

Cisco AI Ready Secure Networking

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Why Secure Networking ?

Why Secure Networking?

Why Now?



What is the
Challenge?



Why Secure
Networking?

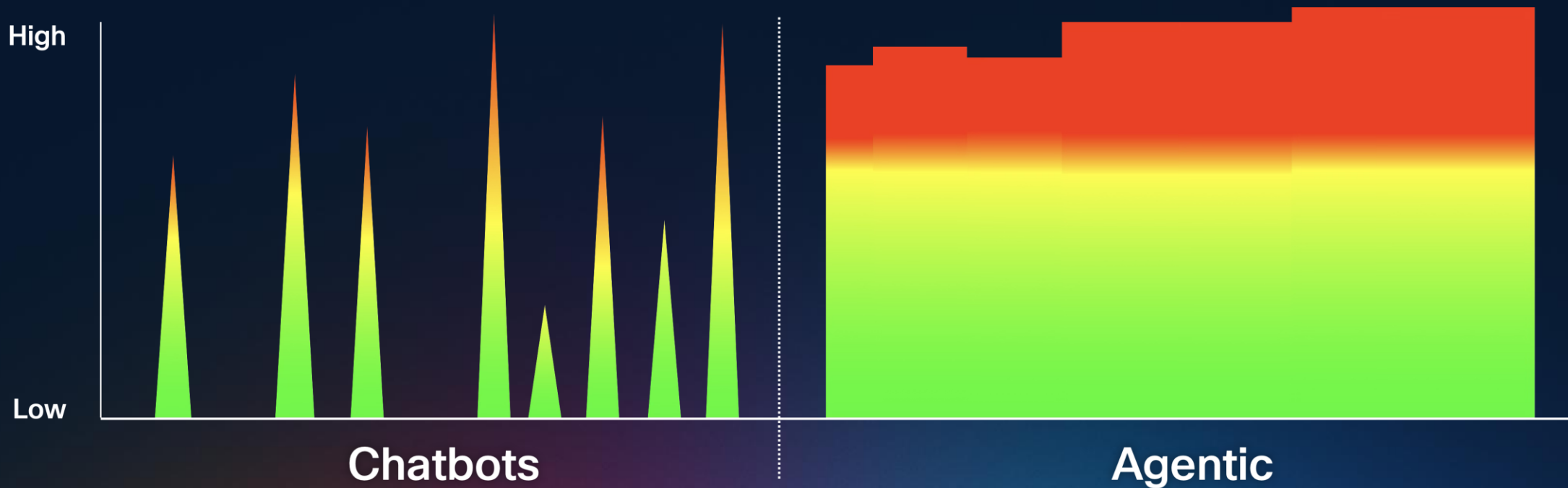


What can
we do?

Is your Network AI ready?

- ⚠ for explosive traffic
- ⚠ for more complexity
- ⚠ for increased security risks





