CISCO Engage | Tech Day NYC

Connecting Data Centers and Clouds in the AI Era

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4th March 2026

Agenda

1. Industry trends and impact of AI on WAN (5 mins)
2. Cisco hardware innovations (20 mins)
3. Cisco software innovations (20 mins)
4. AI connectivity use cases and solutions (10 mins)
5. Q&A, closing, next steps (5 mins)

Industry Trends and impact of AI on WAN

AI is Rewriting the Network

Efficient creation and delivery of tokens will be a critical differentiator

33%

increase in demand for AI DC capacity through 2030[1]

82%

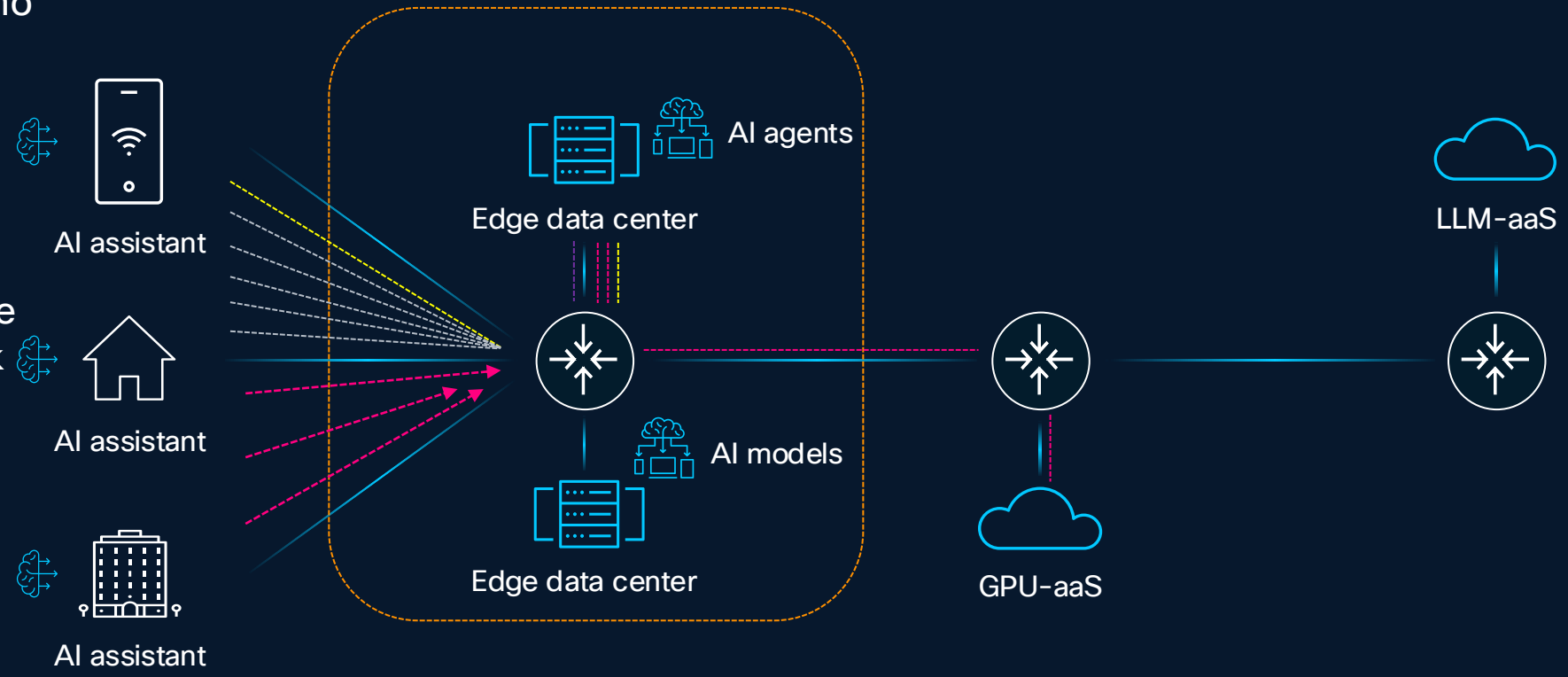
CAGR for AI network traffic through 2029[2]

75%+

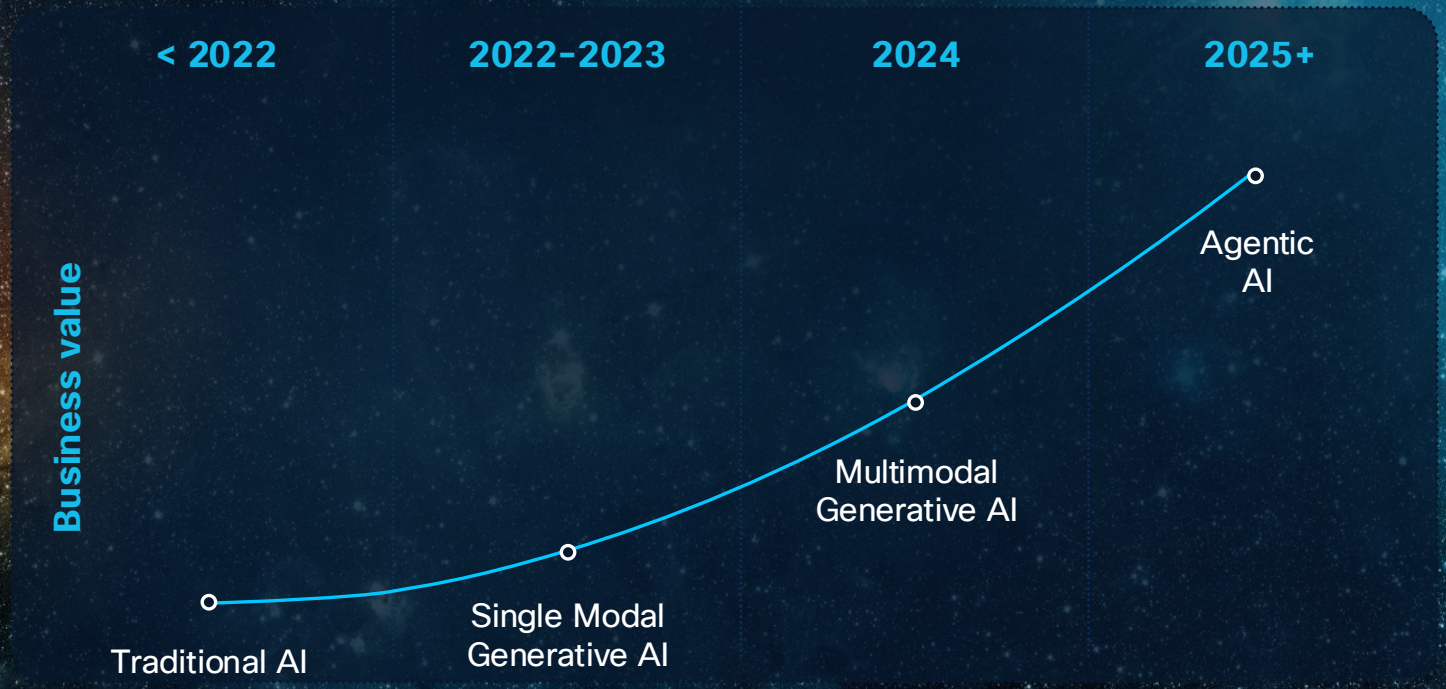
inferencing/processing moves to edge by 2030[3]

What Makes AI Traffic Different

- Every AI request is unique – no content is cached
- AI requests generate a high volume of tokens
- AI inferencing is needed at the edge, leading to new network requirements
- AI drives a disproportional increase in upstream traffic
- 1% packet loss = 50% hit in AI application performance
- Agentic AI Traffic – Busy Hour?



The Rise of Agentic AI



"33% of enterprise software applications will include agentic AI by 2028, up from less than 1% in 2024"

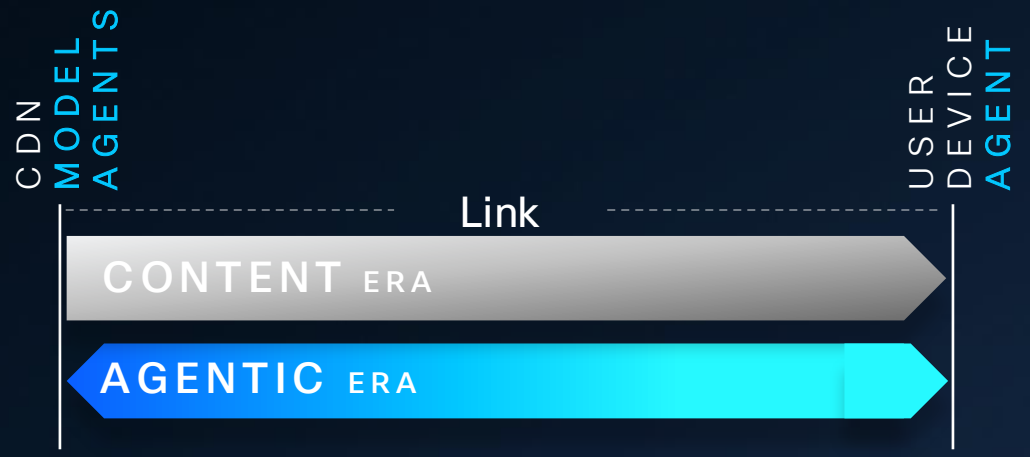
– Gartner

"By 2028, 68% of all customer service and support interactions with technology vendors are expected to be handled by agentic AI."

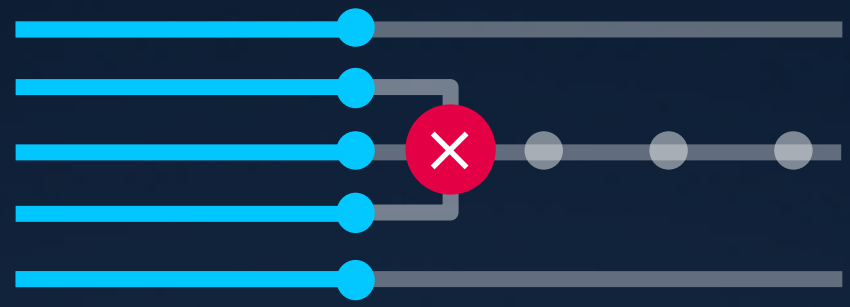
– Cisco Report:
Race to an Agentic Future

More traffic, Upstream tilt. Resiliency is everything.

AI agents operating at machine speed increase total traffic and tilt direction upstream.

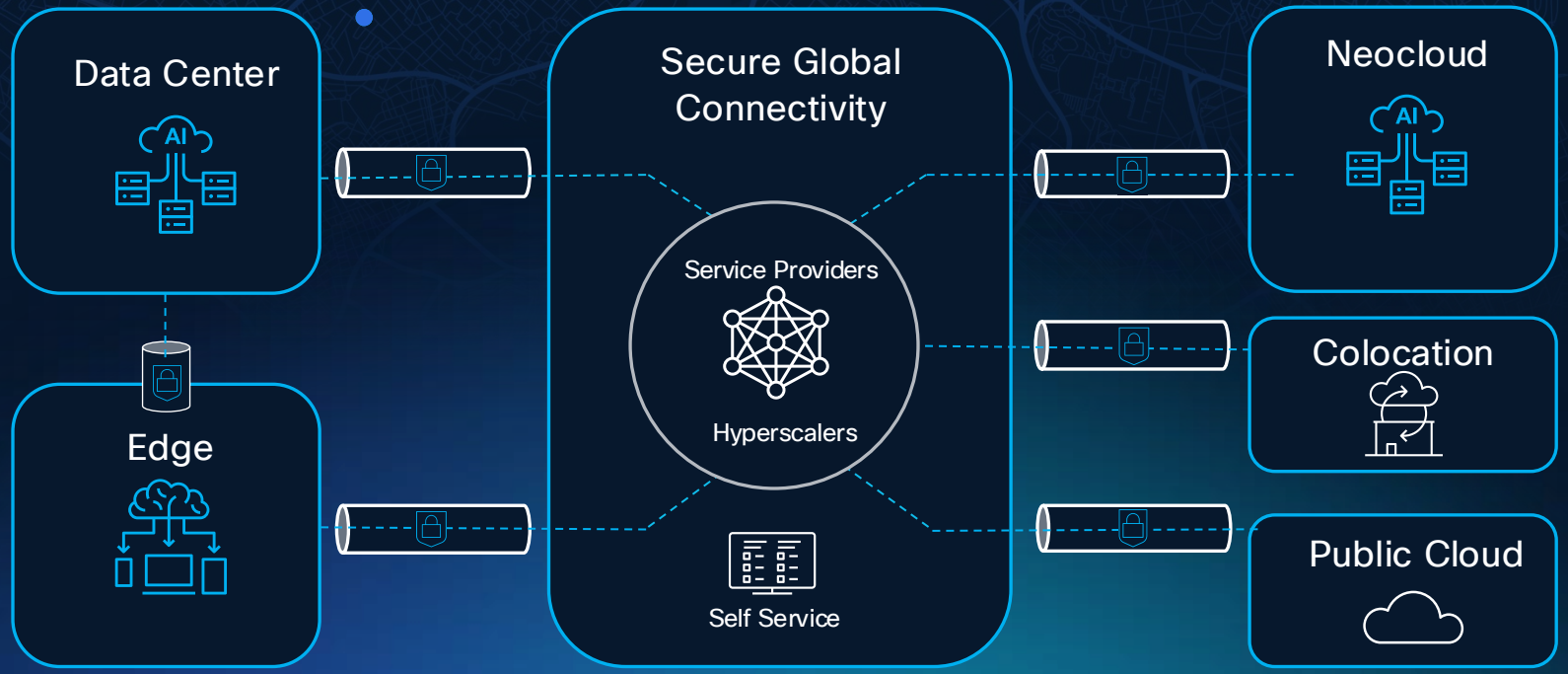


Downtime no longer leaves users waiting – it brings digital workers to a halt.



