CISCO Engage | Tech Day Miami

Modernizing Industrial Networks for Cybersecurity and AI

Trends in industrial networking

Growing cybersecurity urgency and AI readiness are driving OT network modernization

Leaders are accelerating IT/OT collaboration for success

Early movers are seeing significant operational and financial benefits

Extending your IT to operational environments

Campus & Branch

- Warehouses
- Distribution Center
- Parking Lots
- Airport
- Port
- Factories
- Utility Substations
- Roadways
- Defense
- Oil & Gas Refinery
- Mines

Consistent Network Architecture
IOS-XE, Catalyst Center, SD-WAN Manager

Airports

Improve passenger experience

- Provide pervasive Wi-Fi connectivity
- Reduce delays in baggage handling

Boost safety and security of the critical infrastructure

- Ensure safety with surveillance cameras
- Provide access control at gates
- Protect against cyber threats

Increase operational efficiency

- Reduce turn-around times for planes
- Ensure seamless communications throughout the airport

Jet Bridges

Runways

Cargo and Baggage Handling

Airport Transportation Systems

Parking lots and outdoors

Improve customer/user experience and safety

- Place digital signage for navigation
- Use surveillance cameras and lighting for safety
- Deploy secure Wi-Fi for customer use

Manage parking lot space efficiently

- Monitor available spaces with sensors and cameras

Secure entry/exit controls, ticketing, and payment kiosks

- Securely connect control and POS systems to the network

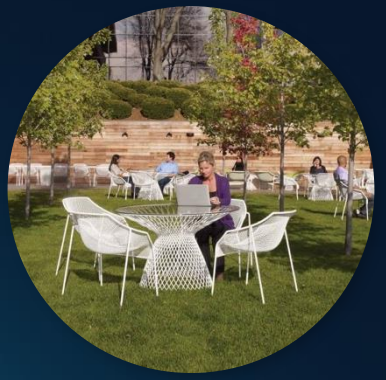
Improve staff productivity

- Provide robust connectivity to staff and equipment in harsh and outdoor non-climate-controlled conditions
- Shorten deployment cycles with make changes with ease using tools they already know and trust

Garages

Outdoor Malls

Stadium and event Centers



Outdoor Campuses

Warehouses and distribution centers

Optimize logistics operations

- Reduce costs and provide better customer experience
- Increase real-time process visibility
- Improve shelf utilization and inventory management

Improve staff safety, connectivity, and productivity

- Automate fulfilment operations
- Provide reliable connectivity for fixed and mobile devices with ruggedized network equipment

Comply with regulatory and sustainability requirements

- Reduce power requirements
- Monitor environmental conditions for safe storage

Ensure uninterrupted operations and prevent theft

- Maintain accurate inventory counts with greater visibility
- Connect security systems like surveillance cameras, badge readers, etc.
- Prevent, detect, and remediate cybersecurity breaches

Sorters

Forklifts, AGVs and embedded scales

Handheld scanners and tablets

Conveyor belts

AI and software are revolutionizing industries

Machine vision

More cameras need more PoE options (4PPoE)

More bandwidth (10G)

New form factor required

Autonomous vehicles and Tele remote operations

Pervasive WiFi and industrial wireless infrastructure

Software Defined Automation

Unified fabric from plant floor to data center -> Use virtualization to co-locate HW and SW

Need for frame preemption

AI robotics and cobots

Disaggregate robots HW/SW

Leverage AI to program robot

Move CPU/GPU workload to DC for elasticity and scale

Need for low latency

Industrial data collection

Need for standardization and automation of manufacturing infrastructure

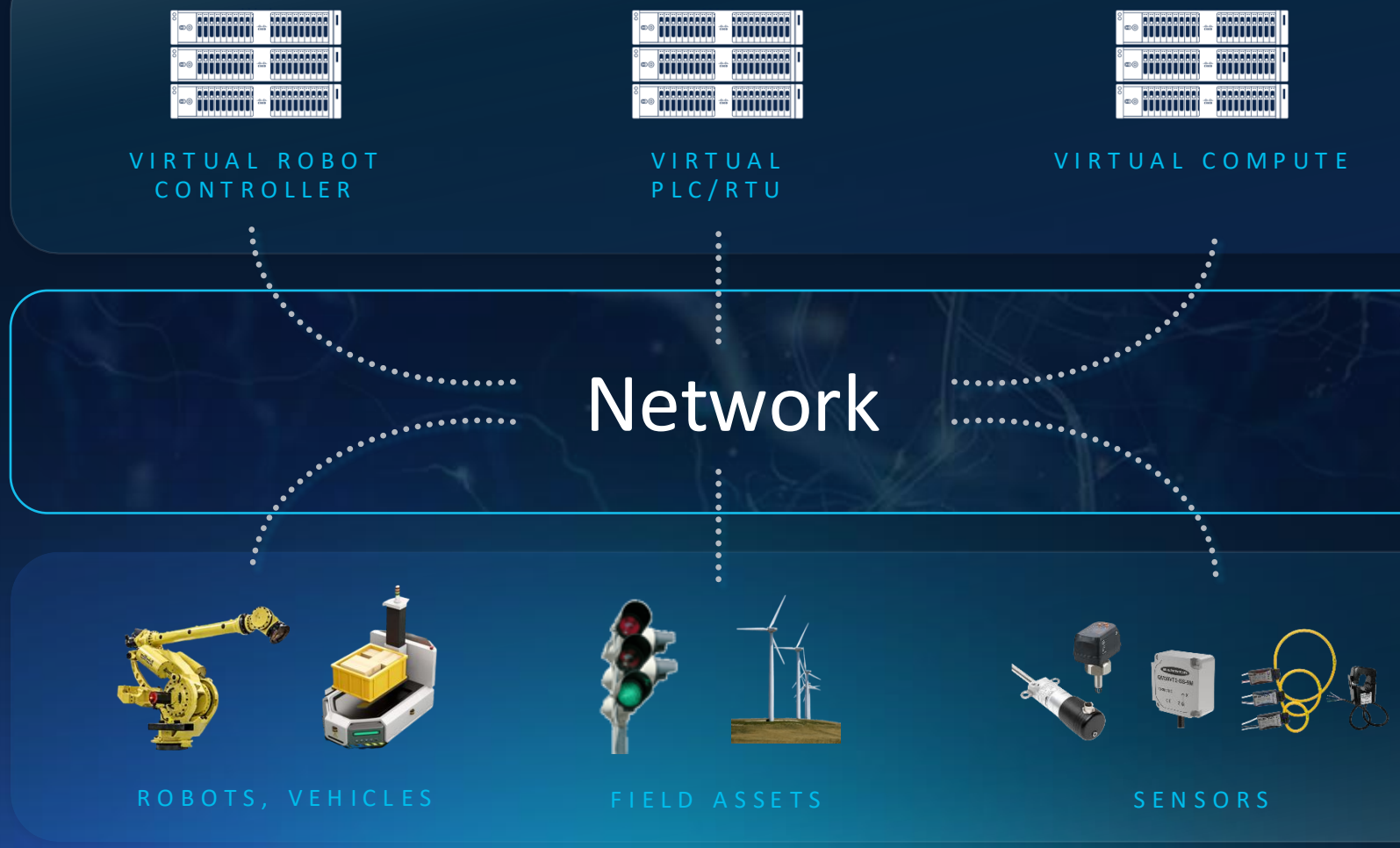
Data collection at scale

Cisco sees the network as the key to unlock software-driven industrial automation and industrial AI

Virtualized control/AI
in the data center

Nervous system
is the network

Physical components
in the field



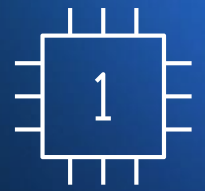
This requires a new architecture for industrial networks

Cisco's Industrial IoT network architecture

Operational simplicity
powered by AI

Security
fused into the network

Scalable devices
ready for AI



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Operational simplicity powered by AI