Cisco Lab Experiments with Real AI Applications

AI is Redefining Network Traffic Volume

GeminiCLI

AI Agent

~31,000

pkts/sec peak

ChatGPT

Chatbot

~15,000

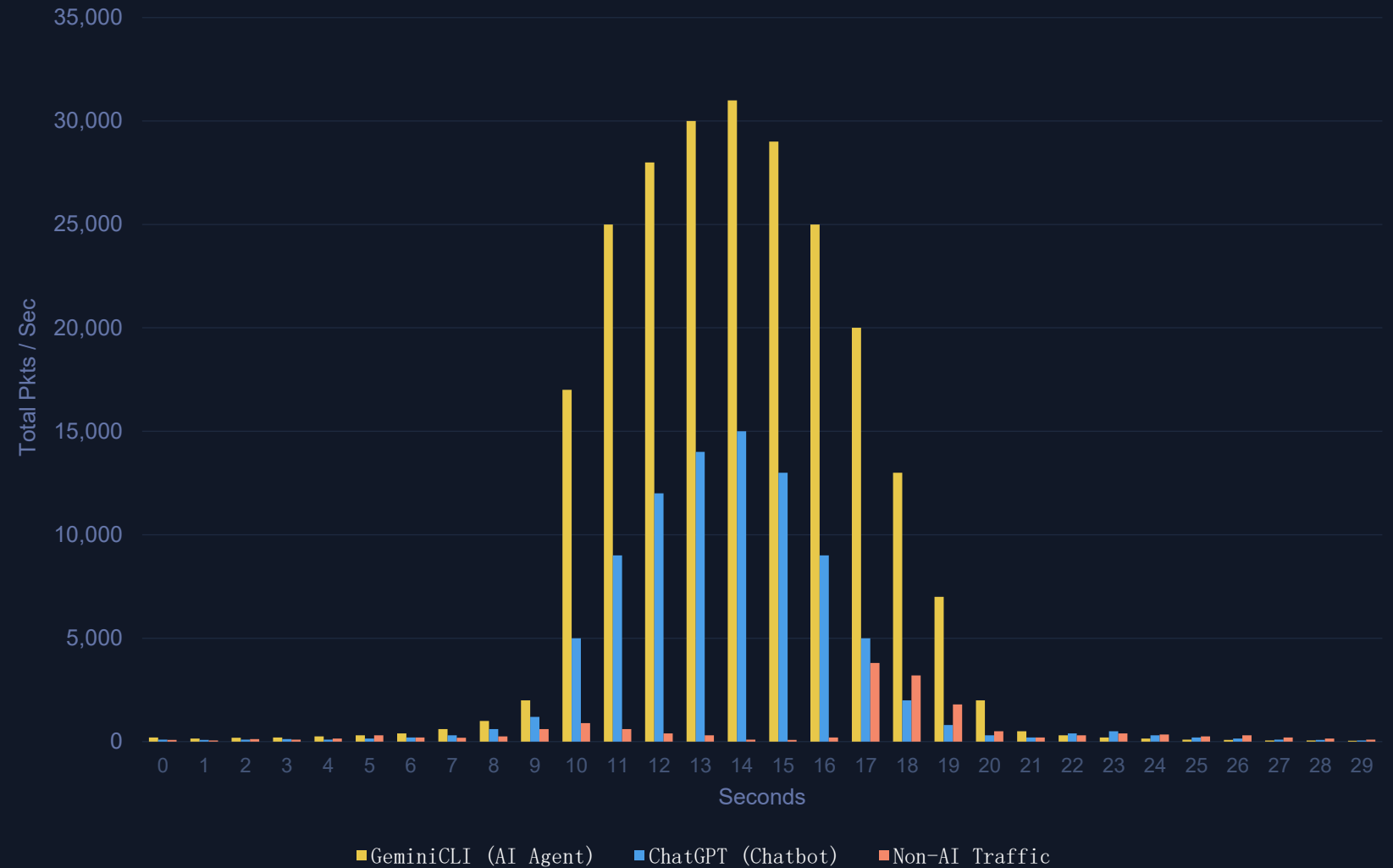
pkts/sec peak

Non-AI

Traditional Browsing

< 1,000

pkts/sec peak



Cisco Lab Experiments with Real AI Applications

AI is Redefining Network Traffic Volume

AI is also Redefining Security Vulnerabilities Impact



The window between discovery and exploit has collapsed

THE AVERAGE TIME TO EXPLOIT VULNERABILITIES

2018

2.3 years

2023

4.2 months

2025

21.5 days

2026

38 hours

Impact on Network as Foundational Infrastructure

AI

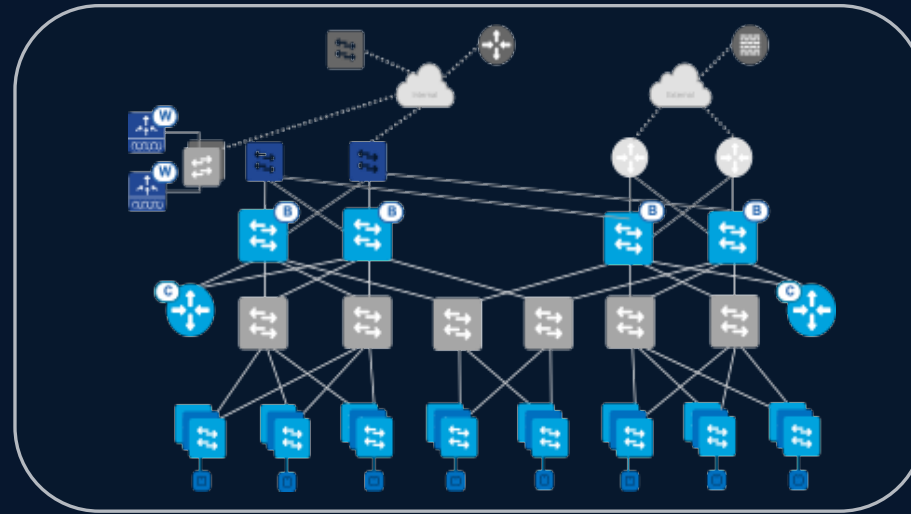
Agentic AI

*Massive east-west traffic
creates new attack vectors*

SaaS

Cloud-First

*No single perimeter
left to defend*



IoT

Internet of Things

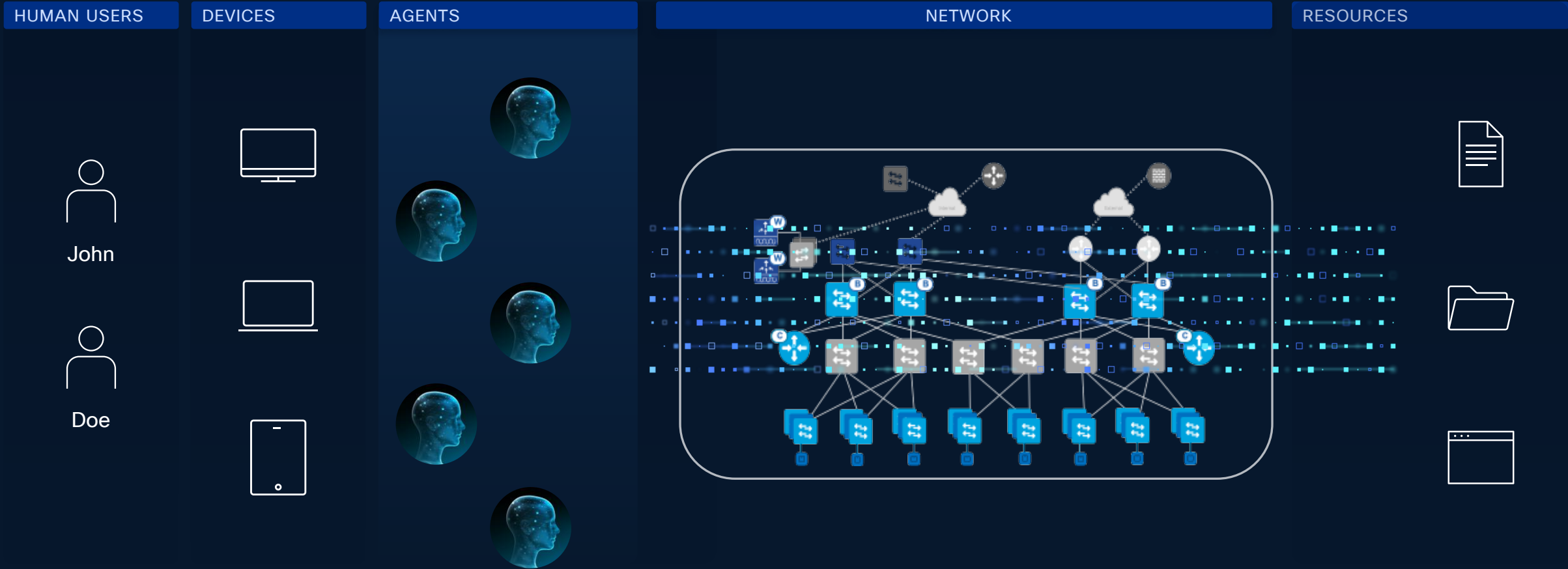
*75B+ devices that cannot
run security agents*

GRC

Regulatory Pressure

*Compliance mandates
now drive architecture*

AgenticAI impact on Security



Massive east-west traffic
creates new attack vectors

Access Control

Identity

Policy Enforcement

Data Exfiltration

Why the Network Is the Answer for Security

Only the network has the position, visibility, and scale to deliver security everywhere

Sees All

Universal Visibility

Every packet traverses the network — no agent or appliance matches this reach.

Line Rate

**Zero Performance
Penalty**

Security in silicon at wire speed. No hairpinning, no overhead.

One Fabric

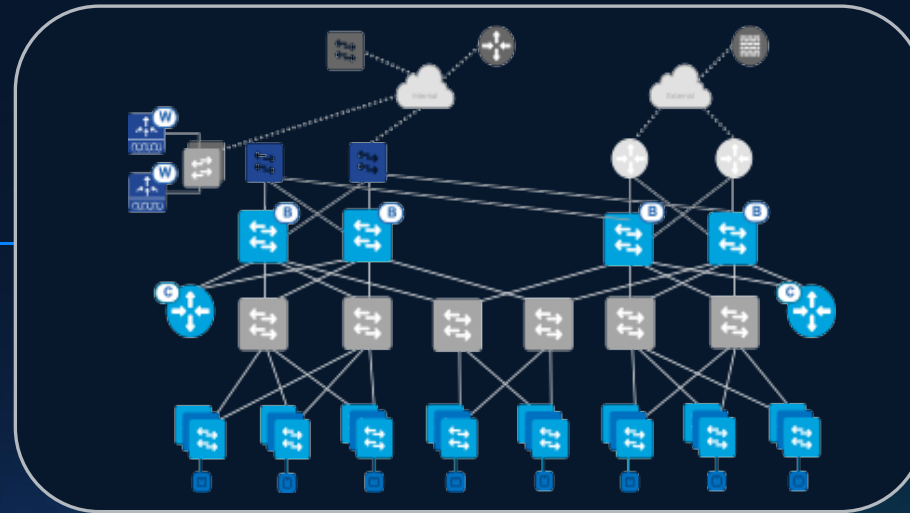
Single Architecture

One policy model, coordinated enforcement at every point.