One inference failure halts every downstream step.
1% packet loss means 40-60% performance degradation.

AI will not live in one place
It will be everywhere a business operates



We need to re-architect networks for AI connectivity

Flexible access

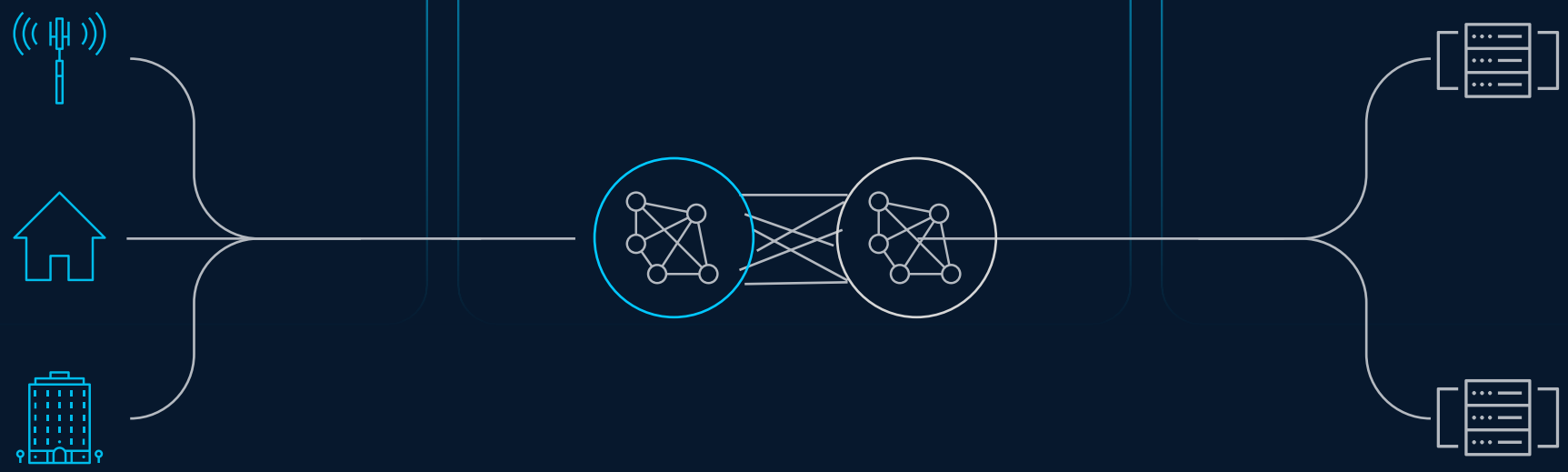
Increased data generation and consumption

Distributed functionality

Network investment closer to end-user demand to create new customer experiences

Data center connectivity

AI-training and inference workloads distributed between data centers



cisco

Cisco Hardware Innovations

Challenges in Secure Global Connectivity

Cost

How can I afford the increase in high-bandwidth low-latency connections?

Operations

How do I manage new AI workloads without more networking engineers?

Performance

How do I assure and secure the performance of mission-critical applications?

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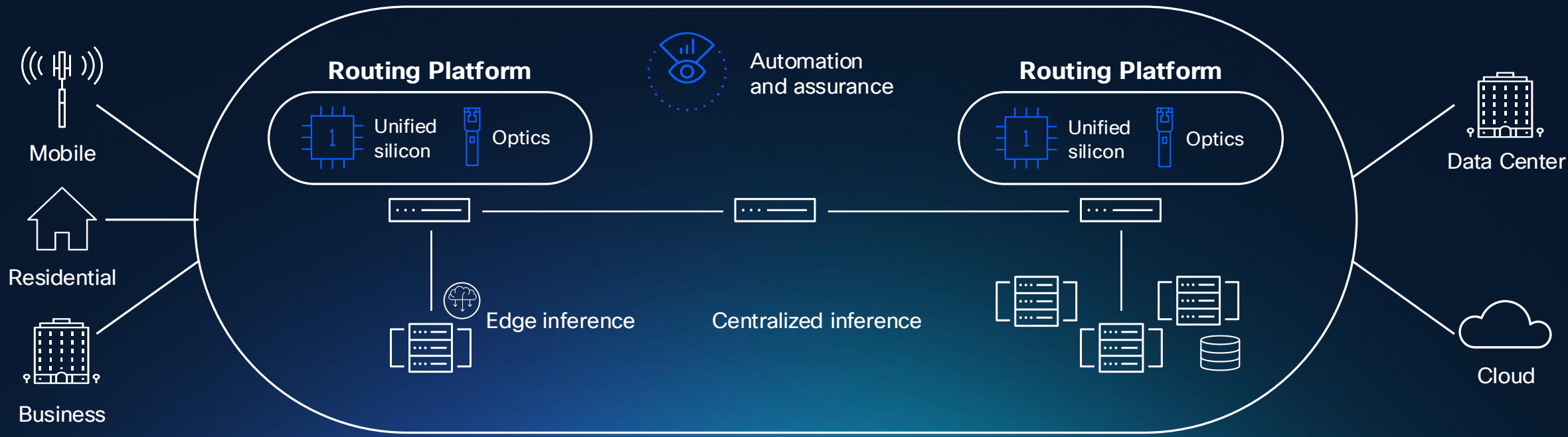
Our response

Agile Services Networking

Cisco Agile Services Networking

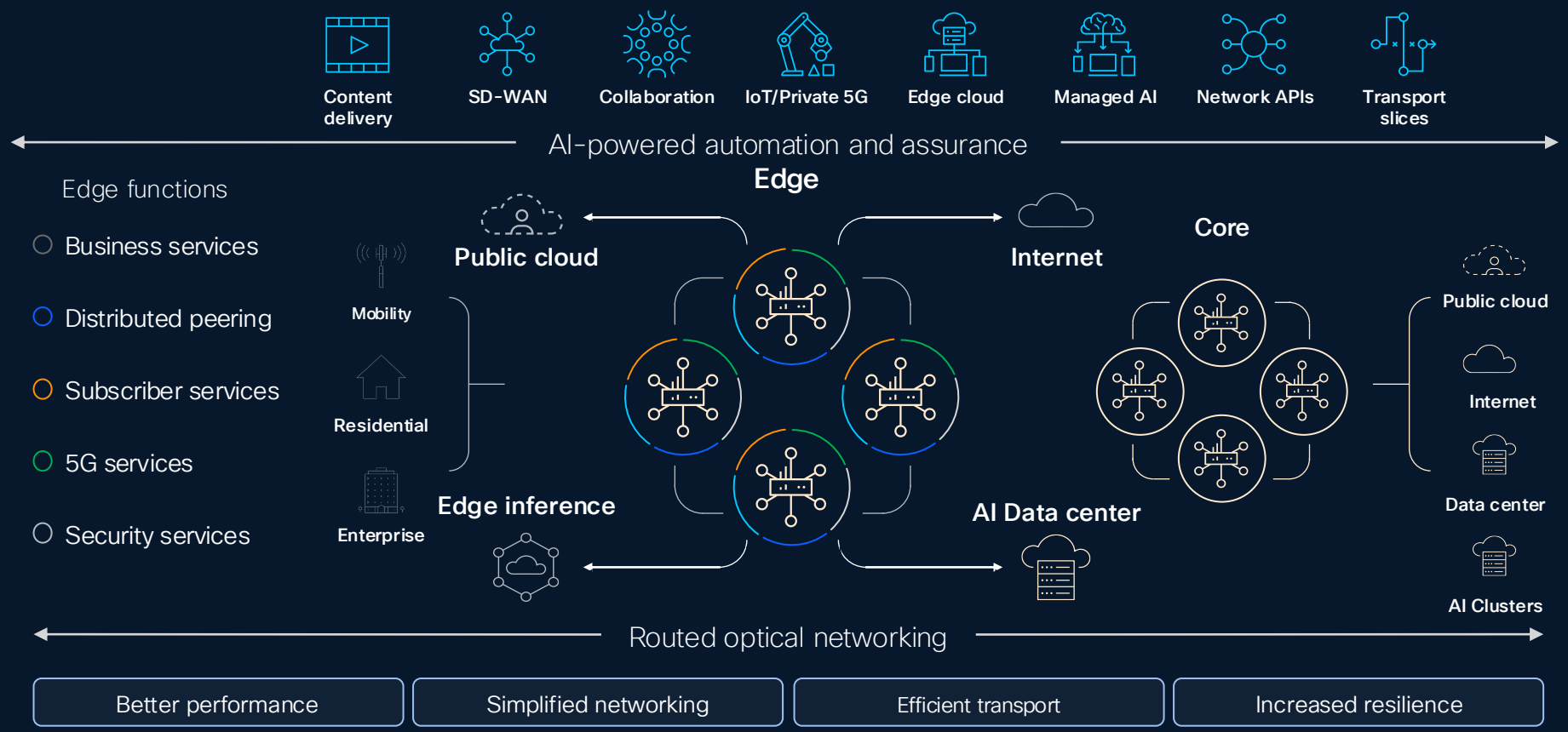
Predictable, assured, and secure network performance for AI connectivity

End-to-end architecture | Any services, anywhere



Redesigning networks for AI

Agile Services Networking



Enterprise Use cases

- AI Interconnect
- Metro Access
- Private WAN
- Private 5G

Innovations in Agile Services Networking

Common Silicon

IP/Optical Convergence

End-to-End Network Programmability

Unified Observability and Assurance

Embedded Security & Trust

Common Silicon One family set

Secure, scalable & controlled

Consistent building blocks

Optical extended into the data center

Coherent pluggable optics

Routed Optical Networking

Seamless E2E service delivery

Seamless DC-to-SR/SRv6

Seamless E2E SR/SRv6

Cross-domain service insights

Observability/Visibility

Data platform & correlation

Pervasive, built-in security

Trustworthy platforms

Quantum safe

Cisco Silicon One

Scalable and programmable solutions for metro and access networks. Consistent control, sustainability, security, and manageability from the silicon level.