Data center

On premises edge

AI increasing demand for local processing and networking

DATA PROCESSING

	2021	2027
Data center	90%	25%
On premises edge	10%	75%

Defining the AI Edge

Central data center/Cloud

Edge computing

Endpoints

Large data processing

Data warehousing

Full stack infrastructure deployed outside central data centers

IoT endpoints generating data

- Distributed computing (server, networking, storage)
- Closer to data, enabling real-time event response
- Reduced latency, minimized bandwidth, cost efficient
- Infrastructure modernization; operational efficiency

Modern infra

Close to endpoints

Low latency

Less costly

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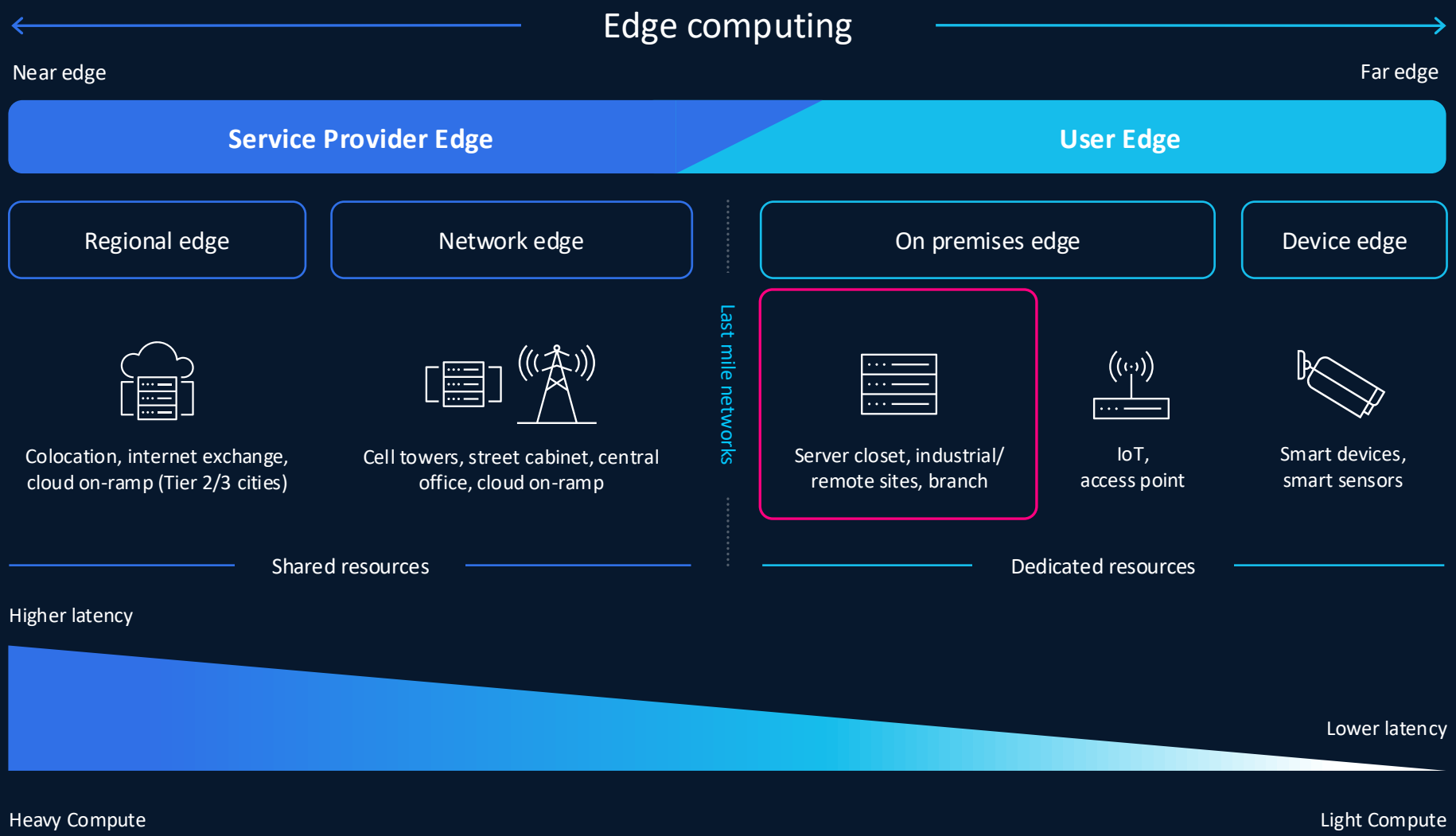
The edge computing spectrum



Industry use cases are accelerating the need for AI inferencing and compute at the enterprise edge

Industry-specific use cases and requirements are being evaluated

Retail
Drive thru optimization

Financial
Financial crime/fraud detection

Manufacturing
Asset visibility and control

Healthcare
Augmented diagnosis system

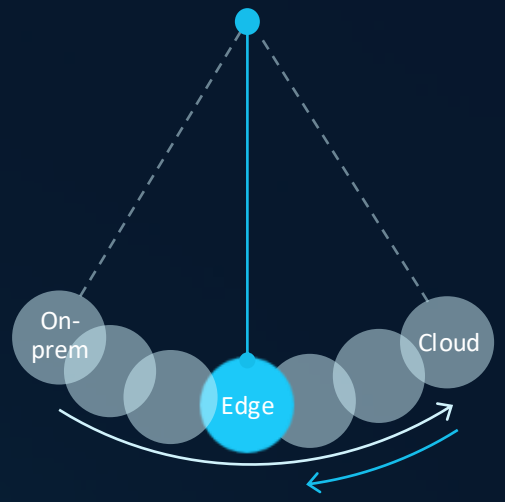
Accelerating the need for AI inference and applications at the edge

Data sovereignty

Latency considerations

Bandwidth constraints

Creating a paradigm shift from the centralized cloud model to Edge AI



Optimized for being closer to use case

Rockwell Automation for Unified Edge

The Future of Autonomous Operations

World's largest pure-play industrial automation and digital transformation company creating the future of industrial operations.

- Global leader in industrial automation and digital transformation
- Software and hardware designed for industrial environments

- AI for Predictive Maintenance
- AI Modelling at the Edge
- Improved Efficiency & Reduced Downtime

- Optimized for Industrial Workloads
- Full-Stack Software Defined Manufacturing
- Modular platform for real-time control

For more ISV info, contact us: computeisv@cisco.com

Our unified platform – Managing IT/OT portfolio

PLATFORM

Management

Assurance

API / Integrations

Intelligence - AgenticOps

HARDWARE

Smart Switches

Secure Routers

Wireless

Industrial IoT

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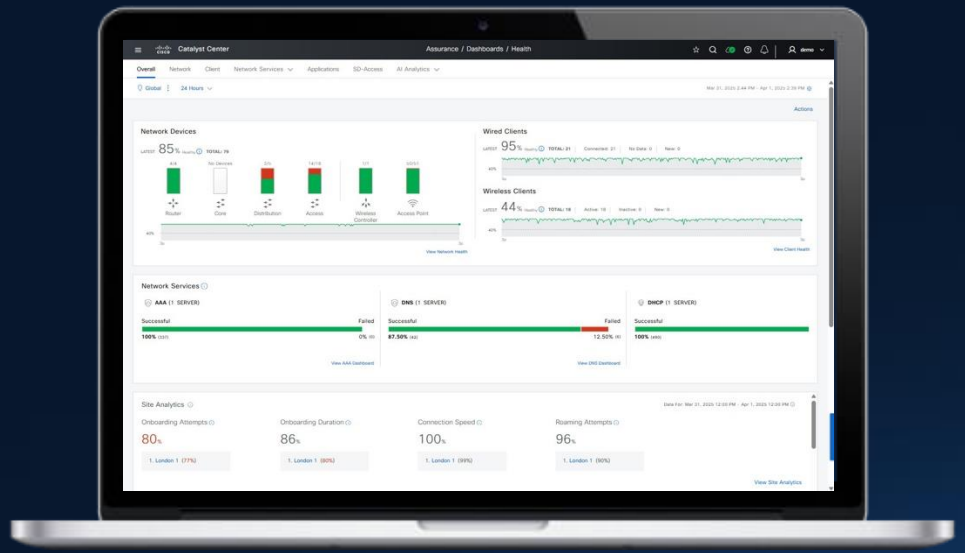
Unified management and security across IT and OT with Catalyst Center