**What is Cisco Secure
Networking ?**

Cisco fuses security into every layer of your network

Secure Networking

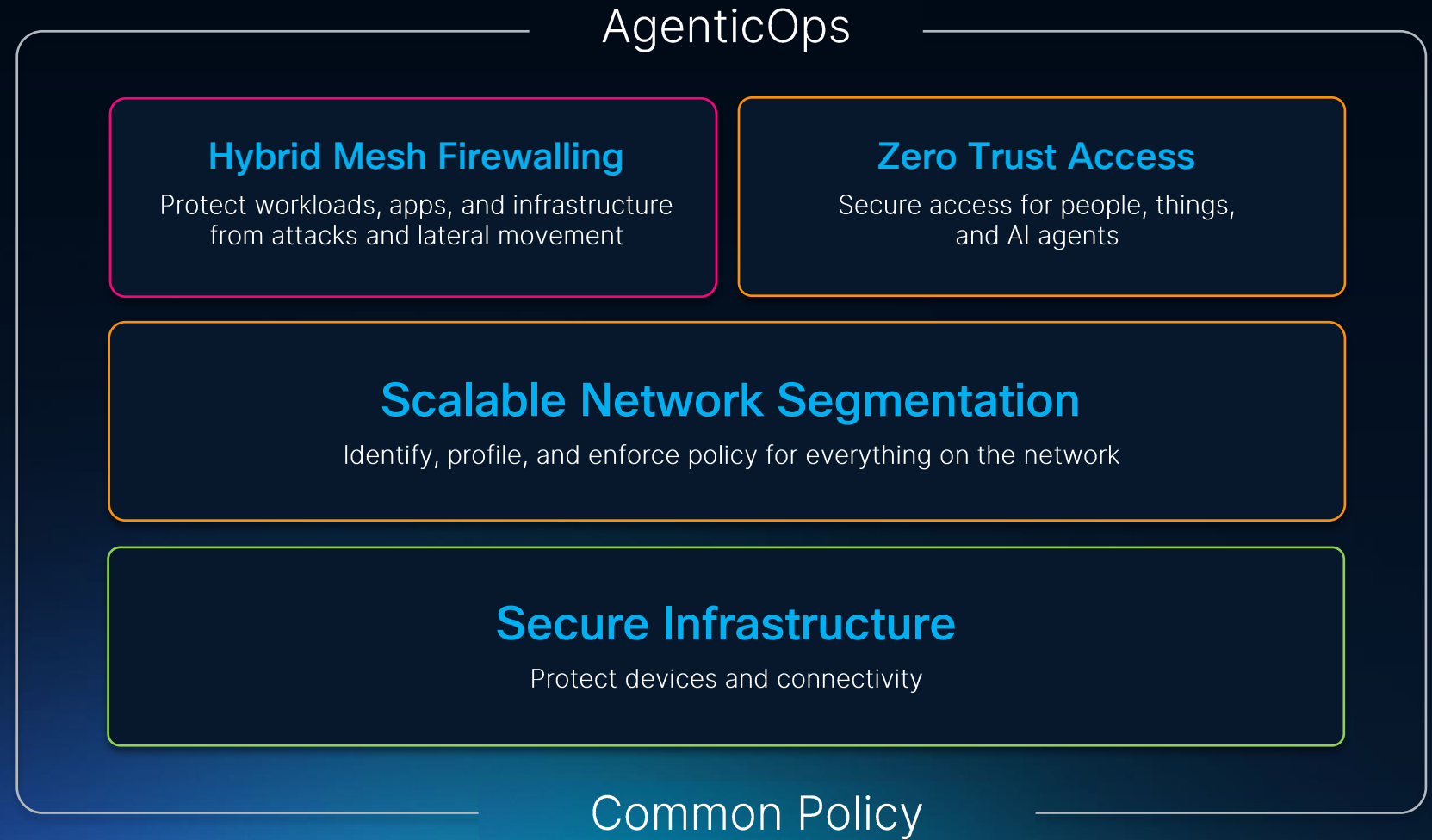


*“Secure networking is a modern network infrastructure design that fuses **advanced security** and **deep visibility** into every layer of the network*

Introducing Cisco's Secure Networking

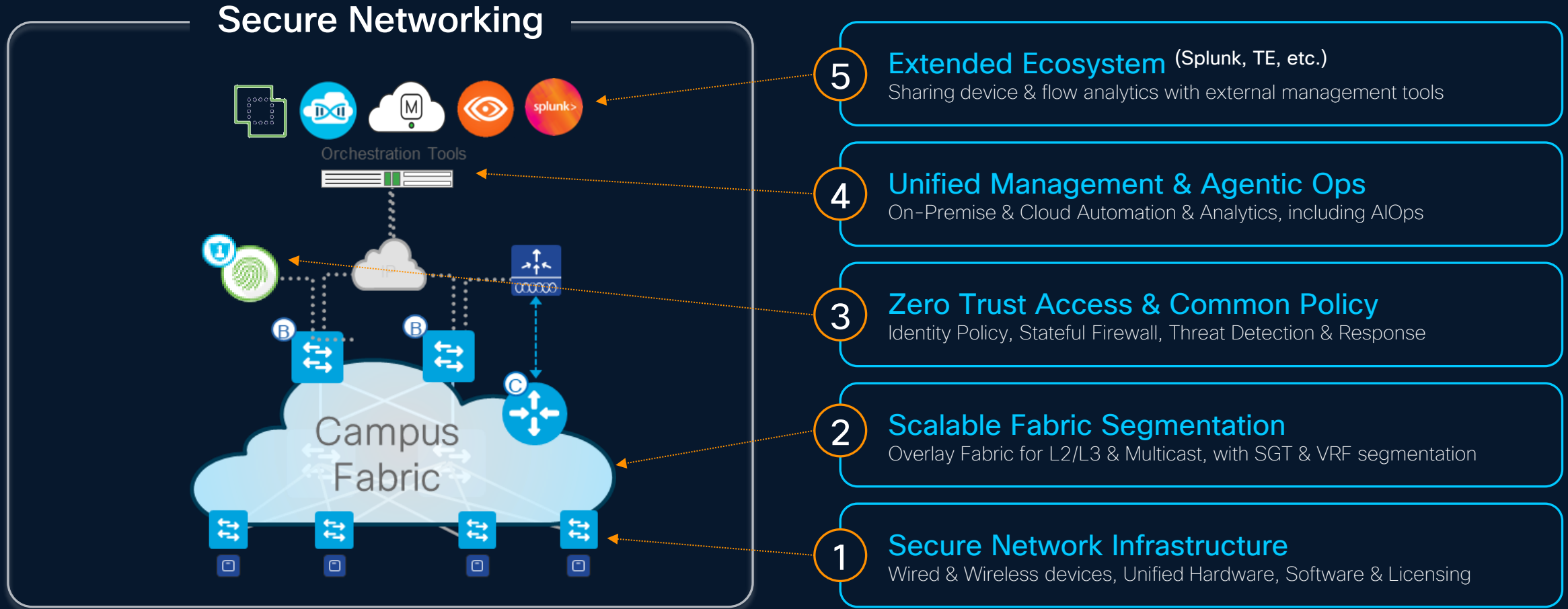
Security infused into the network

- Identity-first
- Continuously verified
- Enterprise-wide policies
- Comprehensive threat intel
- Distributed enforcement
- Streamlined Operations