- One architecture
- High capacity and scale
- Service convergence
- Optimal network design
- Fully shared packet buffer
- Flexible interfaces
- Traffic management and load balancing
- Comprehensive security
- Programmable services
- Deep visibility and analytics

Cisco Silicon One | Not one chip, One Architecture

End-to-end Coverage

1 Architecture
The Language of block communication

5 Series
Assemble market optimized blocks

0 Compromises
Common language, Market optimized blocks

Easier to validate, deploy, innovate and troubleshoot

AI Optimized Data Center Switch
Hyperscale Front End
AI Scale-Up
AI Scale-Out
AI Scale-Across

AI Optimized Scale-Across Router
AI Secure Scale-Across
Wide Area Networks (WAN)
Data Center Interconnect (DCI)

Feature Rich Switch
Enterprise Data Center Leaf
Enterprise Campus core

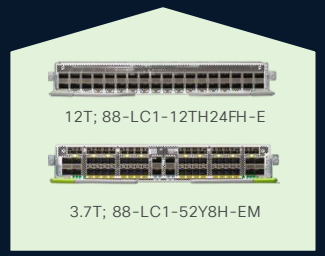
Feature Rich Router
Agile Services Edge
Enterprise Campus Core

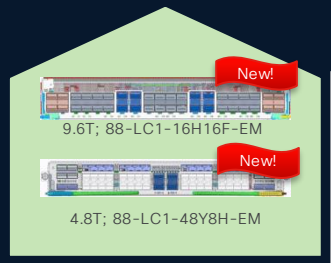
Feature Rich Access
Converged Access
Enterprise Access

Cisco 8000 Routing Portfolio

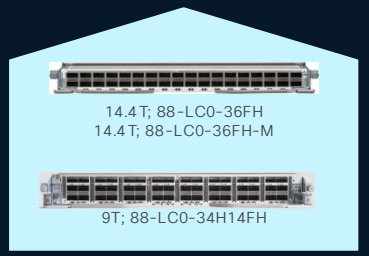
One Family from Access to Core with IOS-XR

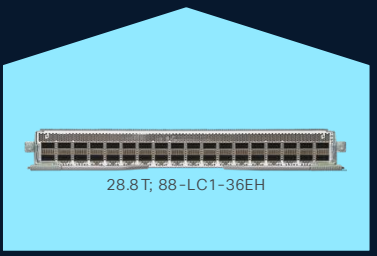
Distributed



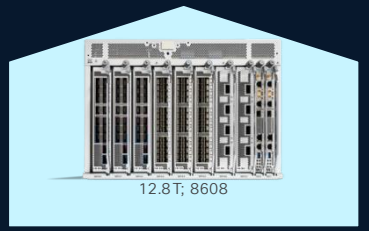


Cisco 8000 Series

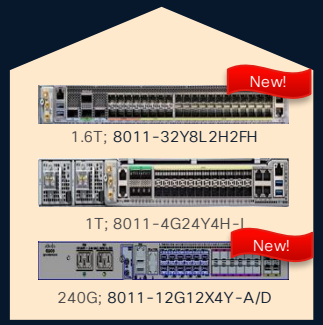


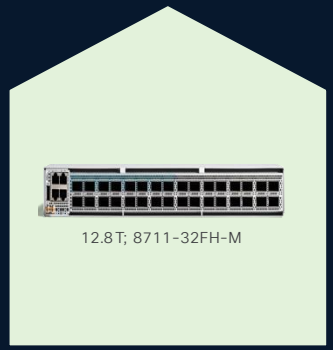


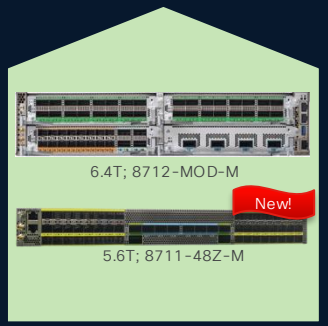
Centralized



Fixed



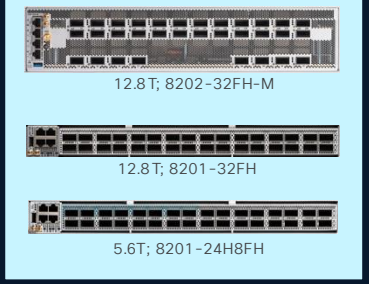


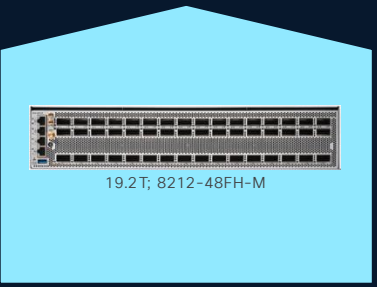


Powered By

Silicon One NPU

Cisco IOS® XR





A100 3rd Gen NPU

P100 3rd Gen NPU

K100 3rd Gen NPU

Q200 2nd Gen NPU

P100 3rd Gen NPU

Access

Aggregation & Edge

Core & Peering

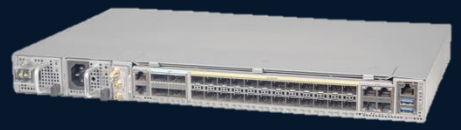
Powered by Cisco IOS XR

Cisco routing platforms for Enterprise and Public Sector

Consistent capabilities across devices and network architecture

Converged Access

Silicon One A100



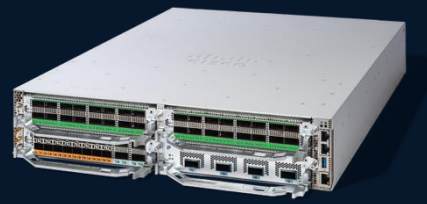
8011-4G24Y4H-I
1T 1RU

8011-32Y8L2H2FH
1.6T 1RU

Services scale and feature set for access and aggregation: Class C Timing, MACsec and IPsec encryption, and QoS features

Distributed Edge

Silicon One K100



8712-MOD-M
6.4T 2RU

8404-SYS
4.8T 4RU

Combines the efficiency and simplicity of a fixed single processor system with redundancy and interface diversity from different MPAs

Building blocks
Device options for connecting data centers

Catalyst SDWAN

- IOS-XE
- Merchant Silicon
- Point to Point
- Gray optics to 100G
- No coherent optics
- Application aware
- Catalyst Center

Nexus Switch

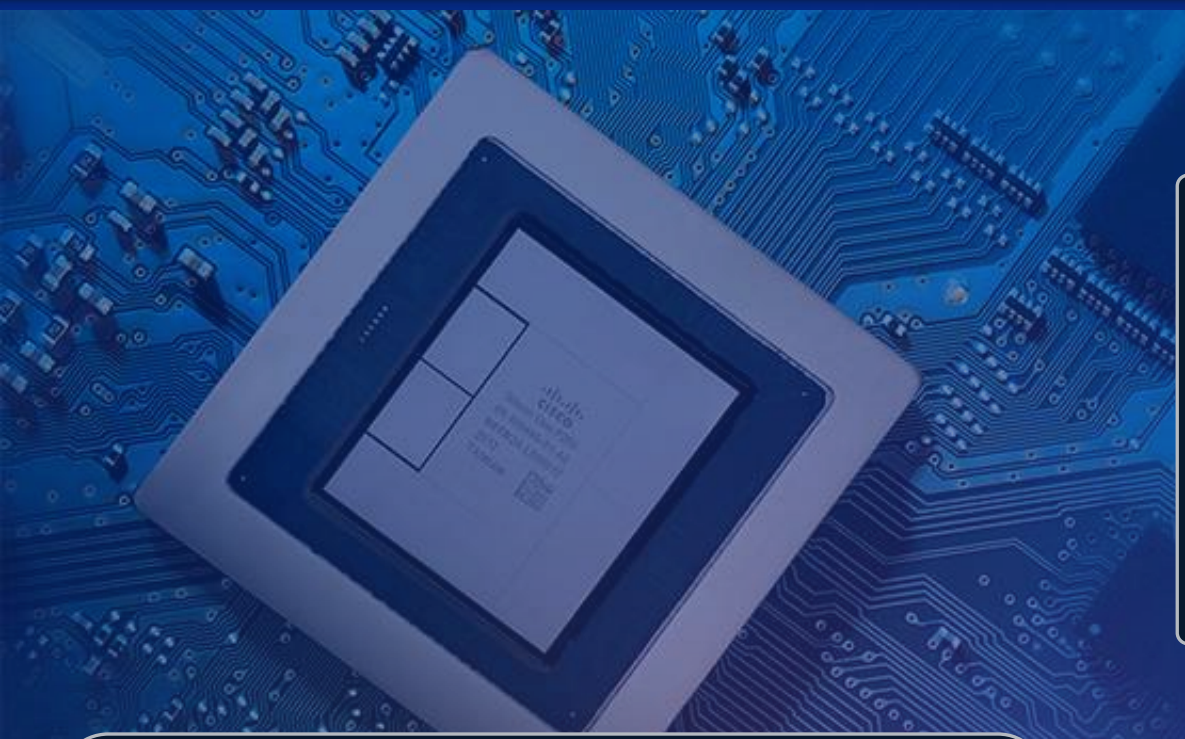
- NX-OS
- Silicon One
- Point to Point, Low latency
- Coherent optics to 400G (80kms and up to 1,200 kms with amplification)
- Nexus dashboard

XR/SONiC Router

- IOS-XR or SONiC
- Silicon One
- Multisite connectivity
- Coherent optics to 400G
- Pluggable OLS
- Cisco Network Controller
- Segment Routing

Innovation in AI Scale-Across

Cisco 8223 Powered by Cisco Silicon One P200



Cisco 8223-64EF

51.2T, 3RU, 64 x 800G (OSFP800)

Cisco 8223-64E

51.2T, 3RU, 64 x 800G (QSFP-DD800)

P200- 51.2T Router Chip

Power Efficient. Scalable.
Programmable. Secure.

8223 Routing Systems

Industry's most scalable, efficient, secure 51.2T Routing System for Scale-Across

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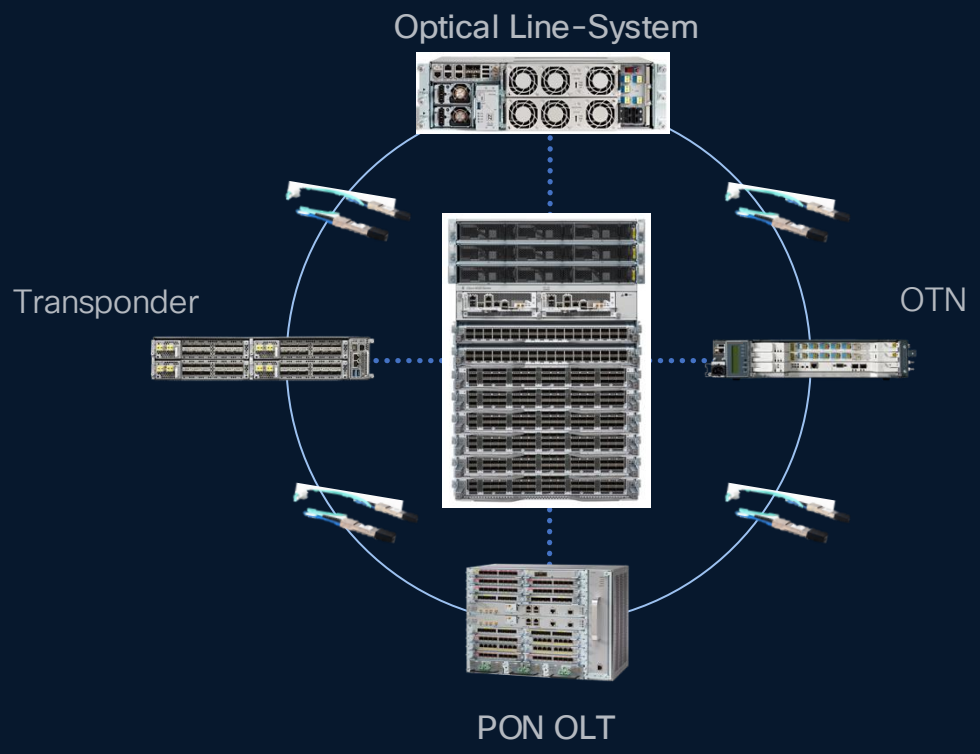
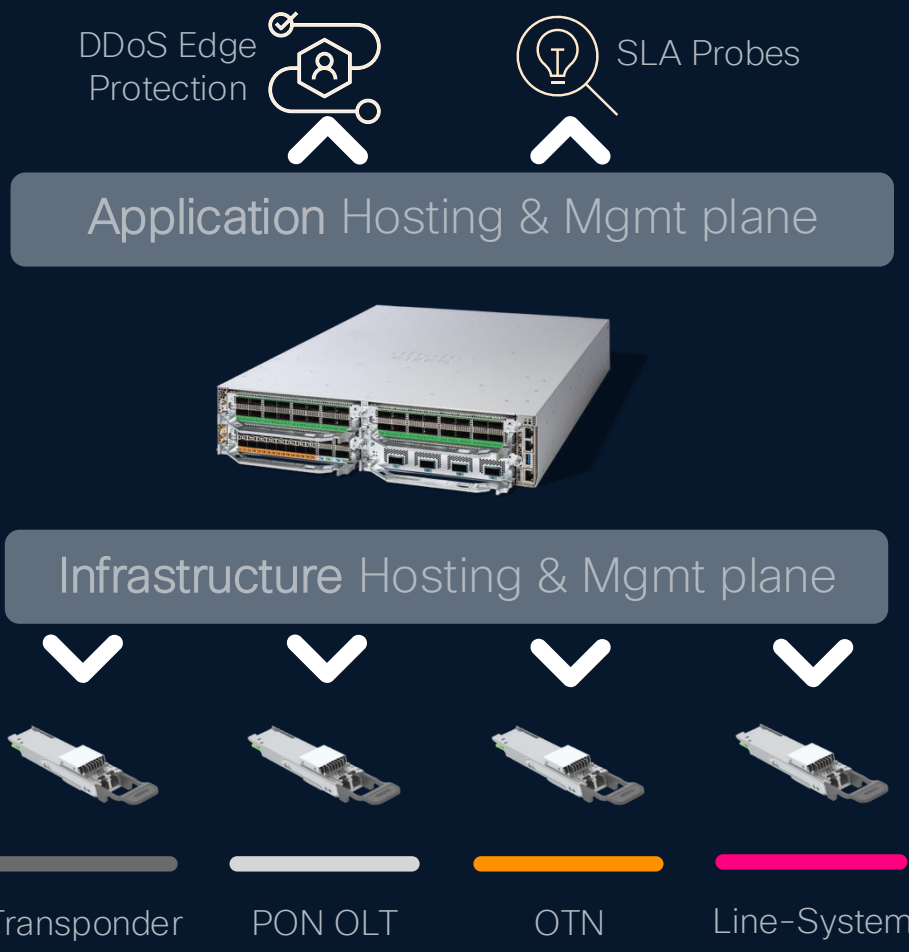
Innovation in Optical Systems