Industrial Switching

Industrial Wireless

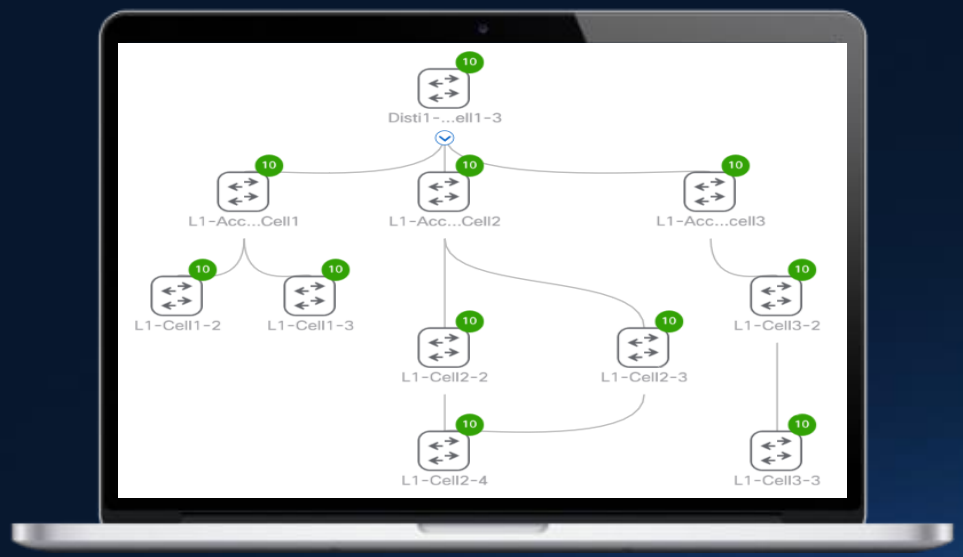
Industrial Routing

Reduce downtime

Increase efficiency

Stay compliant

What can Catalyst Center do for OT networks?



Manage networks with automation and performance assurance such as zero-touch provisioning, rapid issue detection and resolution, etc.

Secure operations by applying consistent macro- and micro-segmentation policies and deploy key security firmware updates efficiently.

Boost innovation by AI-driven problem identification and resolution assistance, keep the network performing optimally, and enable even further automation through APIs

Extend to non-Cisco devices by monitoring and managing many 3rd party network devices

Our unified platform - Assuring IT/OT portfolio

PLATFORM

Management

Assurance

API / Integrations

Intelligence - AgenticOps

HARDWARE

Smart Switches

Secure Routers

Wireless

Industrial IoT

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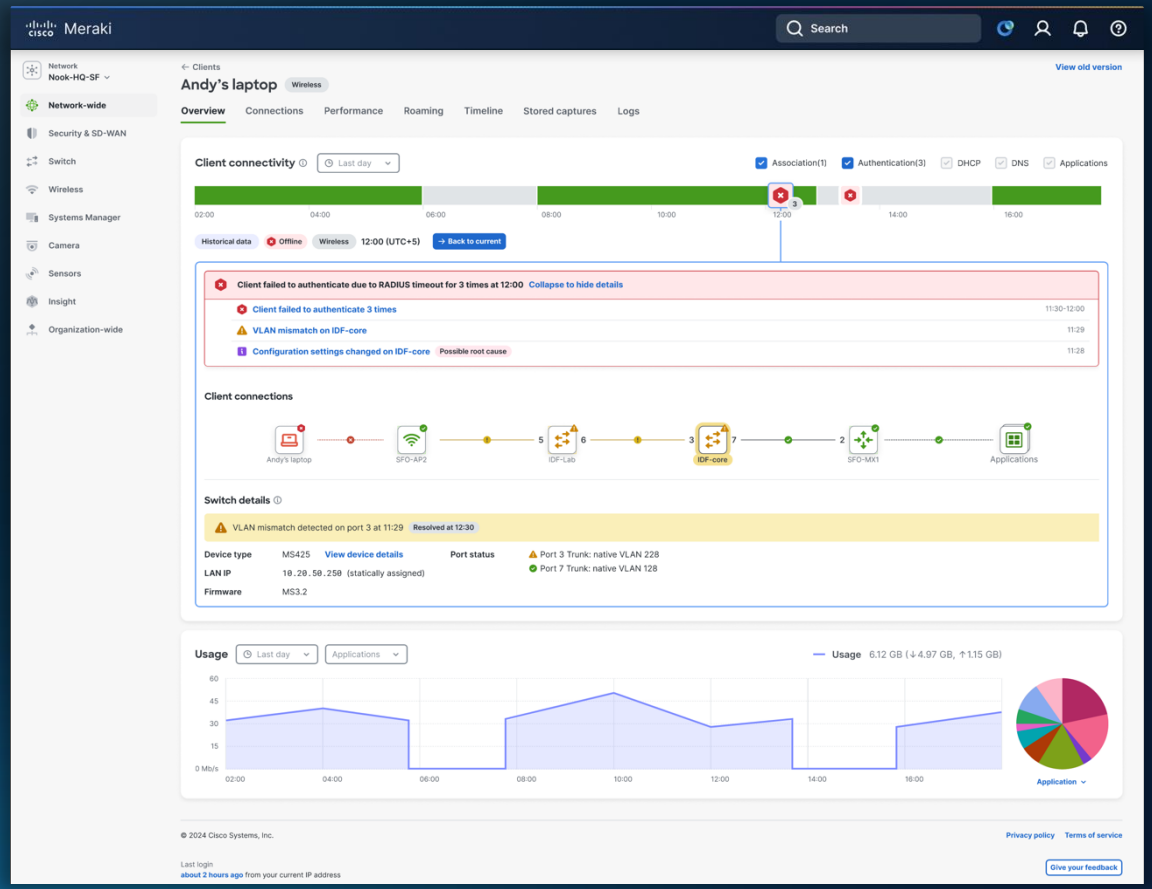
AVAILABLE | NOW

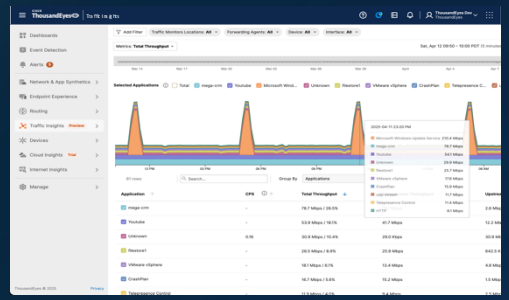
Assurance across every digital experience

- Deep visibility into both owned and unowned networks
- AI-powered insights surface experience-impacting issues instantly
- Closed-loop workflows trigger automated remediation
- AI Assistant accelerates root cause analysis end-to-end



Deep visibility from campus to mobile to industrial

ThousandEyes Traffic Insights



Smarter visibility and planning for enterprise networks

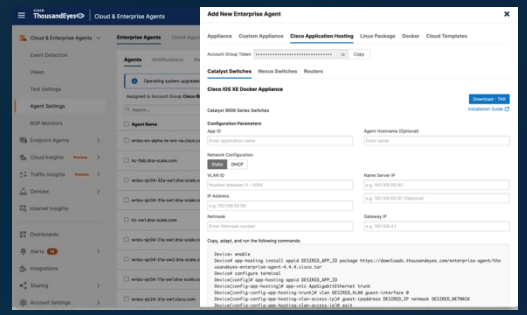
GA | JUNE

ThousandEyes Mobile endpoints

Extends Assurance to mobile endpoints

BETA | NOW

ThousandEyes Industrial Devices



Assurance for the industry's largest Industrial IoT portfolio

GA | JULY

Example: Edge-to-cloud network assurance in roadways

Traffic control orchestration in the cloud

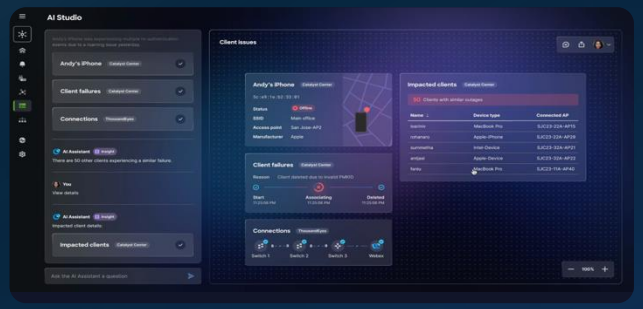
Inferencing at the Edge

Driving the need for cybersecurity at the edge, and observability across customer owned and 3rd party networks between edge and cloud