Architecture for the **AI-Ready Secure Networking**

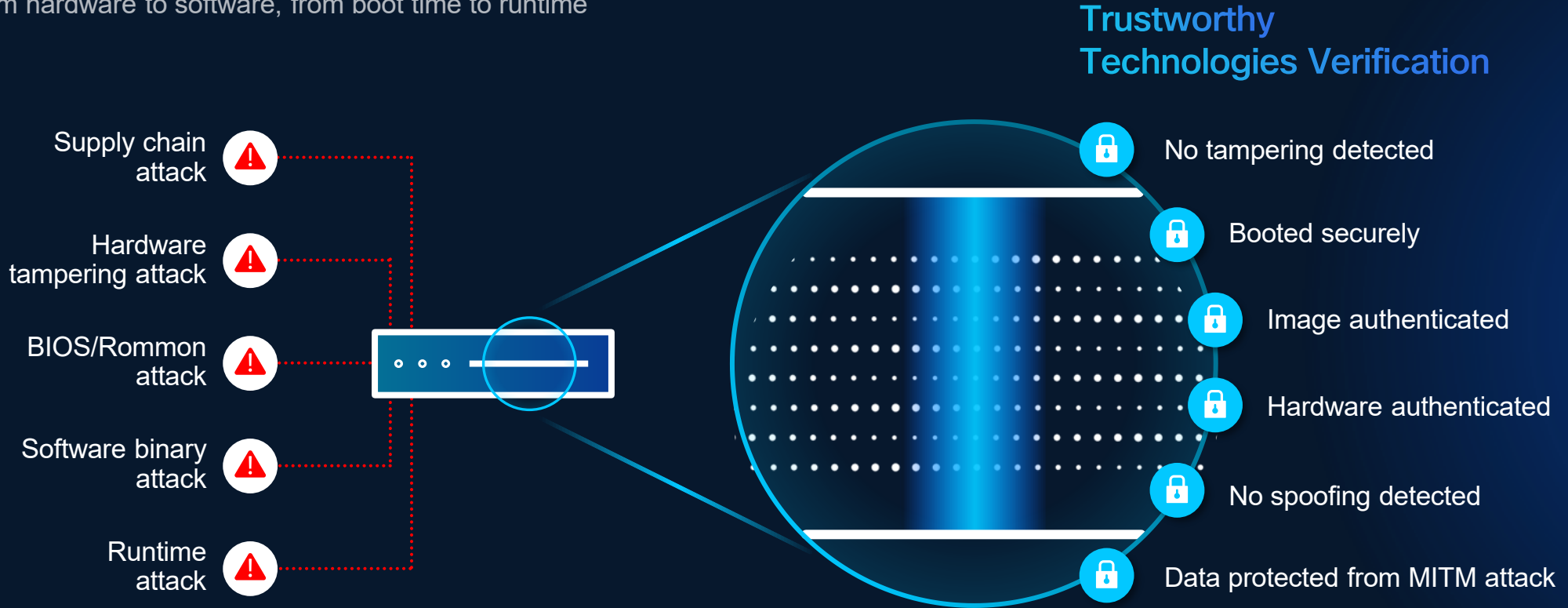
Full-Stack Multi-Layer Reference Model



Cisco Secure Infrastructure

Securing the Network device

Secure from hardware to software, from boot time to runtime



PQC Ready NIST-approved algorithms for Secure Boot

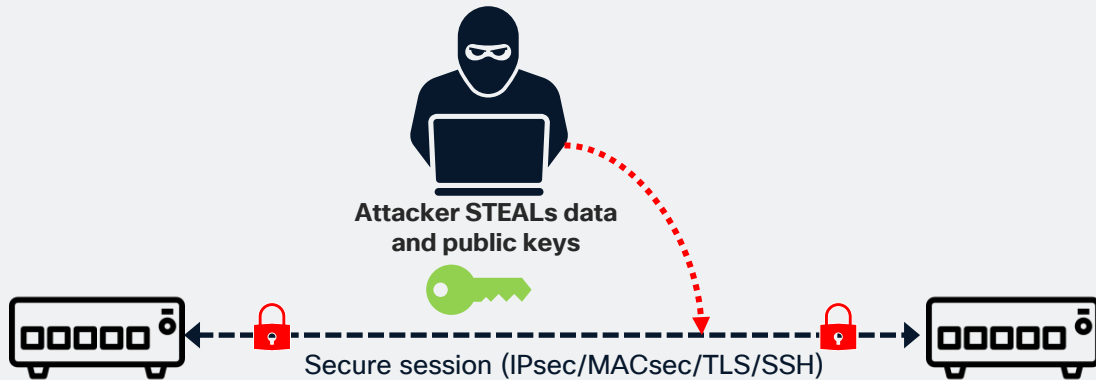
Cisco Secure Infrastructure

Securing the Network Transport

'Harvest Now, Decrypt Later' (HNDL)

Why we need PQC security even without Quantum Computers

Today

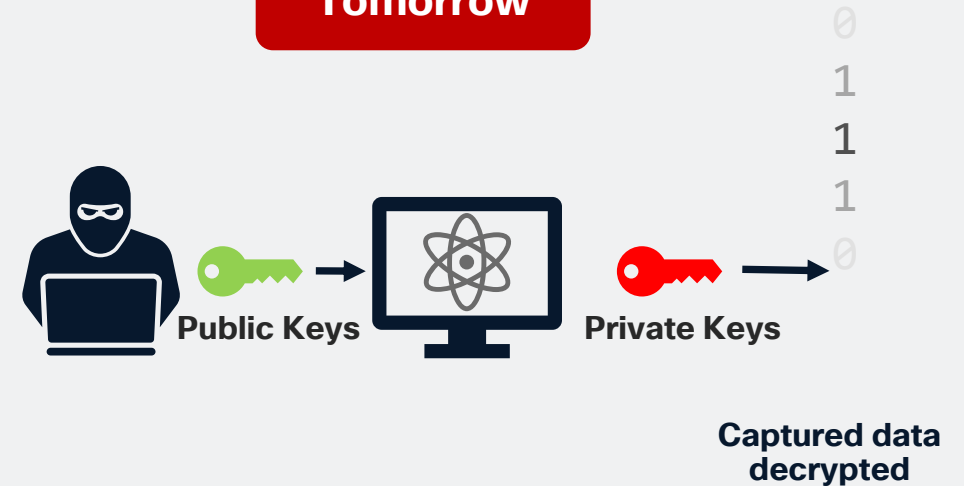


Intercept and store encrypted data today

Sensitive medical records, defense communications

RSA/ECC encryption - vulnerable to Quantum computer attack

Tomorrow



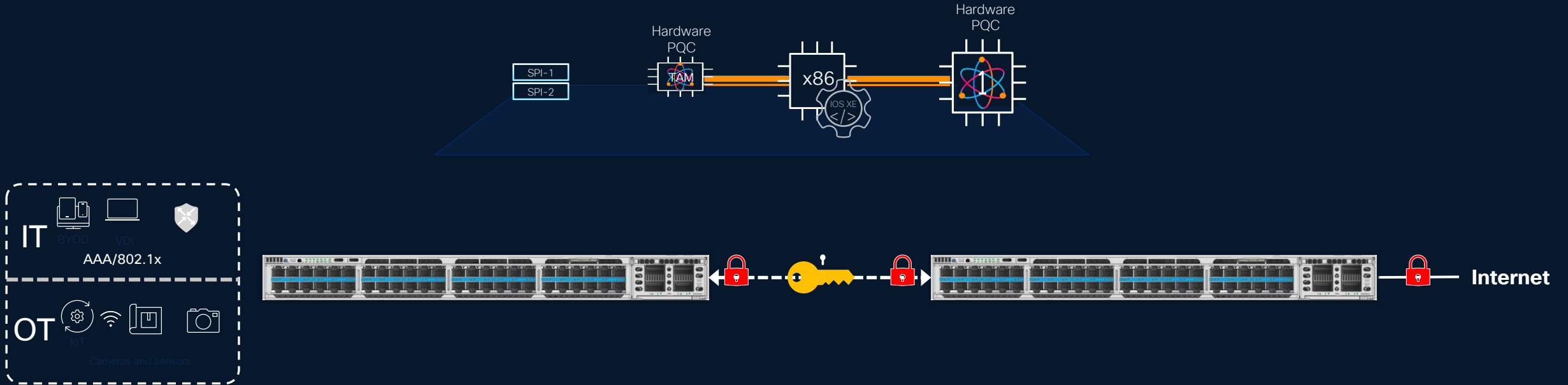
Decrypt with Quantum computers when available