(Redundant) Classic infrastructure



Cisco Agile Services Networking



Innovation in Digital Coherent Optics

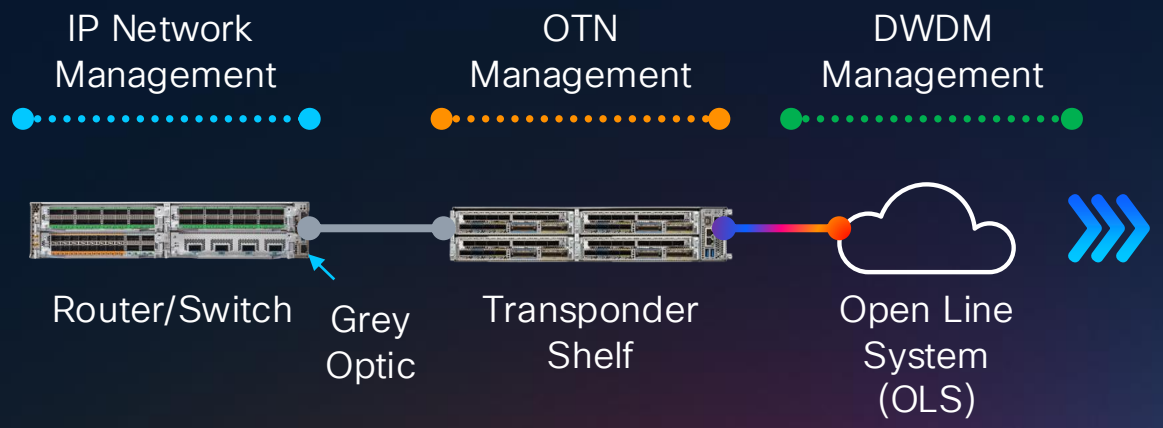
Address 100% of network applications with Cisco coherent pluggable optics

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

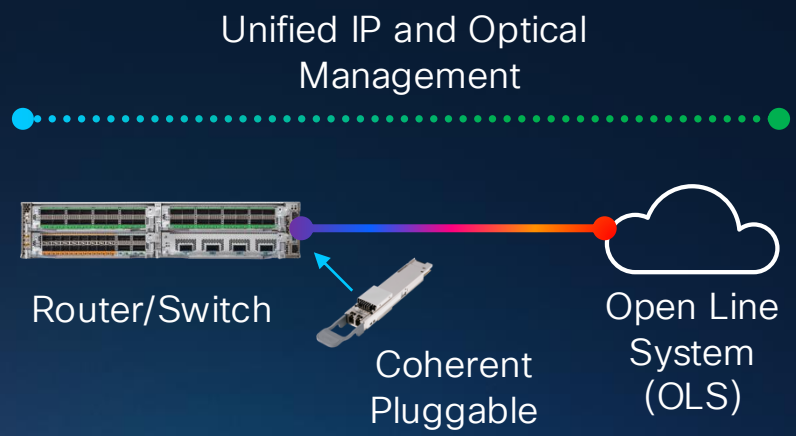
Campus | DCI | Metro | Regional | Ultra Long Haul

Eliminate layers. Slash costs.

Traditional Architecture (before RON)



With Routed Optical Networking



90%
Power reduction

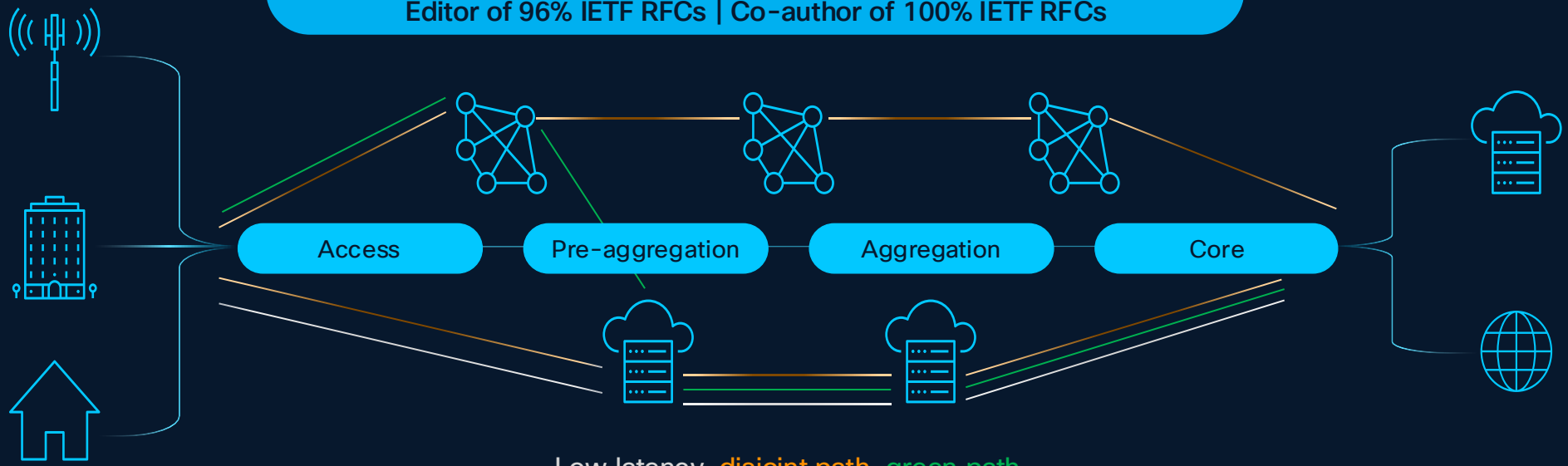
66%
CapEx reduction

76%
OpEx reduction

Innovation in Segment Routing

A multi-domain programmable fabric for service creation

Strong Cisco commitment and leadership in SR
Editor of 96% IETF RFCs | Co-author of 100% IETF RFCs



Low latency, disjoint path, green path

- MP-BGP services
- Summarization
- Transport Slicing
- Chaining
- Host Networking

↓ 30% Hardware cost

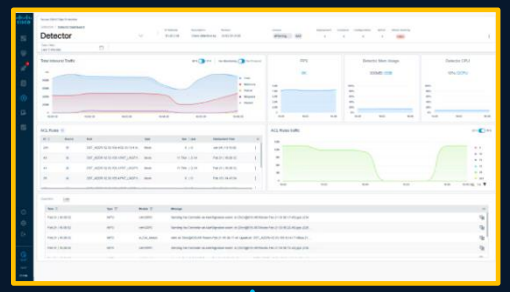
↓ 75% Operational touchpoint

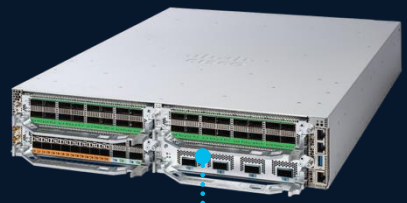
↓ 50% Power and space

↓ 90% Convergence time

↓ 95% Network incidents

Secure Networking Innovations





1

2

3

Establish trust at the physical layer

Verify that HW and SW are unaltered, even in untrusted domains

Protect from threats in transport

Use routers as your first line of defense against DDoS attacks

Protect from emerging threats

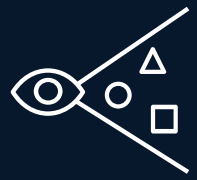
Implementing secure key distribution for post-quantum threats

Cisco Software Innovations

AI-driven networks that adapt

End-to-end automation and assurance

Crosswork Network Automation



Provider Connectivity Assurance

Enhanced observability integrations

AI-powered network operations for all workloads, creating a self-healing, self-optimizing infrastructure that adapts to your network demands

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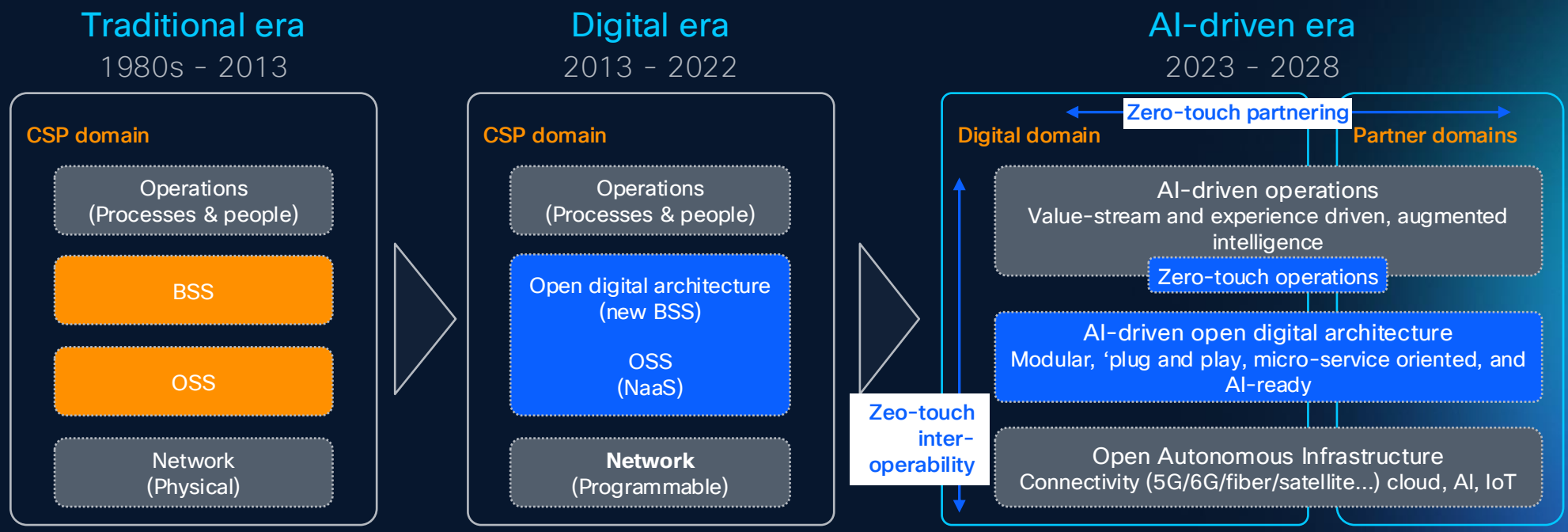
Networks towards “AI-Driven” 5th industrial revolution

Culture, Integrations and regulations are main barriers



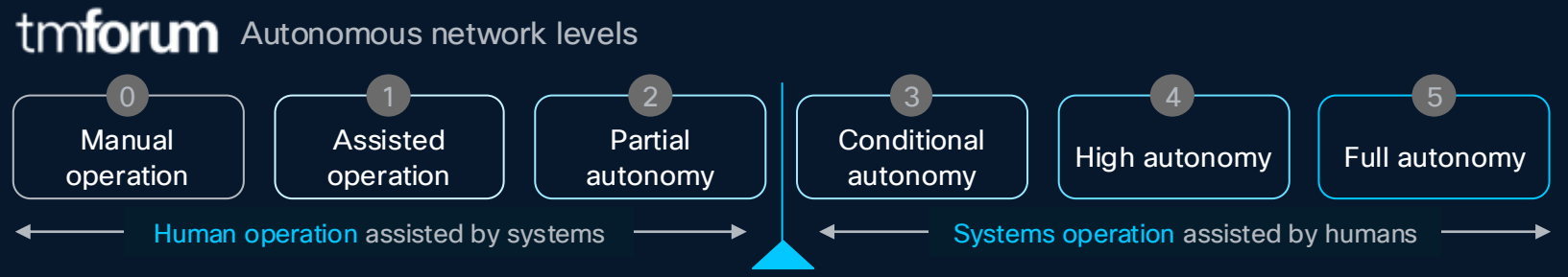
[Source: - TMF Open Digital Architecture LINK]