IT/OT operations further simplified with AgenticOps

AgenticOp lineup

ALPHA I OCTOBER



AI Canvas

Cross-domain collaborative troubleshooting

BETA I JUNE

cisco AI Assistant

AI Assistant

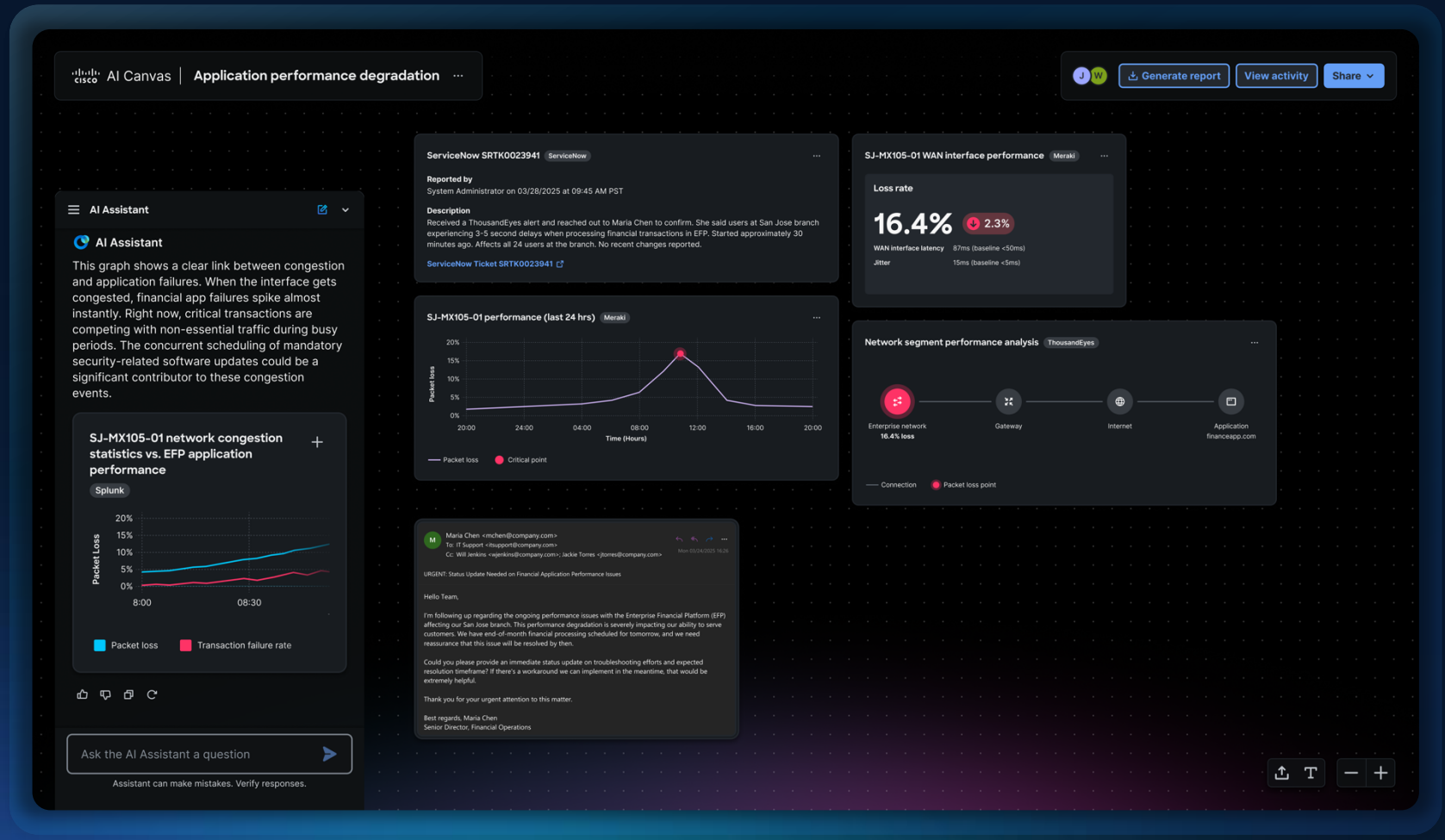
Accelerate network operations

POWERED BY DEEP NETWORK MODEL

ALPHA | OCTOBER

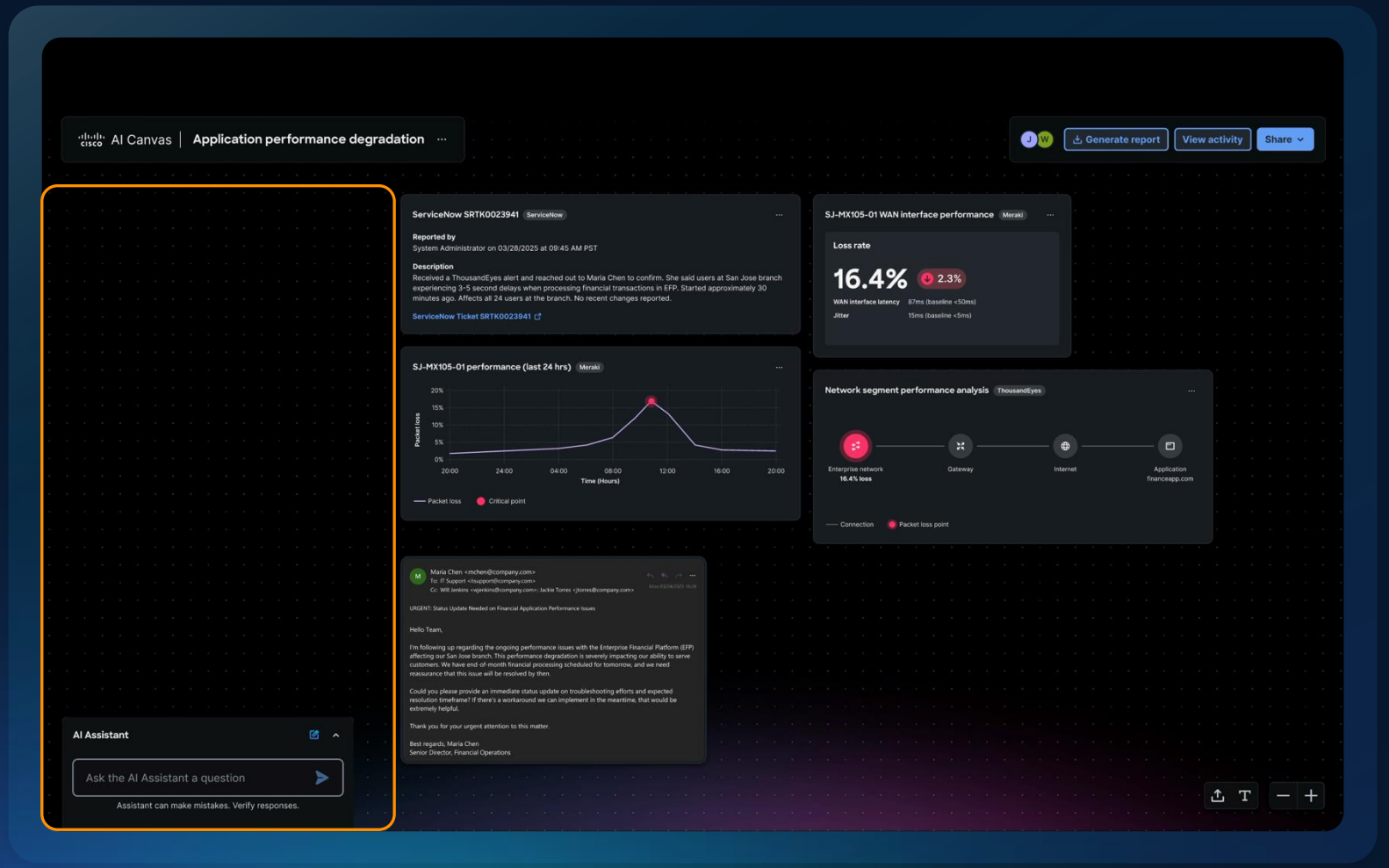
AI Canvas

- Troubleshooting and execution across multiple domains
- Collaboration across multiple users (NetOps, SecOps and execs)
- Built on the foundation of the Deep Network Model