Vulnerable algorithms susceptible to break

Actual attack happened potentially years ago

Cisco Secure Infrastructure

Securing the Network Transport



PQC Ready NIST-approved algorithms for Secure Transport

Cisco Secure Infrastructure

Live Protect

Vulnerability shielding for Cisco products

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



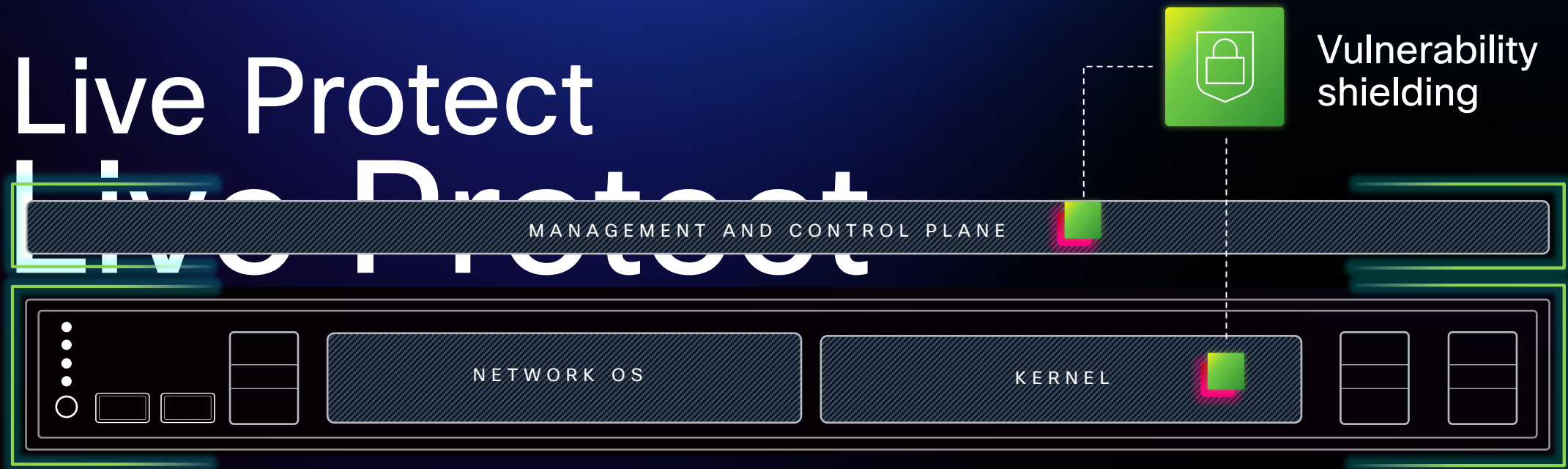
Apply policy to live system

Protect now;
patch in planned window

No downtime or switch reboot

Continuous re-validation

Live Protect



EXTENDING ACROSS CISCO NETWORKING AND SECURITY

Apply policy to
live system

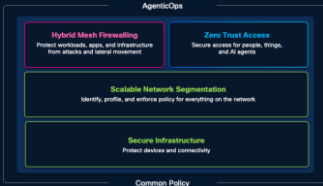
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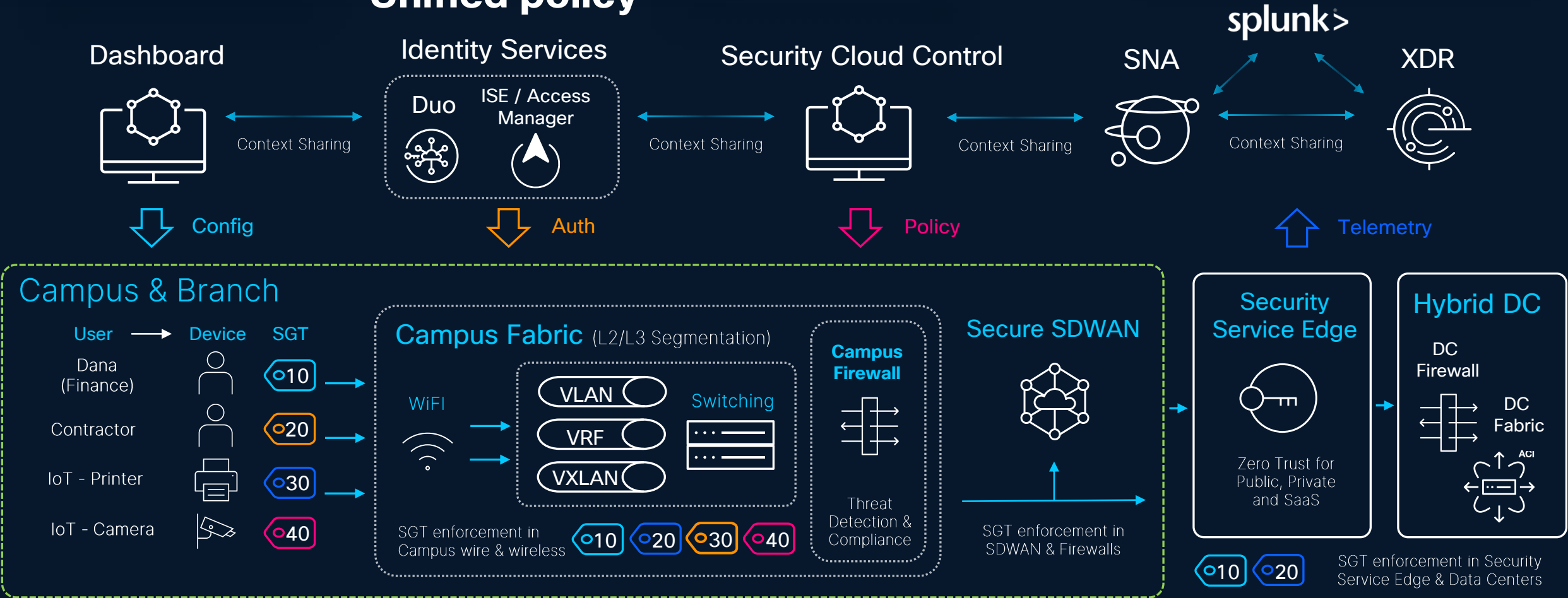
Cisco Zero Trust Segmentation

End to End identity-based segmentation from User to App



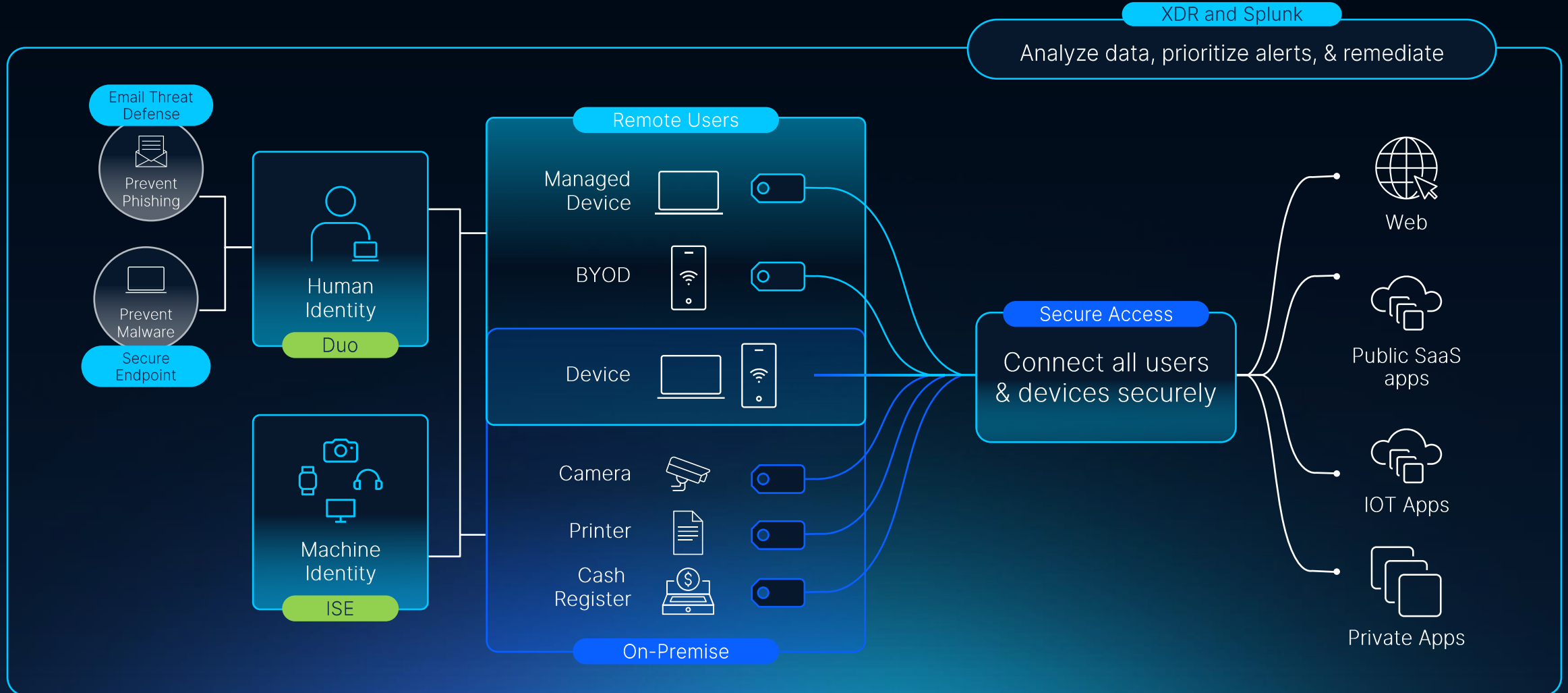
Unified security

Unified policy



Cisco Zero Trust Segmentation

Protect users on **any device**, **anywhere** they connect



Cisco Zero Trust Segmentation

A **unified framework** for managing security policies across
diverse IT environments