51% found Culture as the main barrier for adoption

48% found Integrations as the main barrier for adoption

[Source: CapGemini Research Jan 2024, 123 Telco surveyed – Transport Domain - LINK]

Journey and drivers for Autonomous Networking



84%

of companies are currently at initial levels of autonomy

61%

aiming to achieve Level 3 or above by 2028

Network Monetization

Operational efficiency

Resource efficiency and energy savings

Experience excellence

Source: Cap Gemini "Capgemini Research Institute, Autonomous Telco Networks Survey, December 2023–January 2024

Source: https://inform.tmforum.org/research-and-analysis/reports/autonomous-networks-exploring-the-evolution-from-level-0-to-level-5

The Path towards Autonomous Networking

Challenge

1. Networks are more critical than ever: Prevent operator outages due to human errors
2. Networks are more complex and scalable than ever
3. Expectations are higher than ever: performance, reliability, customer experience, time-to-market etc.
4. OpEx is more limited than ever

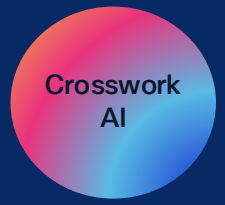
Goal

Achieve Level 4/5 autonomous networks leveraging a multi-agentic, multi-vendor and secure AI platform

tmforum | L4 Autonomy blueprint | Phase 1 (2025-2027) Autonomous Agent driven closed loop | Phase 2 (2028-2030) Multi-agent collaboration for complex and multi-domain closed loop

Tooling integration across the portfolio

Scaling Operations with Intelligence & AI



- Multi-agentic framework for AI-ops and decision-making
- Delivered as features to existing Crosswork applications
- Future integration with Cisco AI Assistant and AI Canvas
- SDK for 3rd-party agent development

Reactive

Minimize impact of network incidents

- Time series anomaly detection
- Outlier detection
- Event correlation
- Config drift
- User as a Sensor
- Ticket fatigue
- Aggregate data

Preventive

Reduce the occurrence of network incidents

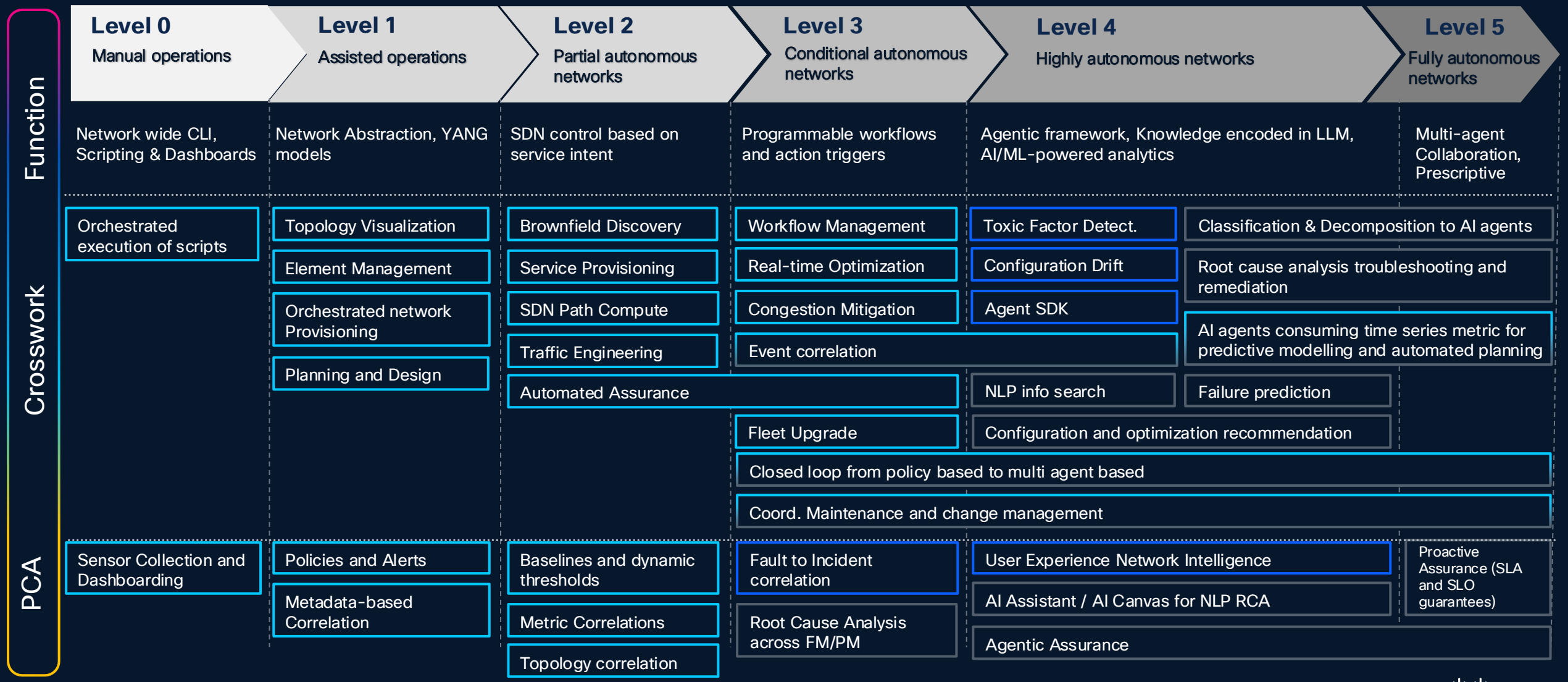
- Toxic Factor Identification
- Automated maintenance
- Forecasting
- Goal-based optimization
- Intent-based design guidance
- Root cause analysis

Prescriptive

Automatically align network operations to policy/intent goals

- Configuration recommendations
- Operational recommendations
- Failure prediction
- Multi-layer plan
- Analytics based decisions
- Closed loop integration

Enabling the path towards Autonomous Networks



Delivered | Next release | Roadmap

Roadmap Disclaimer: *Some features described herein remain in varying stages of development and will be offered on a when-and-if-available basis. Roadmap is subject to change at the sole discretion of Cisco, and Cisco will have no liability for delay in the delivery or failure to deliver any of the products or features set forth in this presentation.*

Automation & Assurance Portfolio

Domain SMEs

NOC / SOC, End Customer

Cisco Crosswork Cloud

- **Trust Insights** — Track integrity of infrastructure
- **Network Insights** — Analyze and identify the source of routing anomalies
- **Traffic Analysis** — Optimize network traffic at peering points

Crosswork Hierarchical Controller

Multi-layer, multi-domain IP and Optical hierarchical controller

- IPv6/SRv6 support
- Northbound notifications
- CONC, EPNM, Nokia, Ciena, Huawei optical adapters

Crosswork Workflow

Low-code automation workflow

- New CNC Platform
- Adaptative Forms

Optical Network Controller

Optical Controller

- Single-VM Optical EMS + Controller
- Optical Assurance & Orchestration

Crosswork Network Controller

Multivendor IP SDN Controller

- Single-VM CNC and KVM support
- Geo-redundancy
- Multi-vendor EMS
- Operations automation via CWM

Provider Connectivity Assurance

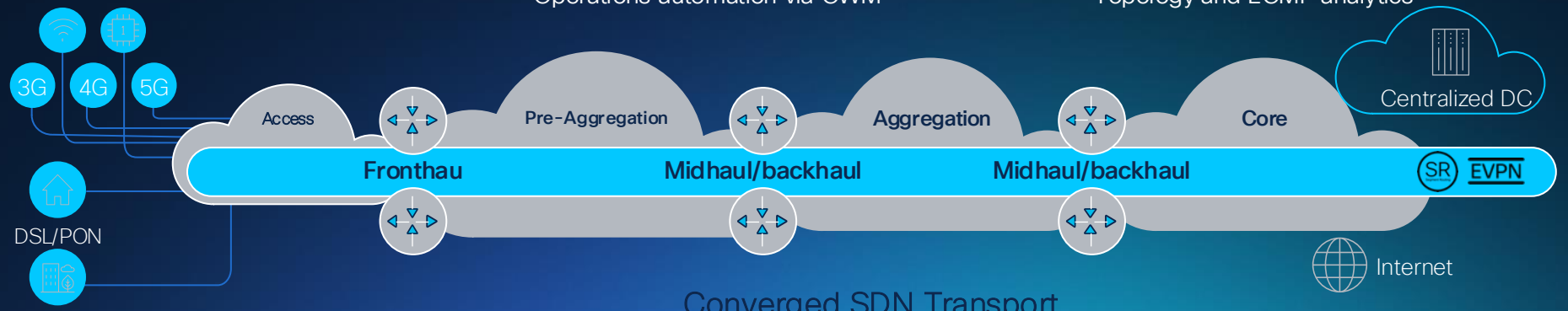
Multivendor Service Assurance

- Digital Experience Assurance
- Telemetry consumption
- Predicting Performance
- Topology and ECMP analytics

NSO

Service Orchestration

- AI Doc Chatbot
- Brownfield Scenarios
- NSO for Controllers
- Enhanced compliance reports



Converged SDN Transport

Crosswork Planning

Capacity planning tool

- Predictive-AI capacity planning
- Crosswork Planning Chatbot

Simplifying Operations across Day 0 to 2

Essential Device Lifecycle Management

Day 0

- Zero Touch Provisioning (Router and OLS)
- DCO Provisioning

Day 1

- Deep Inventory and Connectivity Topology (device and fiber)
- Underlay Configuration
- Configuration backup and restore

Day 2

- Full Device **Fault** lifecycle
- M**etrics** and historical trending (Router, OLS, DCO)
- Anomaly Detection
- Advanced Analytics

Advanced Device and Services Lifecycle Management

Day 0

- Seamless SW Benching/Upgrade

Day 1

- Workflow Process Automation
- Golden Compliance
- Service Provisioning**
- OTDR Reporting and ML
- Agentic (AI) driven use cases
  - Configuration Drift Detection

Day 2

- Service Discovery
- Service Health Monitoring
- Network History
- Multi-Layer Root cause Analysis
- OTDR GIS*
- Agentic (AI) driven use cases
  - Toxic Factor Identification
  - Deep Network Troubleshooting*
  - Anomaly detection
  - Predictive Analysis OTDR, qMargin

*Roadmap

** not included

NSO

Network Service Orchestrator Use Cases

Service Management

Config & Activate new service which spans multiple devices or network segments: L2/L3VPN, DIA, UNI

Golden Config Compliance

Management of Device Configs including audit and Compliance

Provisioning Circuits

Configure & Management of new circuits between devices – both underlay and overlay

Port Turn up

Configure & Activate a new port on a device

Firewall Rule Changes

Validation, Management & Configuration of Policy Rules across Network

Device Onboarding

Configuration & Activation of a new device in network

DNS Updates

Maintain & Update Domain Name Server (DNS) records

Inventory Reconciliation

Comparison & Remediation of inventory differences across network inventory

New Branch Turn Ups (SD-WAN Sites)

Config & Activate Connectivity between existing and new locations

VIP Deployments

Assignment & Management of Virtual IP Addresses

Data Center Interconnect (DCI)

Configure & Management of interconnection between data centers

Overlay Networks

Configuration of Data Center Network Fabric

Top of Rack Switch (TOR)

Configure & Management of Top of Rack Switches

CNF/VNF MGMT.

Deployment of Containers (Kubernetes) Deployment/migration of VNFs

cisco

CNC

Crosswork Network Controller Use Cases

Real-time Visualization

Topology, Traffic
SR – SRv6
RSVP-TE - Tree-SID

Service & Transport Provisioning

L2/L3VPN, SRv6,
Slicing

Real-time Optimization [Closed Loop]

SLAs
Latency/IGP/TE
Metric Minimization

Local Congestion

Traffic Steered
around
Congestion points

Element Management

FCAPS/ Inventory
Mgmt.