AI Assistant embedded in AI Canvas

- Interface to ask and explore in natural language
- Guides you through diagnostics, decisions, and action inside the Canvas



AI Canvas

AgenticOps is powered by Deep Network Model

The most advanced networking LLM

Purpose-Built for Networking

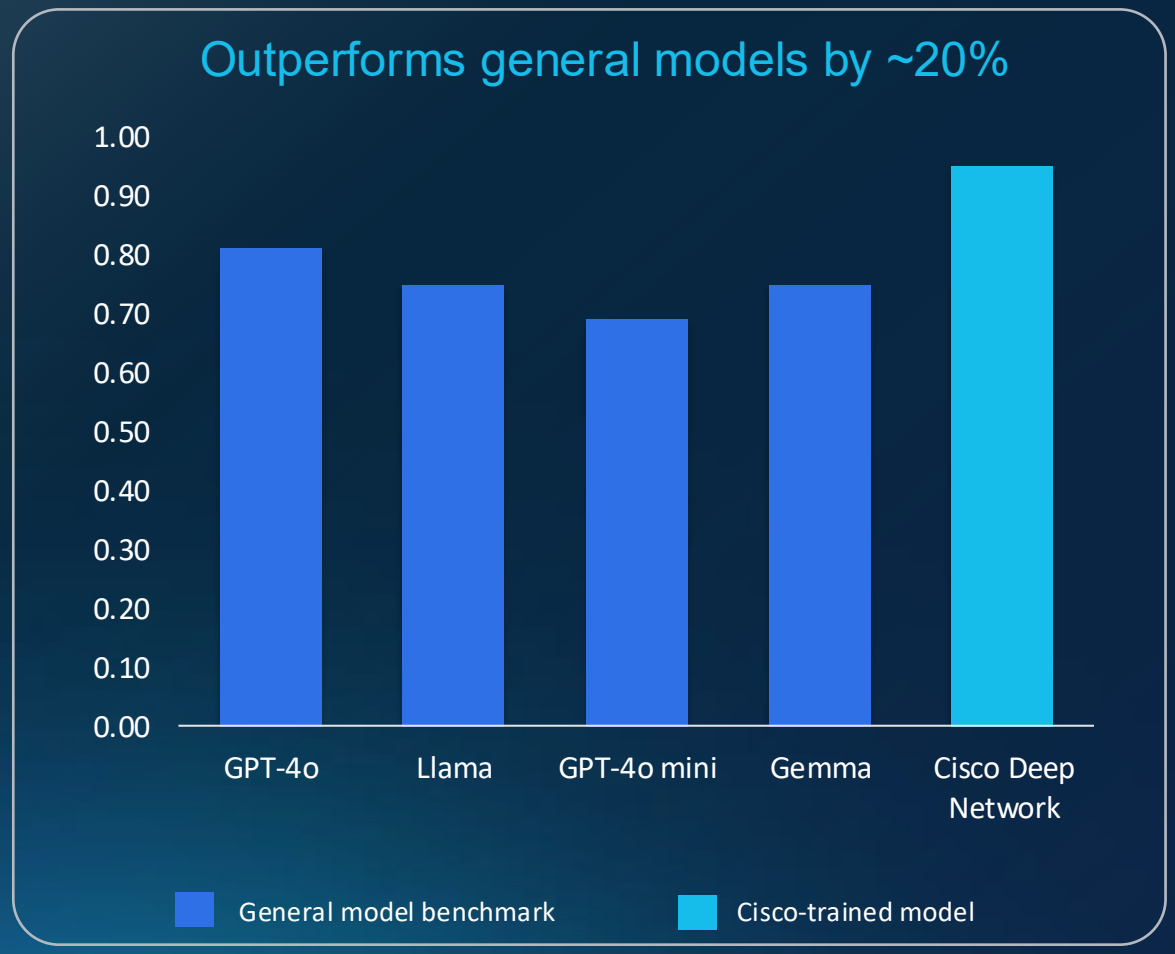
20% more precise reasoning for troubleshooting, configuration, and automation.

Trusted Training

Fine-tuned on 40+ years of CiscoU and CCIE-level expertise.

Continuous Learning

Evolves with live telemetry and real-world Cisco TAC and CX insights.



Accuracy on CCIE-style MCQs (590-question benchmark, May 2025)

Security fused into the network

Building cyber-resilient, AI-ready industrial networks

Cisco Industrial Threat Defense

Unified visibility across OT and IT

Insights to drive industrial security best practices and better detect threats traversing IT and OT domains

Adaptive network segmentation

Protect industrial operations by streamlining network segmentation to prevent attacks from spreading

Secure remote access

Get full control over remote access to industrial assets with a self-service ZTNA solution purpose-built for OT

Industrial security built into Cisco networking equipment to easily deploy at scale

Cyber Vision

Visibility

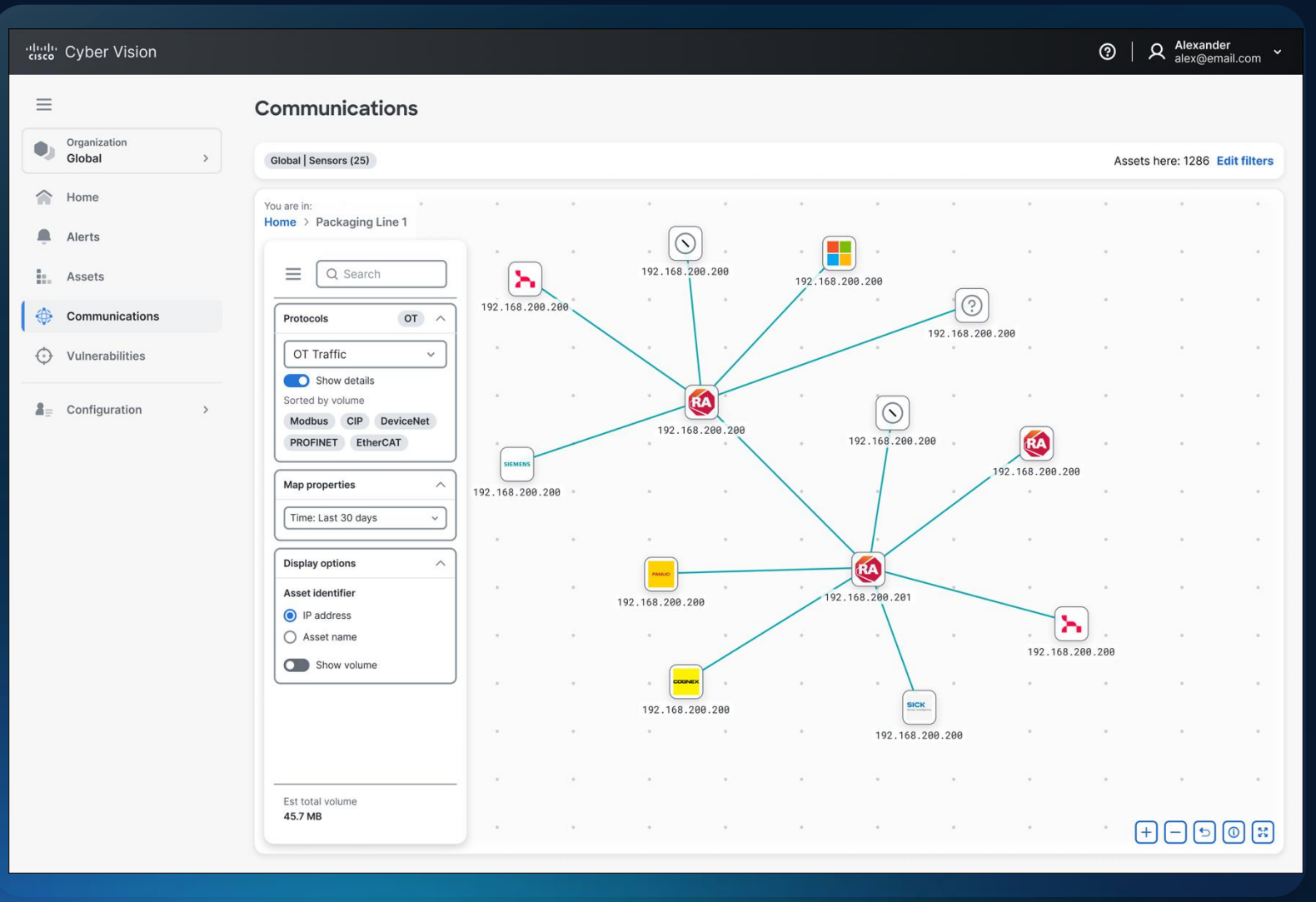
OT asset inventory
Communication patterns