Cisco Threat Detection & Response

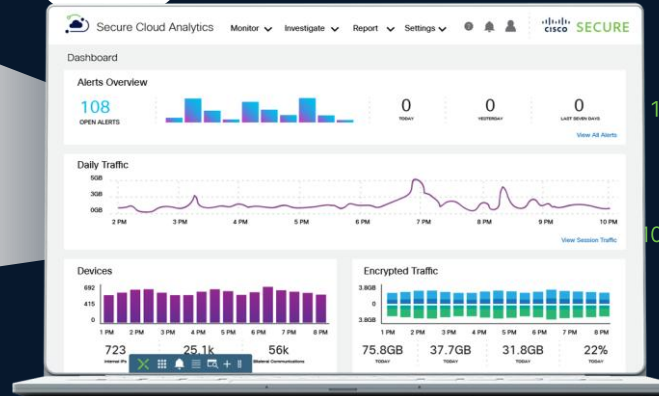
Continuous Sensing Learning & Protecting

Behavioral & Machine Learning modeling

Behavioral analysis of every activity within the network to pinpoint anomalies



Cisco SNA Secure Network Analytics



Endpoint Telemetry

Device and process insight with flow telemetry from Cisco Secure Client

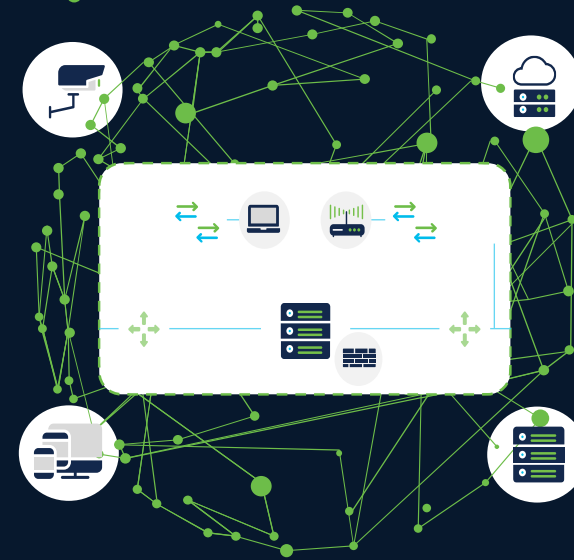


Cisco XDR

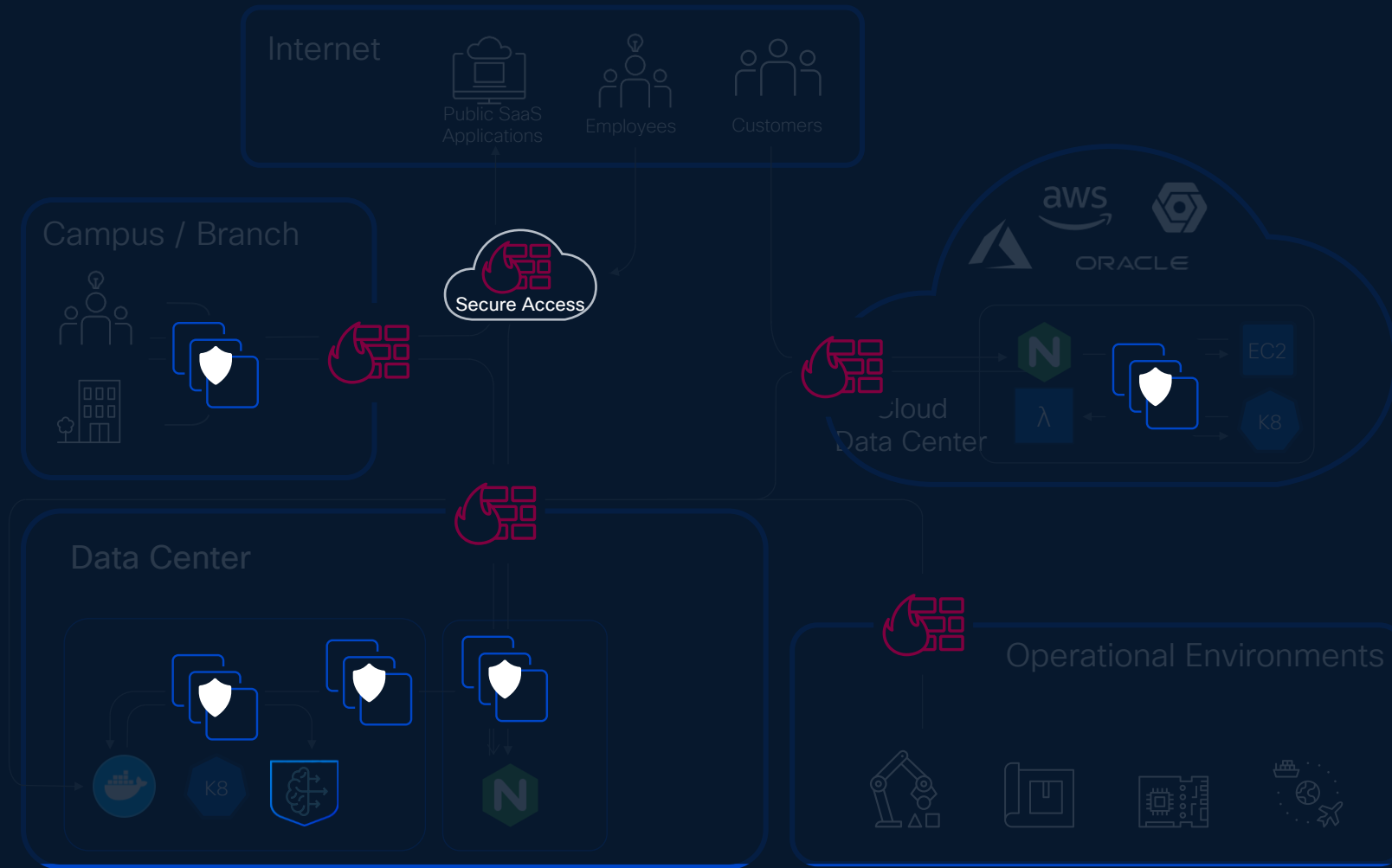
Extended Detection and Response with Cisco XDR. Advanced analytics extends local detections with global intelligence and integrations for accelerated response

Network Telemetry

Rich telemetry from the existing network infrastructure including enhanced telemetry for encrypted traffic analytics and firewall connection logs and security events.