Traffic Engineering With Flex Algo

Customized IGP,
Flexible path control

SR Provisioning & visualization

Config & Activate
Connectivity between
existing and new locations

Brown Field Service discovery

Discover brown Field
Services

Service Health Monitroing

Correlation between
services and underlying
components

Tree-SID Discovery

Multi- Cast Traffic
Over Segment

cisco

use case

Toxic Factor Identification

description

Detection risk factors that may be influencing negatively the performance of the network

from automation

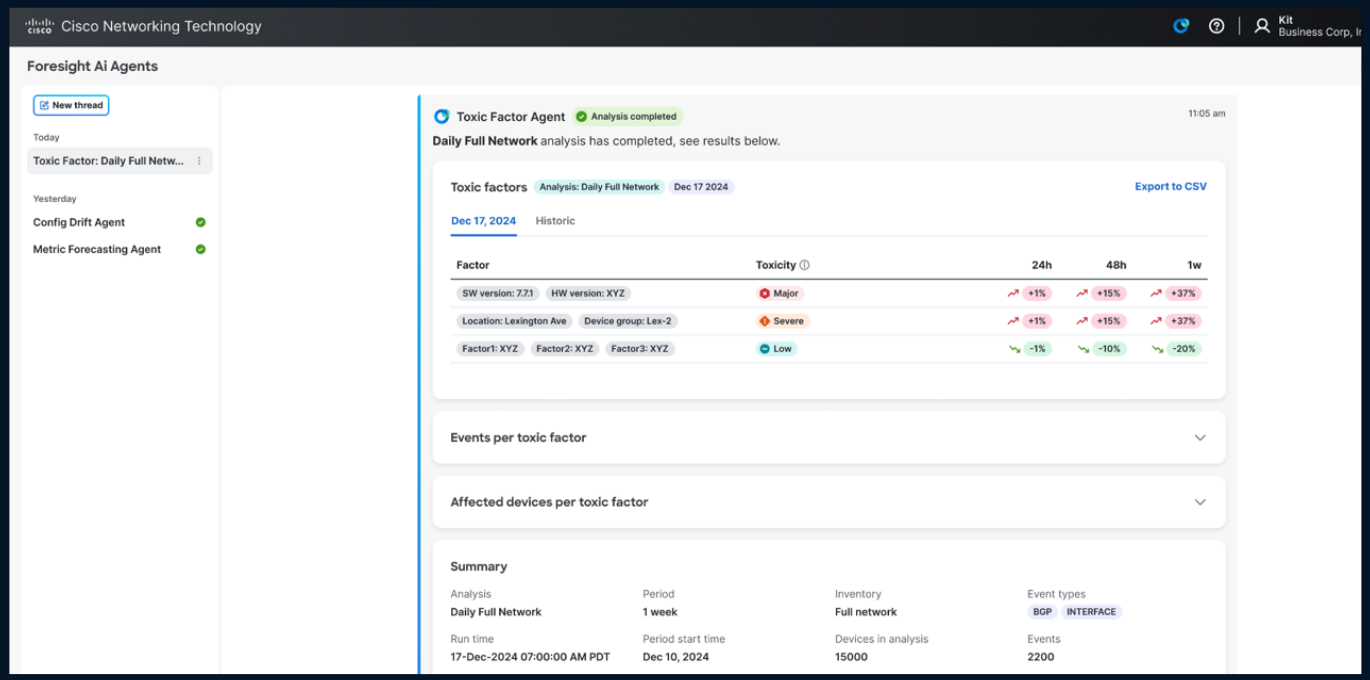
Manually analyze the impact of specific factors such as a certain software release or hardware in network event

to autonomy

AI Frequent Pattern detection algorithms are used to autonomously identify any combination of factors that have a negative impact in the occurrence of network failures

outcomes & benefits

- No need for manual analysis for each factor.
- Multivendor by architecture.
- Prevention of network failures due to identification of risk factors associated.
- Identification of unknown unknowns.
- Improved MTBF.



availability

Q1 CY26

compatibility

- Crosswork Multi-Agent Platform
- Crosswork Network Controller 7.2

use case

Deep Network Troubleshooting

description

Autonomous multi-agent solution to diagnose network failures using deep-research principles, knowledge graph and semantic resiliency

from automation

Troubleshooting based on manually defined workflows

to autonomy

Agent driven troubleshooting using deep-research principles

outcomes & benefits

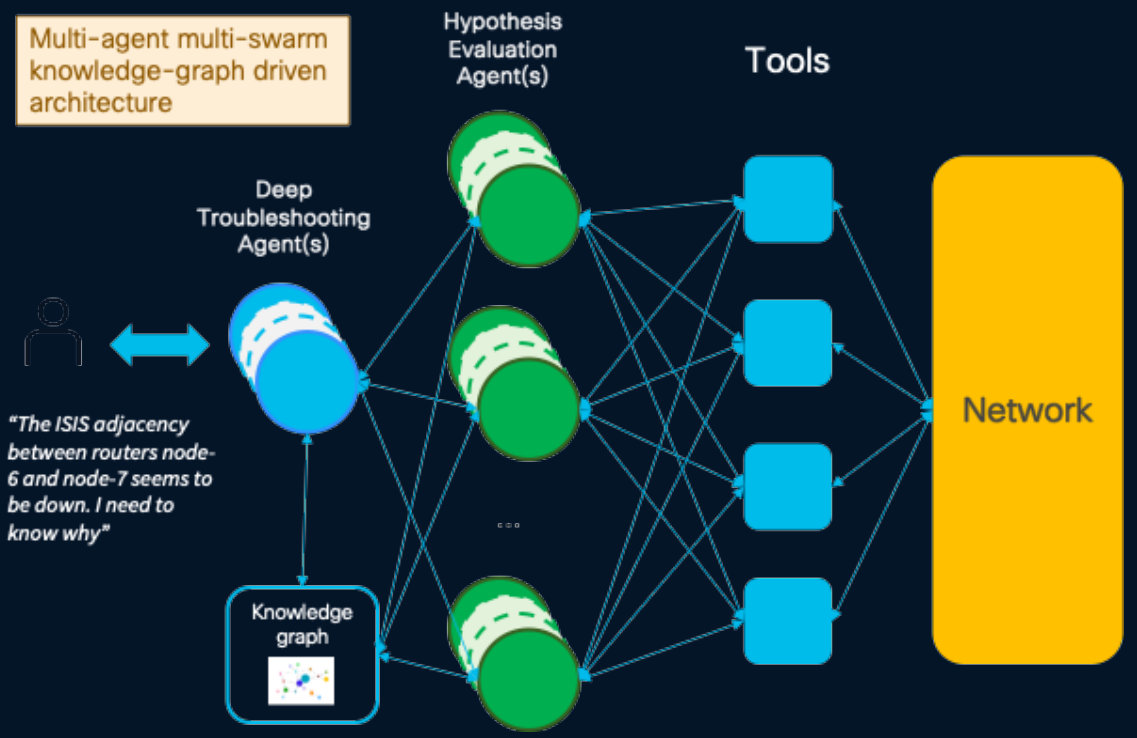
- Autonomous network incident troubleshooting
- Not dependency on manually configured rules.
- Improve MTTR.
- Enable autonomous operations

availability

Q2CY26

compatibility

- Crosswork Multi-Agent Platform
- CNC



use case

Configuration Drift Detection

description

Detection of anomalies in network device configurations

from automation

Build and maintain golden-configuration templates that are used to evaluate configuration correctness

to autonomy

AI Configuration Language Models (CLMs) are trained with network configurations such that they learn autonomously and can detect anomalies in configurations without manual maintenance

outcomes & benefits

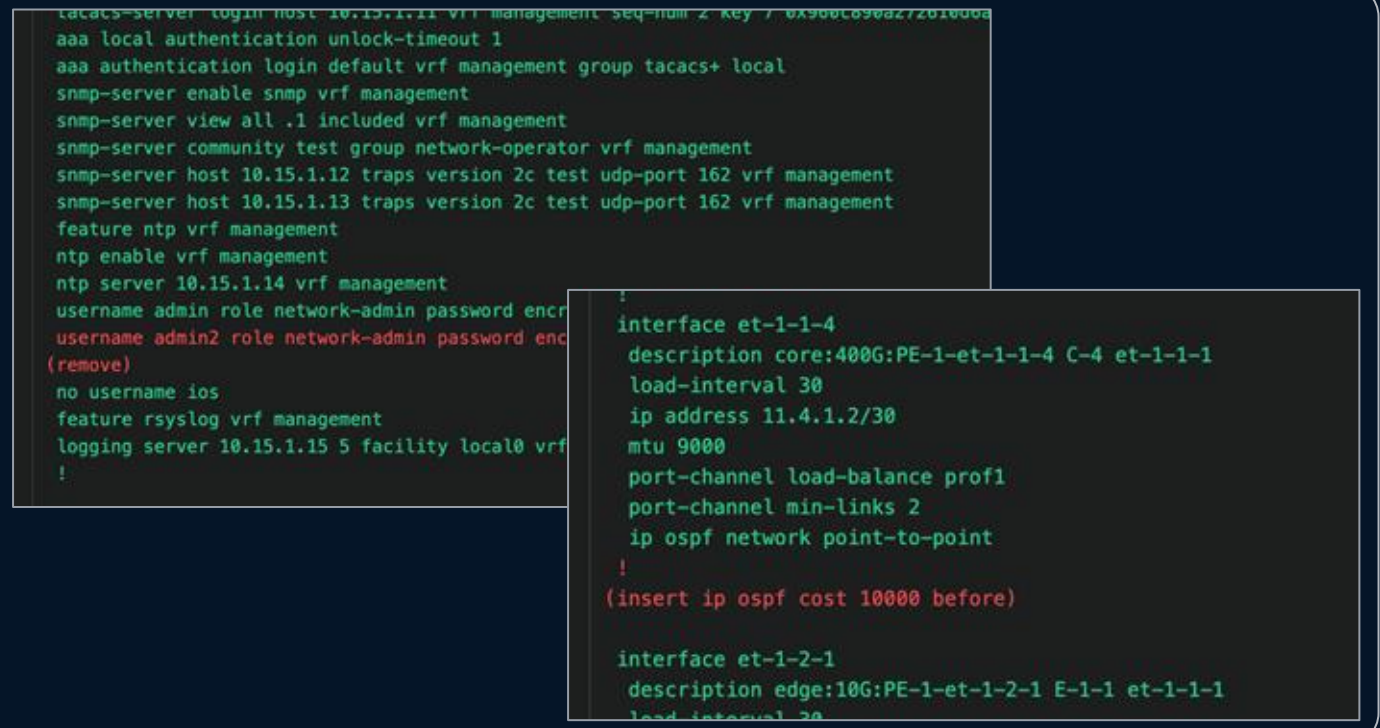
- Zero-day detection of configuration anomalies.
- No need for human input in definition and/or maintenance of templates.
- Multivendor by architecture.
- Prevention of network outages due to misconfigurations.
- Prevention of security threats associated to configuration changes.

availability

Q1 CY26

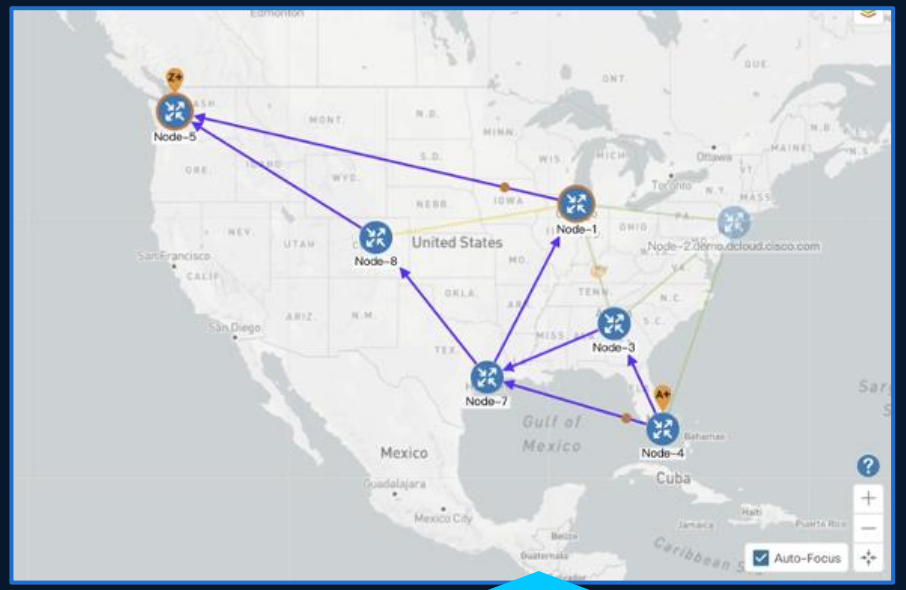
compatibility

- Crosswork Multi-Agent Platform
- NSO



• Network Visualization:

Network Topology Visualization (Physical/Logical)



CNC 7.1 Essentials (EMS Functions)

- Keep service definitions in the standalone NSO

Outcome:

- Topology discovery and visualization
  - Logical topology sourced from SR-PCE (separately purchased)
  - Physical topology sourced from CNC EMS
  - Overlay with Fault and Performance details
- Deep Inventory view
- Device Fault and Performance monitoring

Pre-requisite:

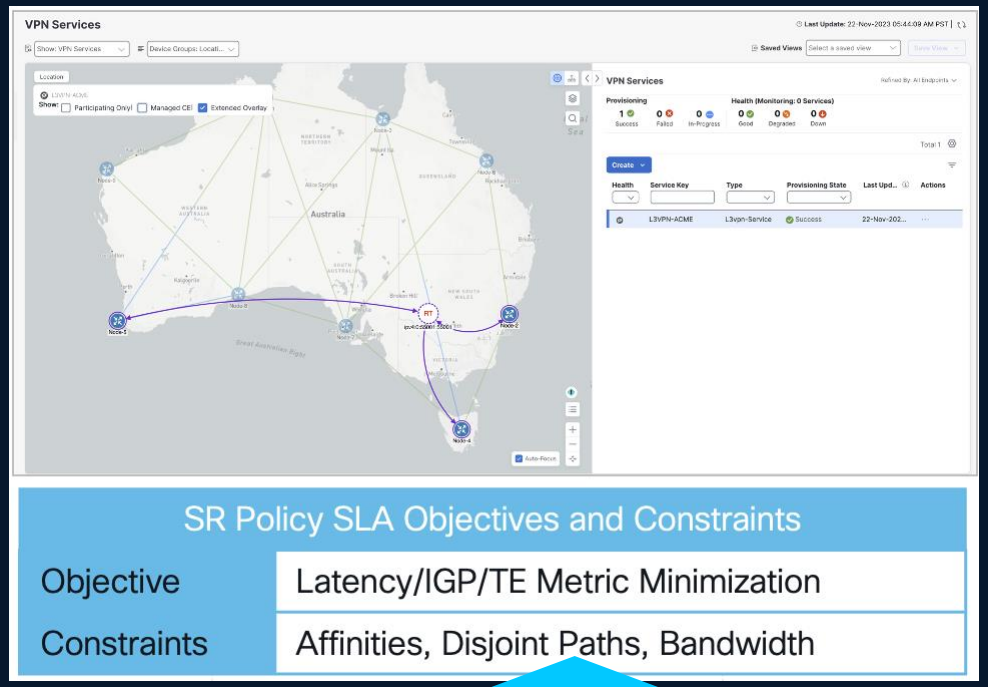
- Logical topology discovery needs SR-PCE as a provider

Augment NSO deployment with End-to-end Network View

NSO Install Base (Orchestration and Provisioning in Transport Domain)

- Service and Underlay Visualization augments NSO-based service deployments

Service and underlay Transport Visualization



CNC 7.1 Advantage (Service Lifecycle Management Functions)

- VPN service instances in NSO need to be onboarded to CNC and subsequently managed in CNC

Outcome:

- Intent-based automated service and transport provisioning with explicit SLA definitions
- Service Topology Visualization with actionable operational context (Health, Faults, Path changes, etc.)

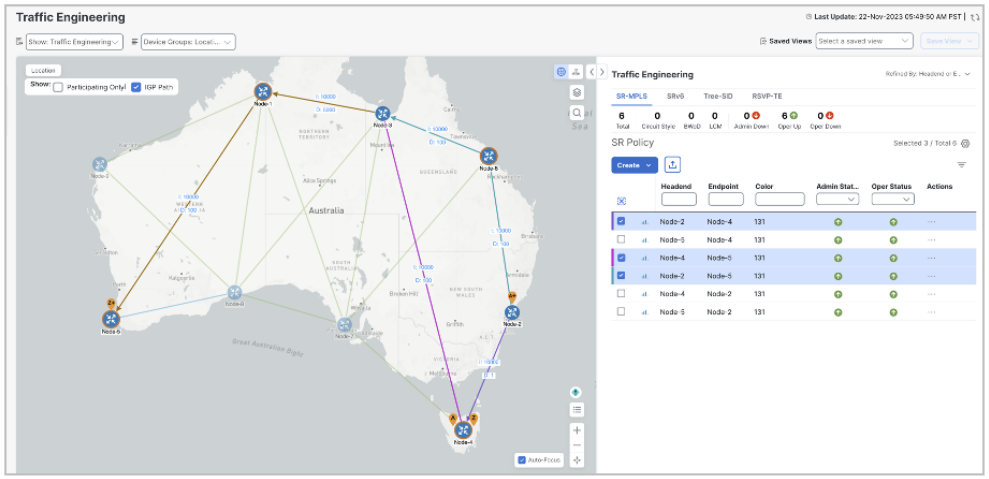
Pre-requisite:

- Must comply to published CNC-NSO deployment best practices onboarding service instances and avoid FP customization conflicts

Augment NSO deployment with Service and underlay Transport Topology Visualization

NSO Install Base (Orchestration and Provisioning in Transport Domain)

SDN Path Control/Dynamic Traffic Engineering



SR Policy SLA Objectives and Constraints	
Objective	Latency/IGP/TE Metric Minimization
Constraints	Affinities, Disjoint Paths, Bandwidth

Outcome:

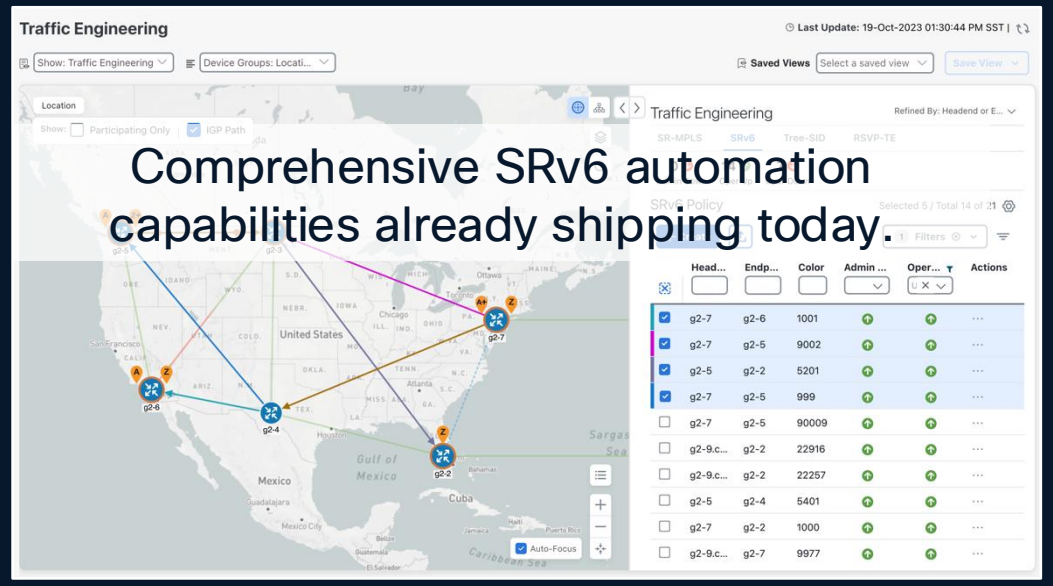
Pre-requisite:

Augment NSO deployment with network optimization

NSO Install Base (Orchestration and Provisioning in Transport Domain)

Enhance SRv6 operational agility with upcoming innovations

Maintain CNC as the industry leading controller for SRv6 networks



Comprehensive SRv6 automation capabilities already shipping today.

New Challenges

- Realtime, accurate and scalable traffic accounting
- Visibility into network traffic patterns and usage
- Reliable TM for traffic engineering and bandwidth optimization

Benefits: Operational Simplicity

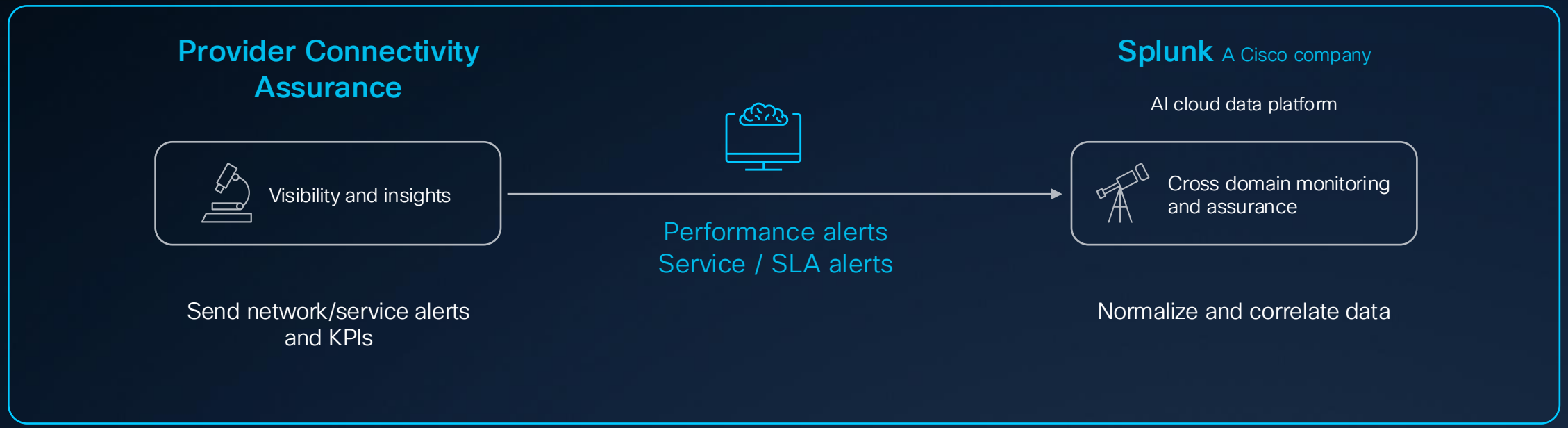
- SRv6 demand matrix counters enables real-time tracking of changing traffic patterns (using DDM)
- Real-time identification of hotspots based on continuous simulation of what-if scenario (using ACP)
- Accurate impact analysis of link or node failures for proactive congestion handling or coordinated maintenance (using ACP)
- Accelerated decisions with Agentic AI framework (using Crosswork AI)

Comprehensive SRv6 automation capabilities already shipping today.