Security Posture

Device vulnerabilities
Risk scoring

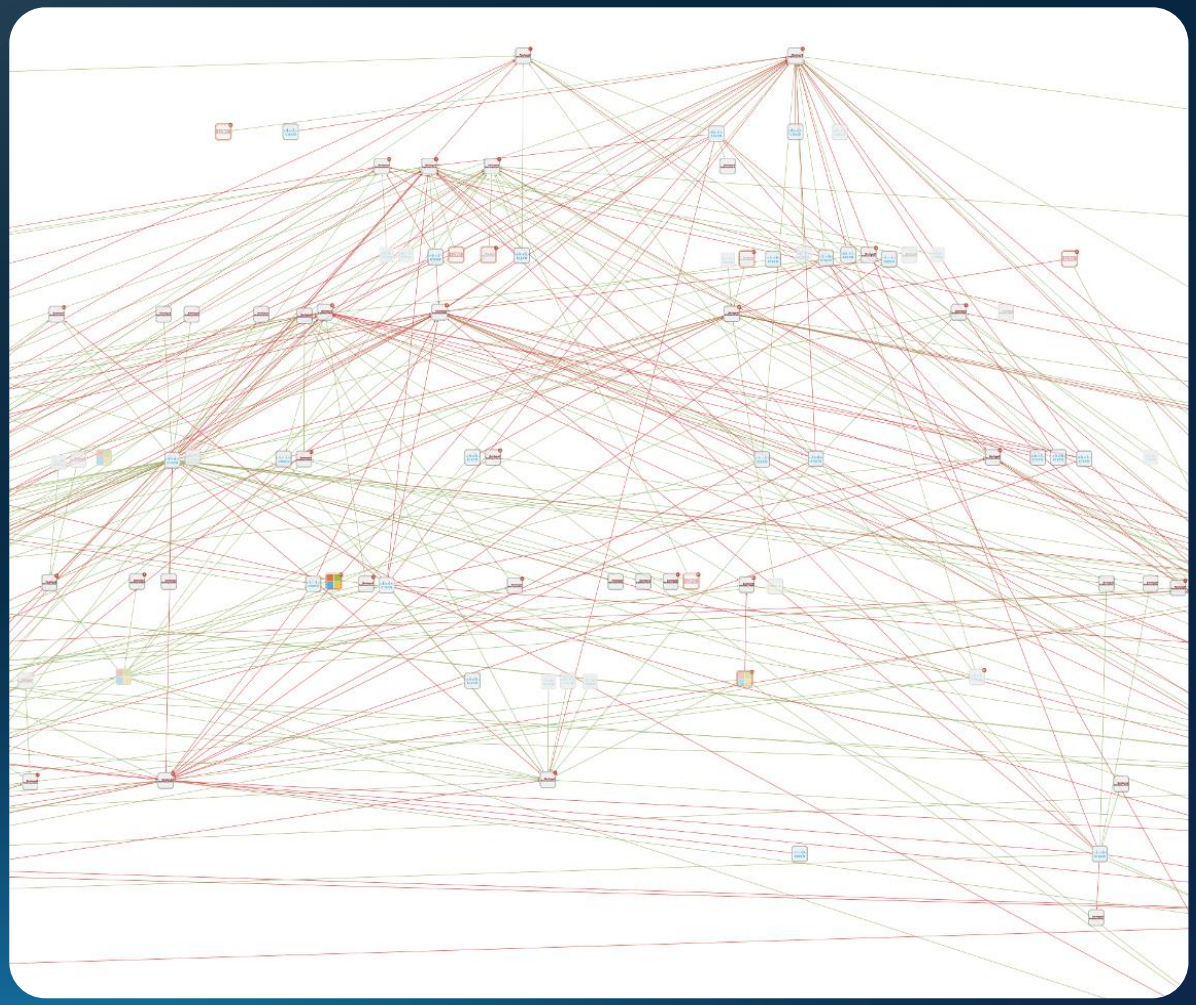
Zone Segmentation

Automate segmentation below the IDMZ to protect operations

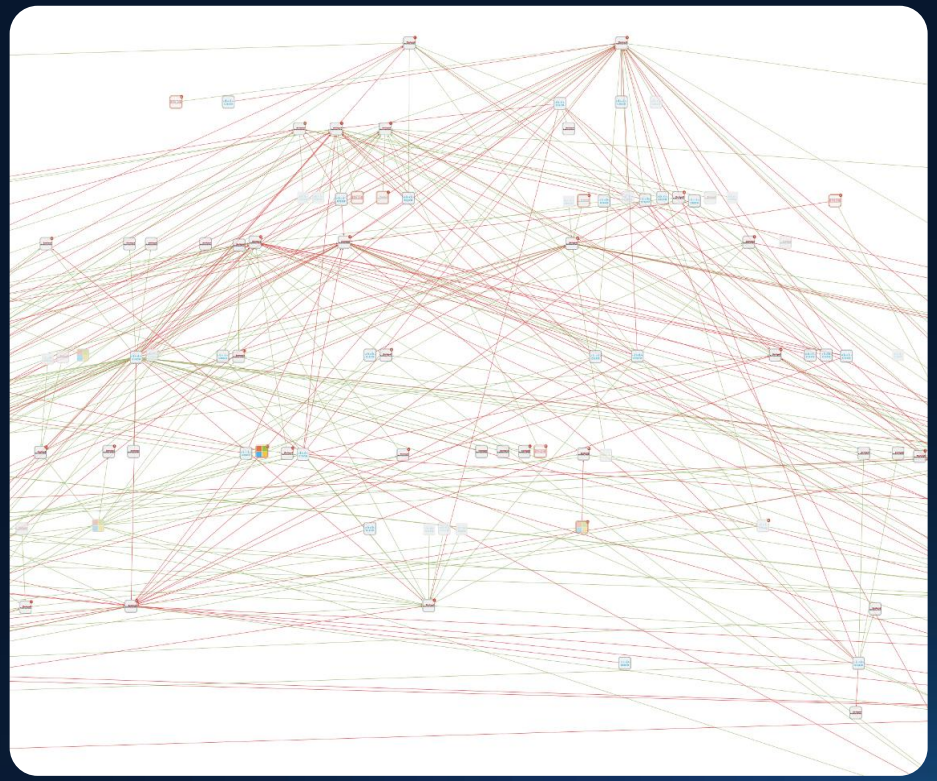


Grouping assets to reflect industrial processes is challenging

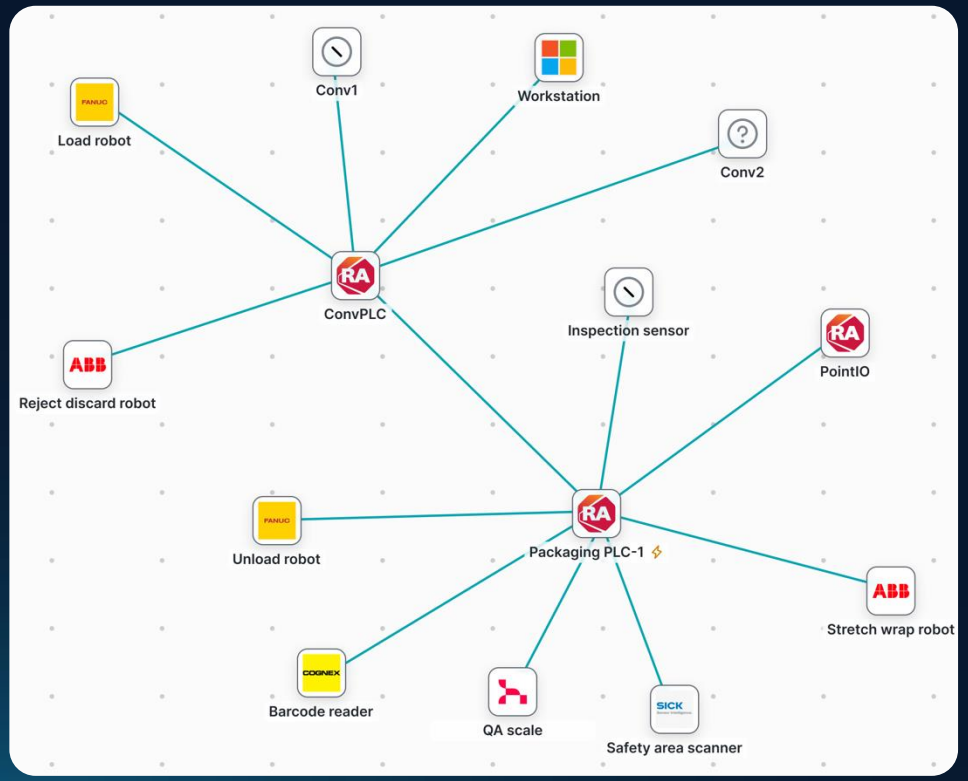
- Thousands of assets
- Millions of flows
- Broadcast, multicast traffic spreading across flat networks
- Hard for a human to group assets



Introducing AI-based clustering for segmentation



OT asset inventory projects highlight flat, unsegmented networks



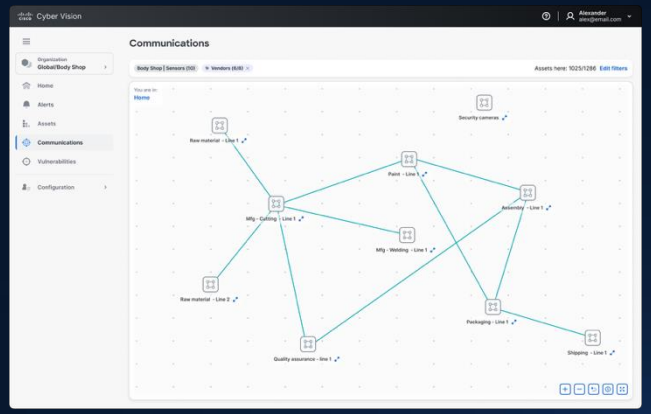
Cyber Vision AI-driven auto-grouping automatically creates security zones to drive network segmentation using Firewalls or NAC

Visibility driven segmentation with Identity Services Engine

Grouping assets
in Cyber Vision

Drives TrustSec
Auth policy in ISE

Segmentation enforced by
switches and routers



PxGrid

RADIUS

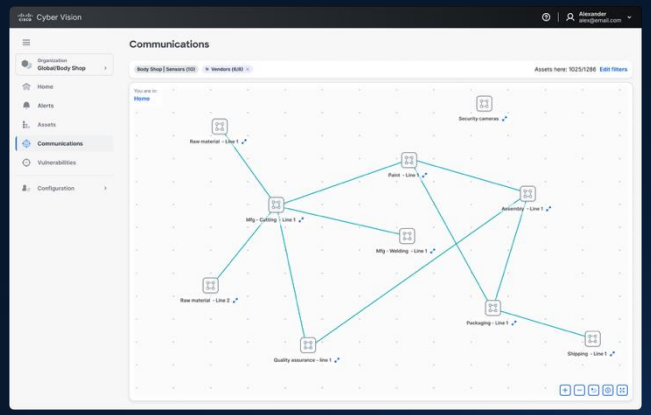
Zero downtime with OT controlled adaptive access policies