Perimeter challenge with Distributed Enforcement



Perimeter challenge with Distributed Enforcement

Fragmentation of Policy

*Policy lives in multiple domains
can't keep up with change*

AI Models brings new risk

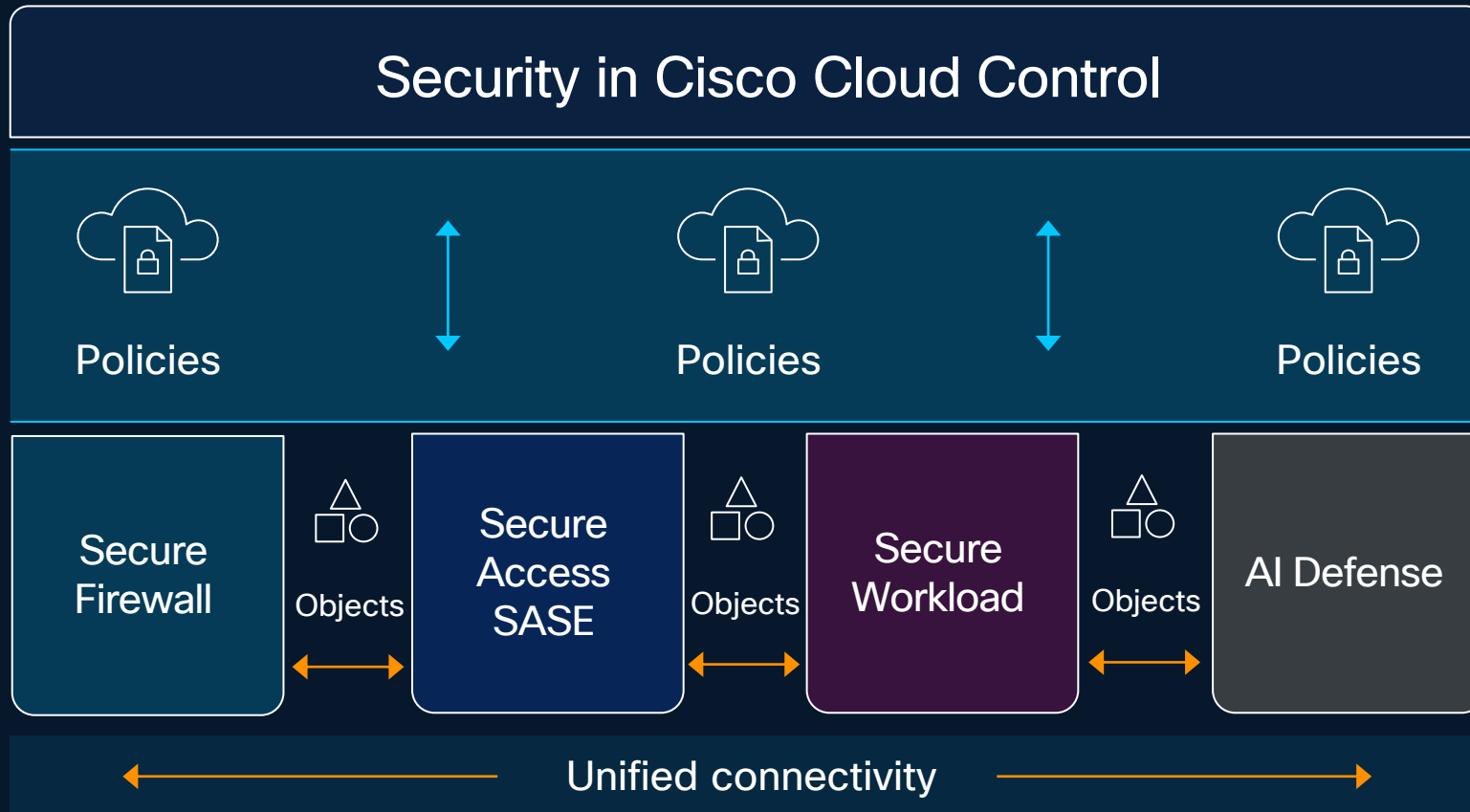
*AI model layer introduces non-
deterministic behavior*

Machine speed security risk

*Attackers move faster than
patching*

Perimeter Control: Cisco Hybrid Mesh Firewall

Streamlined policy and device control



Centralize coordination of all Cisco Firewall form factors
eliminating complexity across diverse environments, reducing wasted Ops time

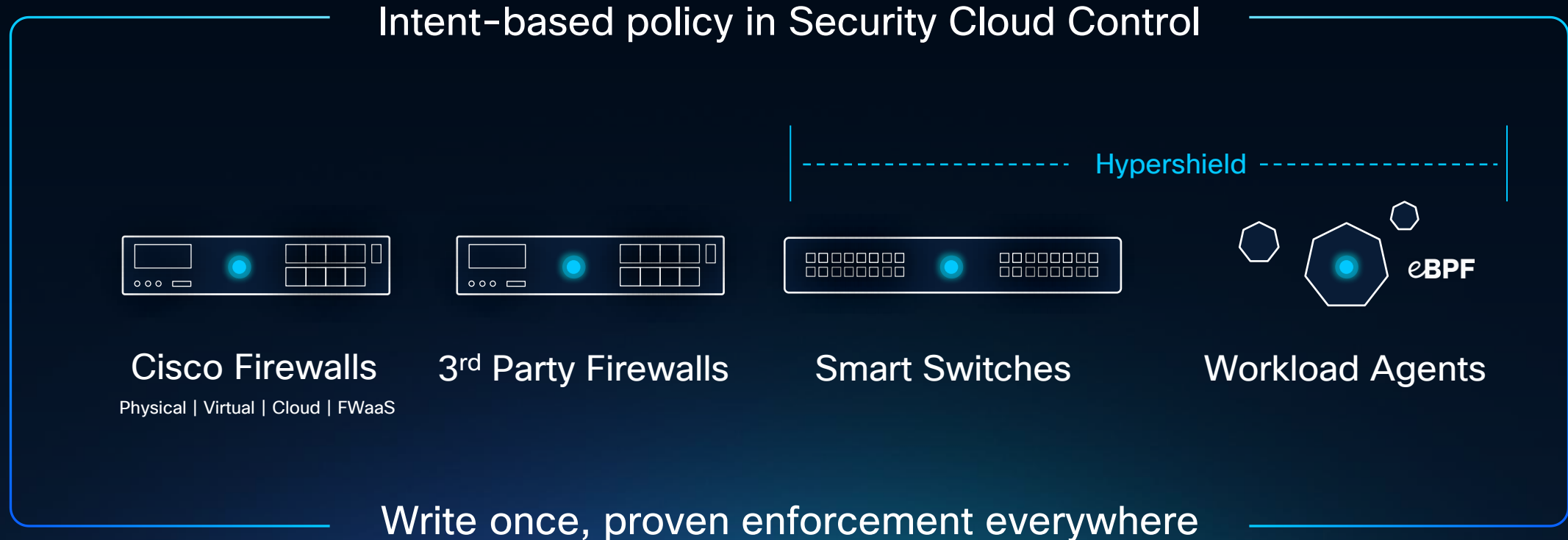
Ensure consistent security policies and compliance reducing configurations

Automate object updates
saving time for strategic initiatives

Integrated into the ROC
Gathering the detections for easy investigation and quick response

Cisco Hybrid Mesh Firewall

Change enforcement points - not policy



Single intent-based policy drives
multi-domain segmentation

Modern AI app security: deep
visibility and AI guardrails

Shrink exposure window with
runtime shielding

Unified Management & Agentic Ops for Secure Networking

PLATFORM

Management

API / Integrations

Assurance

Intelligence - AgenticOps

HARDWARE



Smart
Switches



Secure
Routers



Wireless



Industrial
IoT

Unified Management & Agentic Ops for Secure Networking

Meet Cisco Cloud Control

The unified interface for AgenticOps



Unified Management & Agentic Ops for Secure Networking

The New Standard for IT Operations

Cut MTTR to near seconds with AI-driven root cause and resolution.

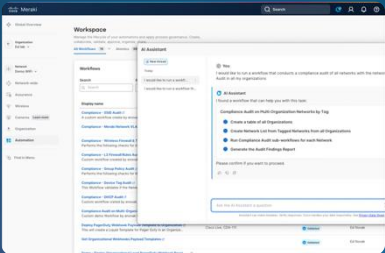
Catch critical issues early with AI that sees across the stack.

Operate at scale with lean teams and built-in AI expertise.

Troubleshoot faster together with shared context across teams.

