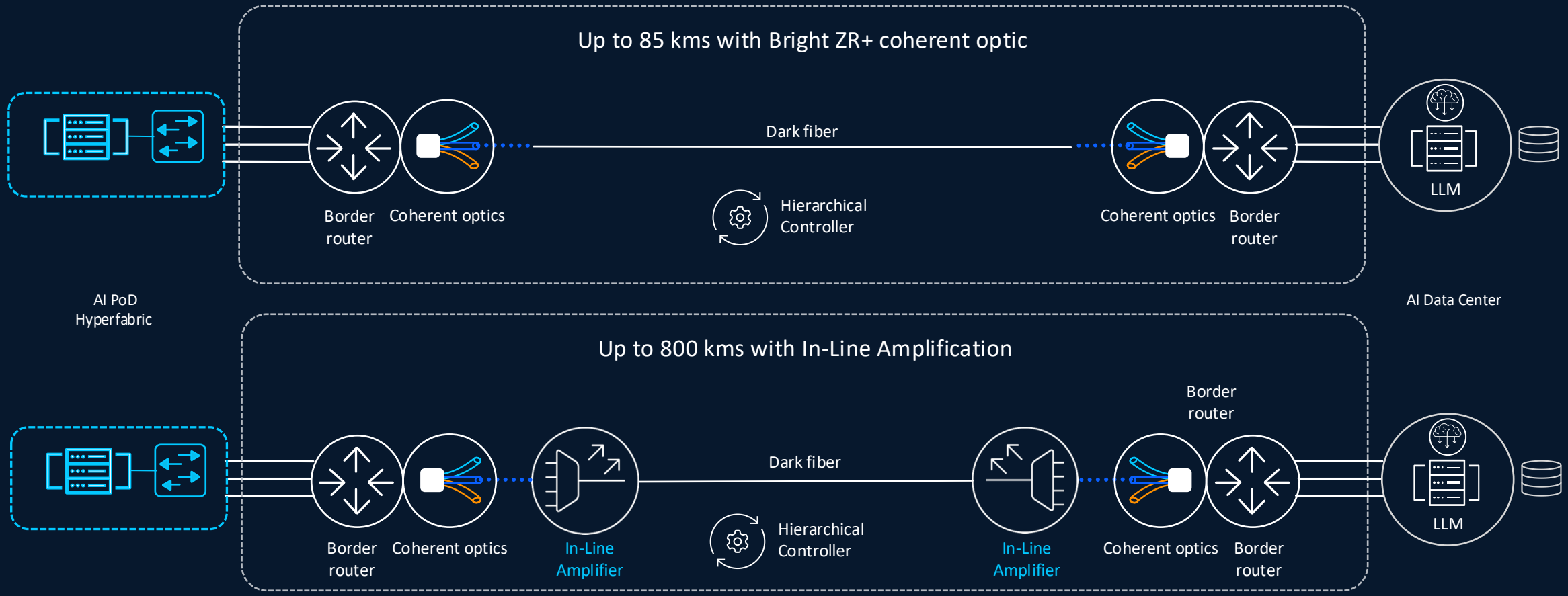
Secure, observable

- Quantum resilient line-rate encryption
- Multi-layer visibility and automation

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Building Blocks
Data Center Interconnect

Single Span, Single 400G Wave

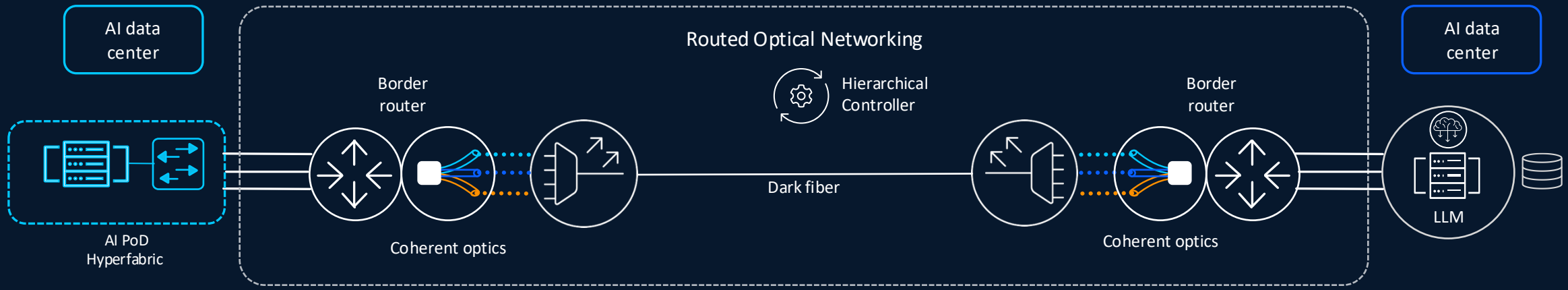


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NB: Distance depends on fiber quality and network design. Calculations based on 0.25dB loss/km

AI-Ready data center interconnect

High-capacity point-to-point



Key benefits

- Cisco Routed Optical Networking replaces power-hungry transponders with small pluggable optics (converge IP and optical layers)
- Suitable for any scale: from 100s of Gbps to 10s of Tbps to meet growing demands of AI
- Broad platform compatibility (e.g., Cisco 8000 and Nexus)
- Delivers up to 66% TCO savings, 95% power savings and requires no extra space

Why Cisco

- Industry leader in optics: largest number of ports shipped to the market and the most complete portfolio, with 100G, 400G, 800G, for different reaches and use cases
- Highest level of quality assurance on optics in the industry
- End-to-end solution: Routers, optics, optical, management/automation
- 350+ customers for Routed Optical Networking and optical customers— including the most demanding hyperscalers in the world

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Innovation in Digital Coherent Optics

Address 100% of network applications with Cisco coherent pluggable optics



100G QSFP28 ..... 800G ZR/ZR+ 400G ZR/ZR+ ..... 400G ULH

Campus | DCI | Metro | Regional | Ultra Long Haul

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CISCO Connect

Thank you