Visibility driven perimeter defense with Secure Firewall

Grouping assets
in Cyber Vision

Drives TrustSec
Auth policy in ISE

Segmentation enforced by
switches and routers



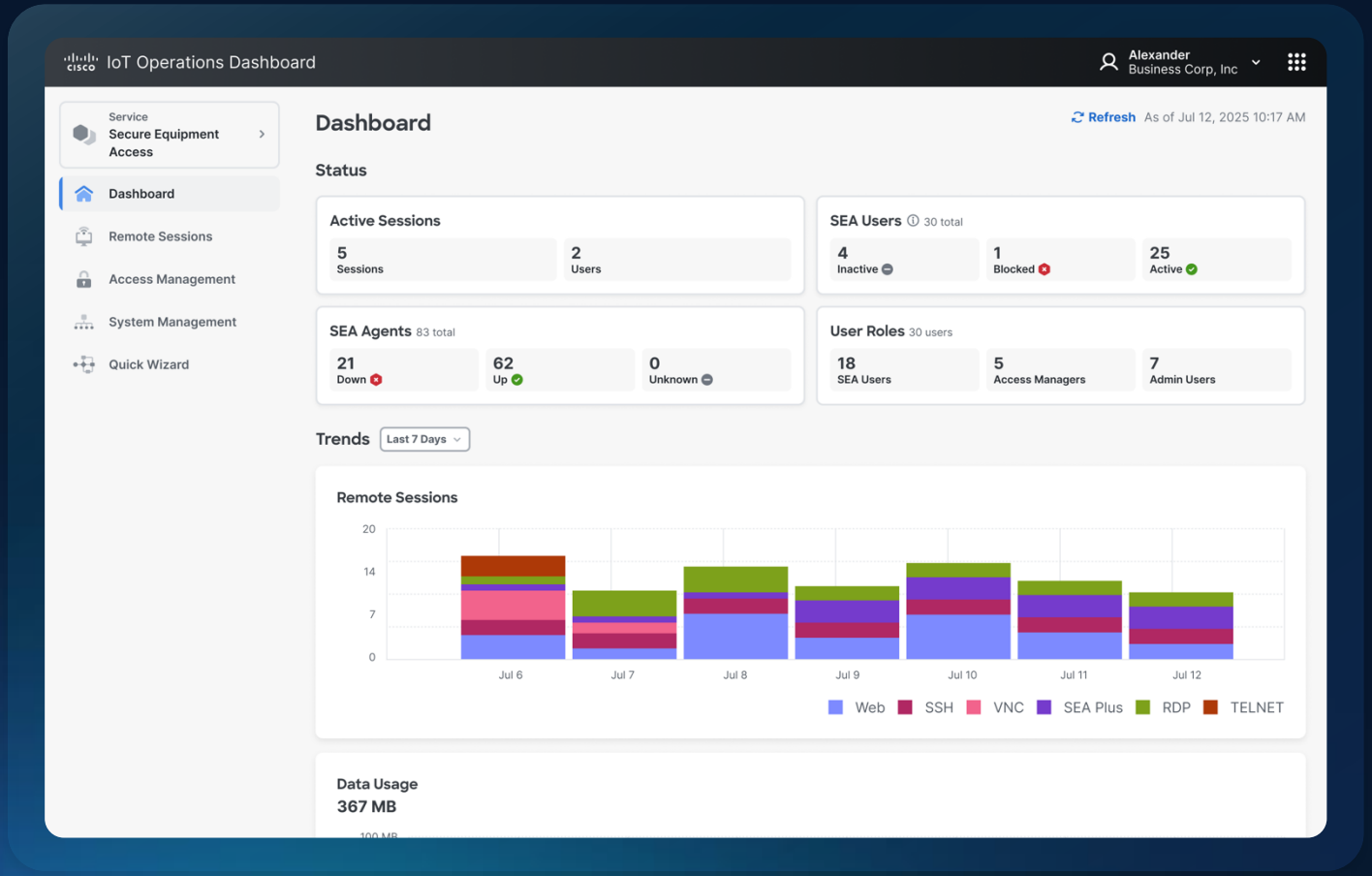
PxGrid

RADIUS

Zero downtime with OT controlled adaptive firewall rules

Secure Equipment Access

Network embedded Zero Trust Remote Access to your OT assets

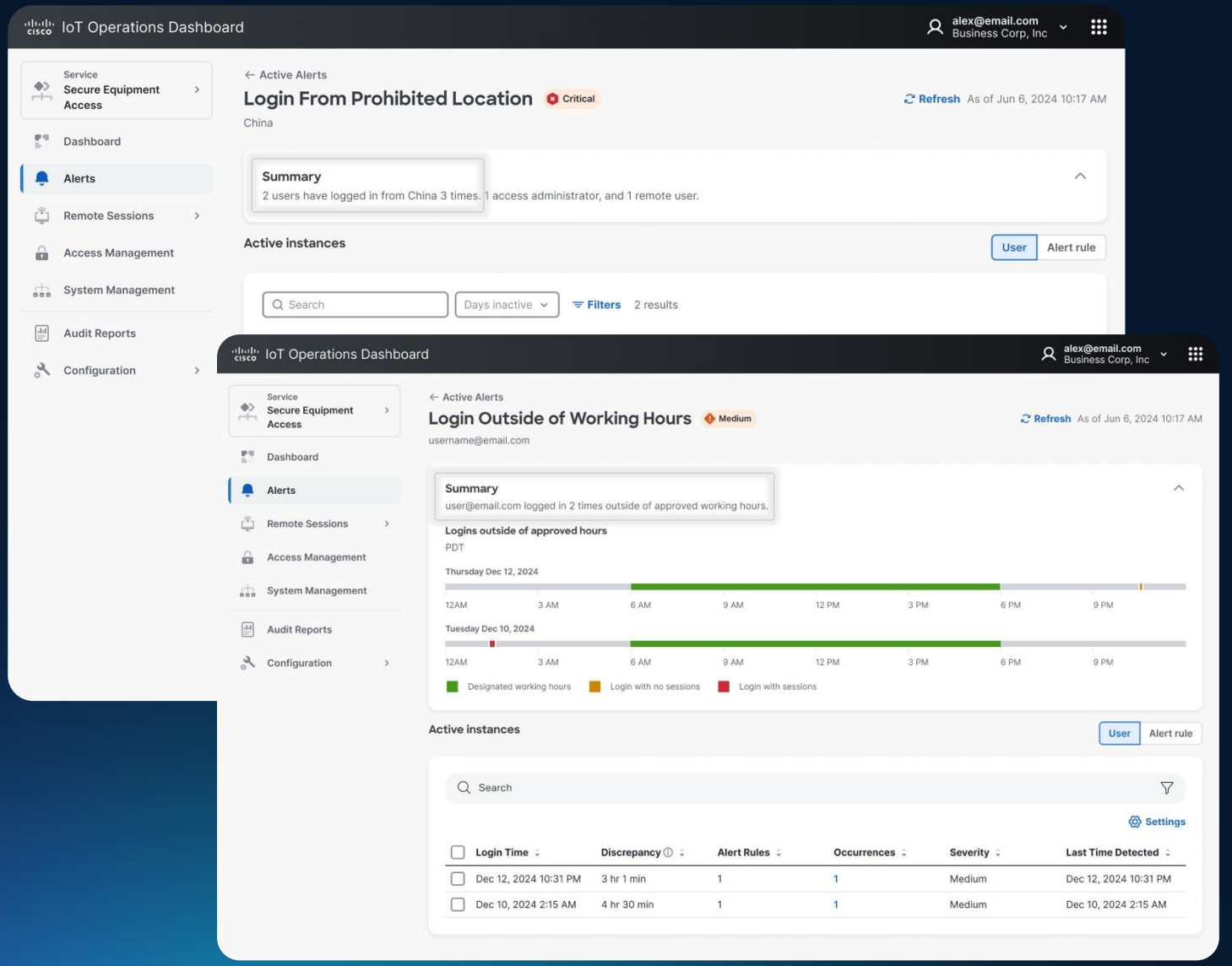


Remote user identity threat detection

With the rise in remote access activities, remote user identity is becoming a significant attack vector in OT networks

We are delivering new capabilities in SEA to detect threats related to remote user identity

- Login from unapproved geolocation
- Login outside working hours
- Auto deactivation of unused accounts



Scalable devices ready for AI

Helping industries digitize by bringing IT to the OT world

Choose the best tool for each use case with increasing leverage

Industrial Strength

Purpose built for harsh/outdoor OT environments

Built for harsh and outdoor environments

Industry use-cases and certifications

Industrial protocol support and integrations

Enterprise Grade

Leverage existing knowledge and investments

Industry-leading end-to-end Cisco security architecture

Less complexity at scale: one network architecture

Consistent commercial model – software, licensing

Common OS - IOS XE, Common Automation - Catalyst Center, SD-WAN Manager, Meraki dashboard
Architectural & workforce extensibility

19 versatile form factors

54 Gbps throughput

720W per switch

Cyber Vision embedded security

Introducing

All New Industrial Ethernet Portfolio

AVAILABLE JULY 2025

Cisco IE3100/H | Cisco IE3500/H | Cisco IE9300

Announcing 19 new switches joining Cisco's leading portfolio

DIN-rail Portfolio

Cisco IE3100 - Compact

NEW!