Agentic Workflows (GA)

AVAILABLE NOW



AI Assistant

Accelerate network operations

ALPHA



AI Canvas

Cross-domain collaborative troubleshooting



Powered by Deep Network Model



Unified Management & Agentic Ops for Secure Networking

Cisco Data Fabric powered by the Splunk Platform

Data

Manage data at petabyte scale
Land all data economically
Tier data by use case

Context

Catalog your enterprise
Correlate relationships
Surface insights

Action

Deploy agentic operations
Connect your agents
Build proprietary AI

Telemetry

Network

Telemetry

App and Infra

Telemetry

Security

Telemetry

3rd Party

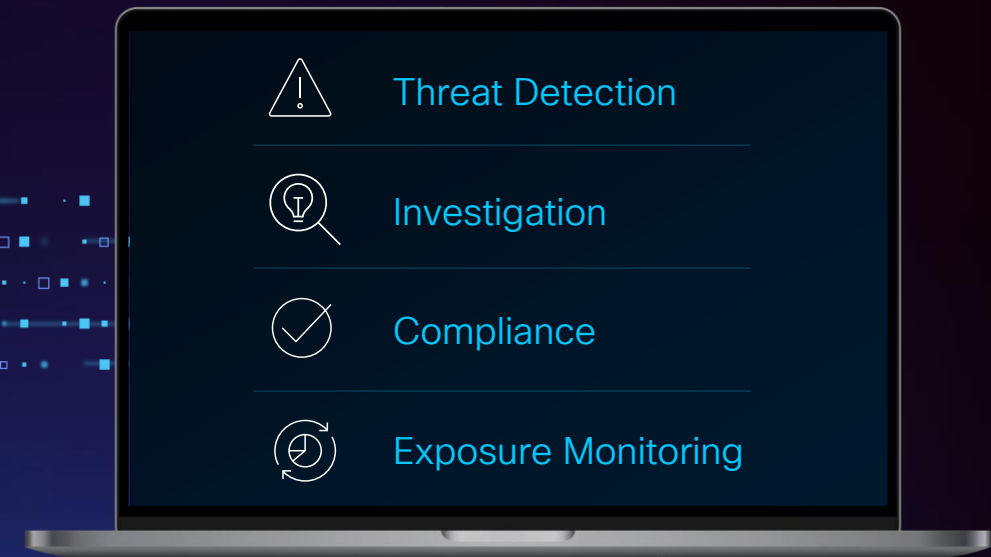
Unified Management & Agentic Ops for Secure Networking

Leverage the fabric for continuous runtime security

Cisco Secure
Networking Telemetry



Splunk transforms telemetry
into defense



Native, simplified data ingestion
and cost-effective data optimization

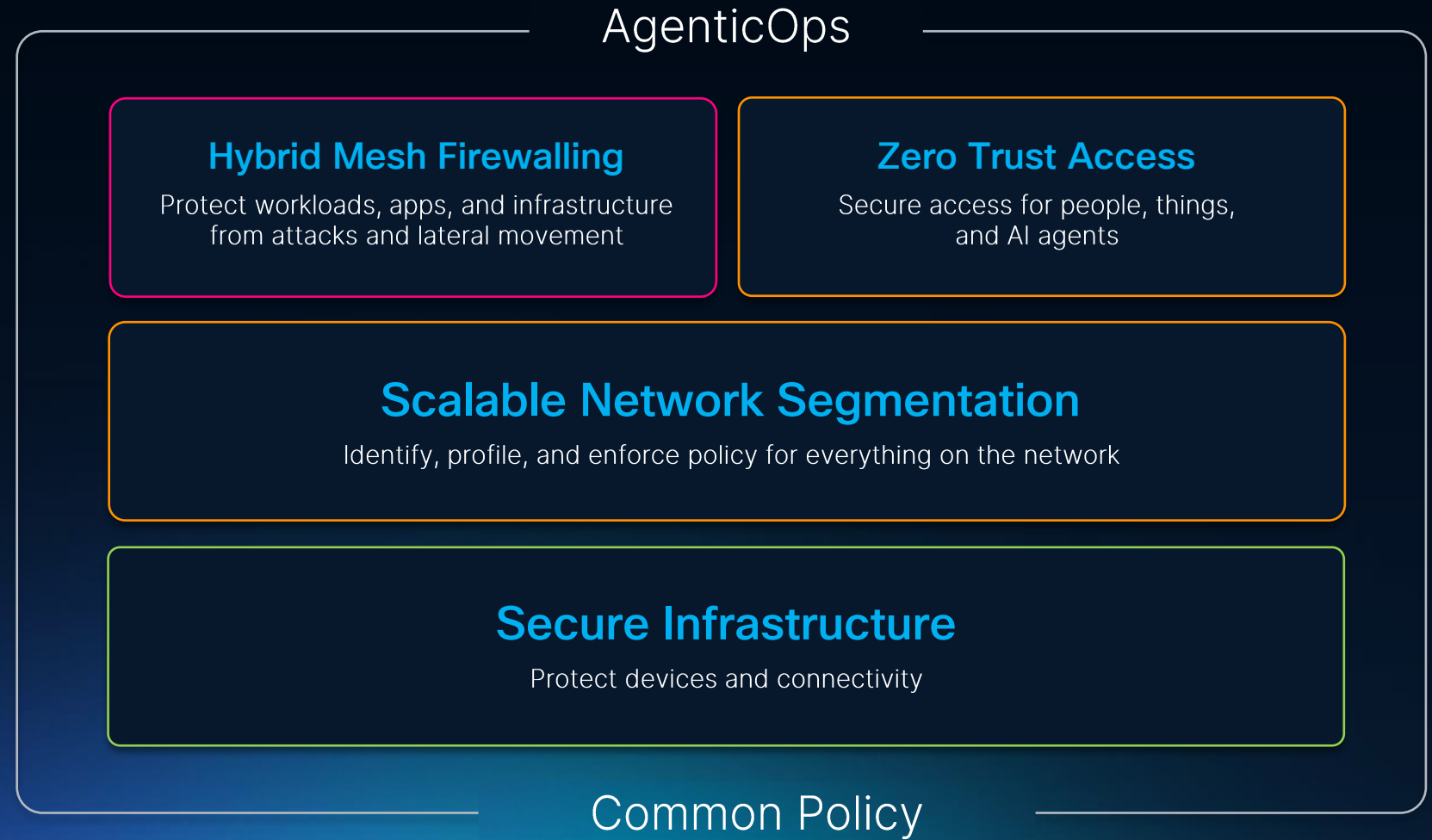
Powerful correlation across cloud
sources for the full picture

Centralized in the Splunk console
for seamless experience

Cisco's Secure Networking

Security infused into the network

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Secure Networking on Cisco.com

Secure networking

Break down silos with secure networking

In a world where highly distributed users connect to highly distributed applications, data, and resources, you can rely on network security solutions by Cisco to protect your organization against cyberthreats.



www.cisco.com/site/us/en/solutions/transform-infrastructure/secure-networking-overview.html

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Solutions / Networking /

New MIT Technology Review report on AI
Learn how to build an AI-enabled enterprise—boosting efficiency, security, and productivity. [Download the report >](#)

Modernize your network for the AI era

Unlock the performance, security, and intelligence you need to power real-time and AI-driven applications—across campus, branch, and industrial environments. With Cisco, you'll be ready for what's next.

[Read e-book](#) [Watch webinar](#)

Overview Secure campus Unified branch Industrial networks

The AI-ready secure network architecture

Meet the demands of modern applications and AI workloads with unified architecture combining AI, automation, and security to simplify operations, scale intelligently, and safeguard connections.

Products and Services Solutions Support Learn Why Cisco Partners

Cisco is named a Leader in the IDC MarketScape for Enterprise Wireless LAN 2025. [Download the excerpt >](#)

Reimagine your campus network for the AI era

Support real-time collaboration, immersive learning, smart buildings, and AI-powered apps—on a network that's ready for the future, not stuck in the past.

[Get e-book](#) [Book a consultation >](#)

Overview Resources Unified Branch Industrial networks

Why modernize your campus?

As AI becomes embedded in daily workflows, campus networks must evolve—becoming simpler to operate, secure by design, and built for real-time performance—to support the growing demands of users, devices, and applications.

Products and Services Solutions Support Learn Why Cisco Partners

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Transform every branch into a smart, secure, and scalable platform

Run your branches like physical extensions of your digital business. Deliver great user experiences, enforce consistent policy, and scale security with Cisco's AI-powered unified branch platform.

[Get e-book](#) [Book a consultation >](#)

Overview Resources Secure campus Industrial networks

Why modernize your branch?

Most branches were designed for static traffic patterns and trusted users. Today's reality requires a nimbler approach—with automation, intelligence, and security built in.

www.cisco.com/site/us/en/solutions/networking/campus-branch-networking/index.html

Your Journey to Modernization



Deploy AI-ready
Hardware: with
security fused into
the network



Secure the Campus
& Branch: with
secure access &
common policy



Simplify NetOps
& SecOps: with
Unified Management
& Agentic Ops

Cisco AI Ready Secure Networking