4PPoE

Cisco IE3200

Cisco IE3300

Cisco IE3400

NEW!

Cisco IE3500

IP67 Portfolio

NEW!

Cisco IE3100H - Compact

Cisco IE3400H

NEW!

Cisco IE3500H

Rackmount Portfolio

Cisco IE9300 – All Copper

Cisco IE9300 – All Fiber

NEW!

Cisco IE9300 – Mixed Ports

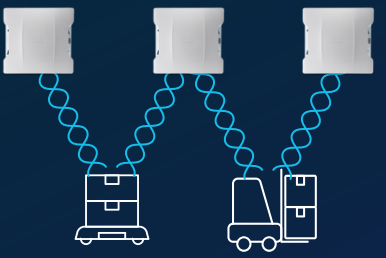
Unified Wi-Fi and URWB infrastructure

Ultra-Reliable Wireless Backhaul built-in Enterprise Wi-Fi Access Points

Before

Wi-Fi Access Network

Industrial Wireless Network



Now

Unified Wireless Infrastructure

One management platform, One wireless infrastructure to install

Best of Wi-Fi combined with use new cases enabled by URWB technology

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Leadership in Industrial Networking

Cisco’s IIoT Leadership

20+ years of industrial networking experience

making Industrial Ethernet equipment

Market leadership across all product categories

- Industrial Edge Networking Marketing Leader 2024 by Omdia
- OT Security Solutions Market Leader 2024 by Forrester
- Industrial Ethernet Switching Market Leader 2024 by ARC
- Industrial and Outdoor Wireless LAN infrastructure Market Leader by ARC
- IIoT Company of the Year 2025 by IoT Breakthrough awards

Expansive vertical customer depth

Manufacturing

52,000+

companies in 139 countries

Utilities

19,000+

customers in 163 countries

Transportation

32,000+

organizations in 169 countries

Introducing a Generational Industrial Experience

- Announcing 19 new switches joining Cisco’s leading portfolio
- Unifying Wi-Fi and Cisco’s URWB infrastructure for one management platform and one wireless infrastructure to install

“In Q2, we saw growth of more than 50%, signaling an acceleration as customers prepare for the deployment of AI-powered robotics and industrial security.”

Chuck Robbins, CEO, Cisco

Thank you