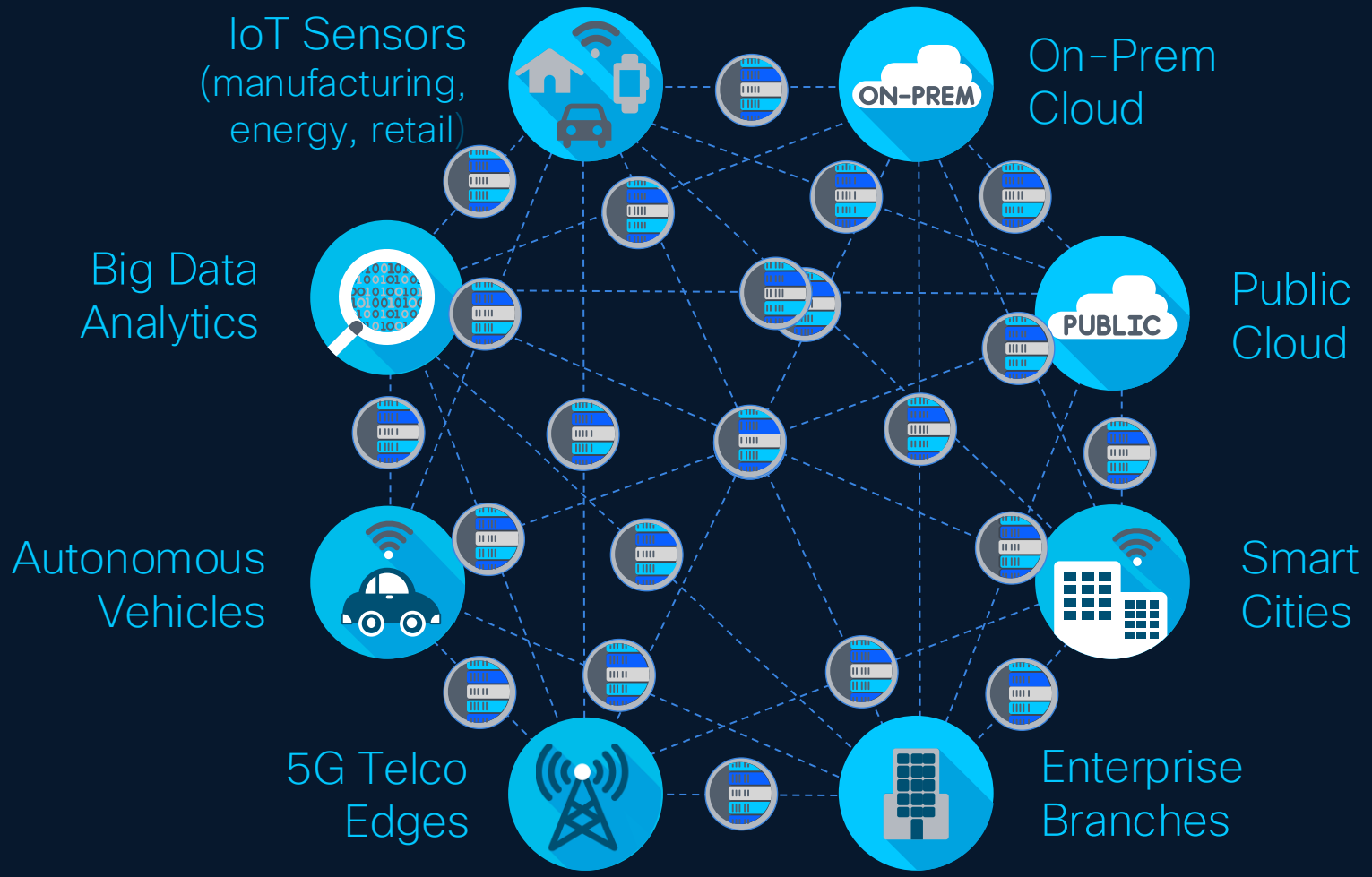
NSO Install Base (Orchestration and Provisioning in Transport Domain)

Cisco Provider Connectivity Assurance

- Simplify operations with a unified view of customer experience
- Identify, prioritize and predict customer-impacting events
- Drive automated decisions to accelerate resolution



Visibility and Assurance Needs to be Where Data Exists

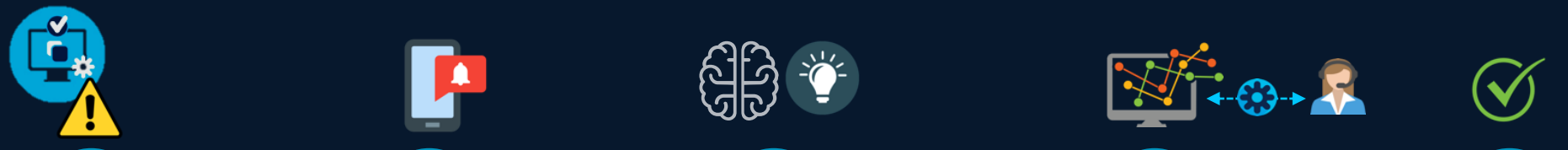


Traditionally...Reactive Resolutions

8:45 — 9:00 — 10:30 — 11:30 — 12:00 — 14:00 — 14:30

- **9:00** — Help Desk Calls
- **10:30** — Create SWAT team with the different teams
- **11:30** — Collect information from multiple devices and tools in different teams
- **12:00** — Correlate collected information with SMEs from different teams
- **14:00** — Issue identified
- **14:30** — Fix applied or Escalated

Cisco Provider Connectivity



8:45 — 8:47 — 8:49 — 8:51 — 8:55

- **8:45** — KPI detected
- **8:47** — Teams are notified (via integrations)
- **8:49** — Network correlation with defined issue delivered
- **8:51** — Continuous analytics and diagnostics to identify problem spot
- **8:55** — Action plan formed and execution begins

Network Readiness, Observability & Assurance

Probes

Packaging

SFP Elements Native Container VM

Test Types

Synthetic

Packet-based Application delivery Analytics

3rd Party Telemetry

Some Unique Features

High-Resolution

One Way

Traffic Emulation

Sequential Packet Loss

Analytics

- Cloud Native
- Infra Independent (airgap)
- Multi-tenant & RBAC

Schema-less metadata

Correlate

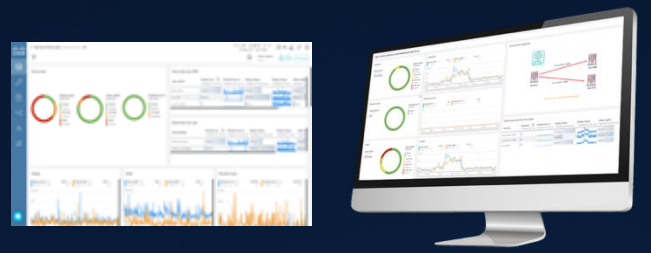
Predict

Pattern Matching

Alerting

- Dynamic thresholds
- Rich & flexible alert scripting
- Sent w/ metadata

Dashboards & APIs



Fully Customizable Dashboards

Open API

Data Bus

High Resolution Observability Everywhere

- Combination of native infrastructure probes & HW/ SW probe deployment: Frequency, Granularity, Type, Quality
- Synthetic & Real User Traffic Analysis

Ultra-deep Insight (Analytics)

- Predict & Prevent
- Root Cause Analysis (RCA)
- Air Gap, SaaS, On-prem

Open & Flexible to snap Into Any Environment

- Open API for integrations
- 3rd party data ingest-advanced analytics
- Customizable Metadata Schema
- Data remains under customer control

Provider Connectivity Assurance

Designed to ease of use

Open automation and APIs

Open data and alerts

Cloud-native platform

Management, automation, data collection, and data analytics

User personas and use cases

- End customers
- Service managers
- Engineering
- Operations
- Capacity planning
- IT and network

Software sensor layer

Containerized and horizontally scalable

Hardware sensor layer

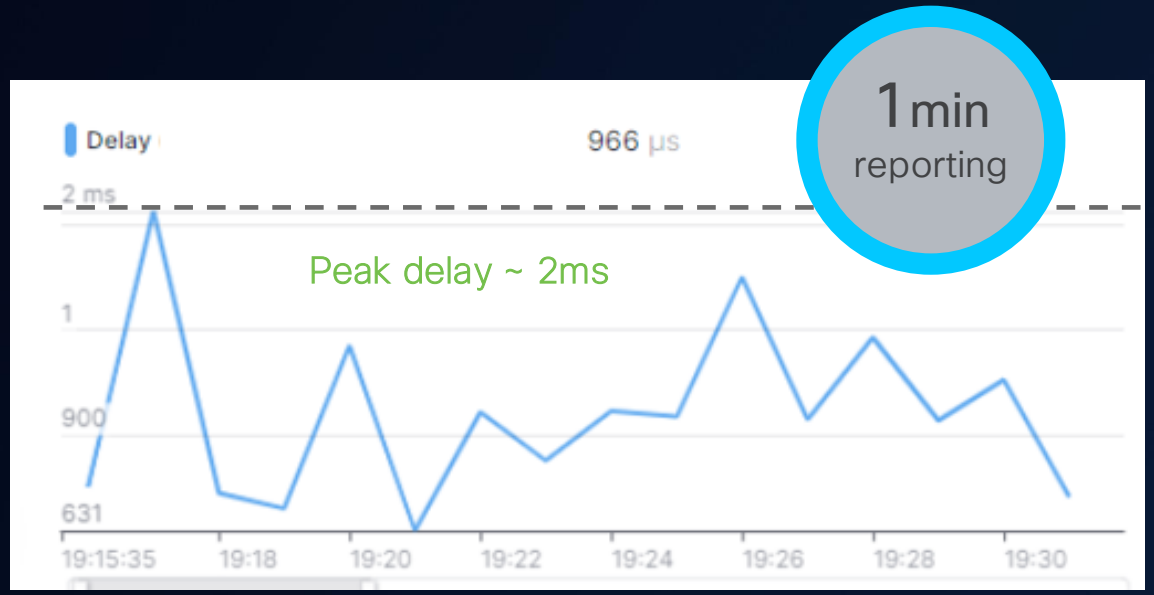
With embedded PM

Metrics from other sources(e.g. FEC, Light Level, ...)

Correlated with assurance data

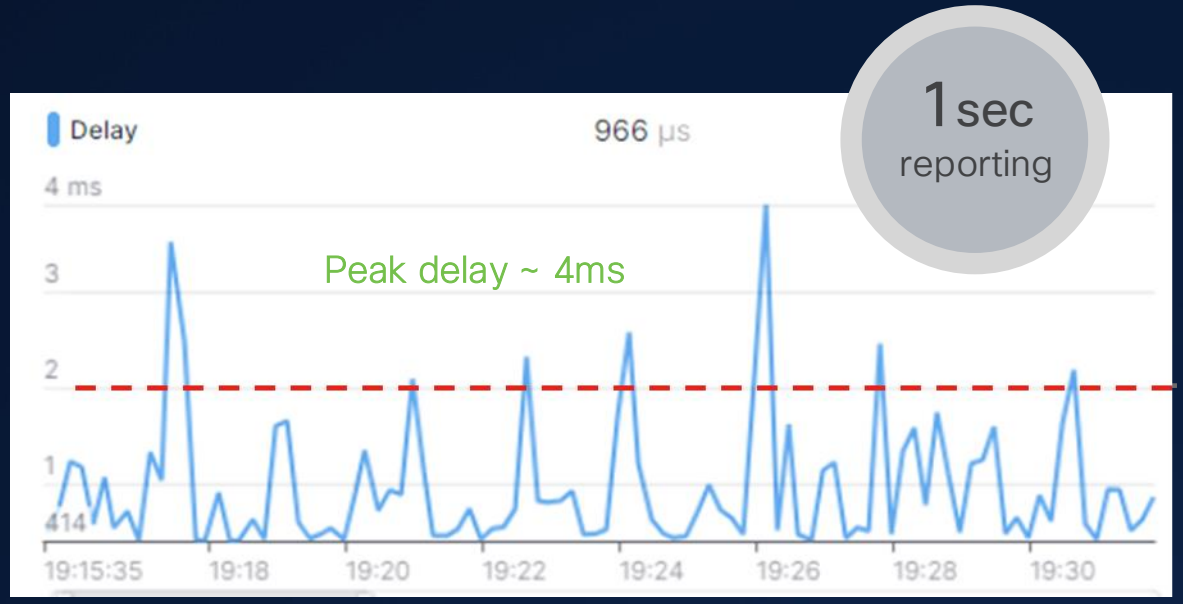
PCA observability

The power of high-resolution monitoring



Perception ✗

Latency is below threshold.
Service performing according to SLA/SLO.



Reality ✓

Multiple latency threshold crossing alerts.
Service affected by latency issues.

Enriched service insights from extended KPIs

Over 50 relevant, actionable, near real-time metrics for SLAs

Active/synthetic PM

One-way delay, PDV, and IPDV (jitter)

- Min/max/average
- Median (p50)
- Percentile 25/75/95/96/98/99
- Standard deviation

One-way packet statistics

- Packets lost (number and %)
- Loss bursts
- Longest loss burst
- Shortest loss burst
- Reordered packets (number and %)
- Packets duplicated (number and %)

One-way packet field and QoS metrics

- IP TOS max (DSCP diffserv)
- IP TOS min
- TTL max/min
- VLAN Pbit max/min
- ETH-OAM MEG level max/min
- MOS
- R-value

Meta metrics

- Session ID
- Interval sequence number
- Interval timestamp (UTC)
- Interval length (Report interval)
- Up or downlink direction

Bandwidth metering

Throughput metrics

(in-line or out-of-line mode)

- Min Throughput – **Per Flow**
- Average Throughput – **Per Flow**
- Max Throughput – **Per Flow**

Service activation testing

Throughput validation – circuit readiness

- RFC2544 generation and reflection
- Y.1564 generation and reflection

Real user experience

Over 500 KPIs related to application layer performance

- HTTP
- TDNS
- SMB
- FTP
- UDP
- VoIP
- SQL
- TCP
- TLS
- Citrix
- ICMP
- Non-IP Apps
- Other IP App

Metrics from other sources

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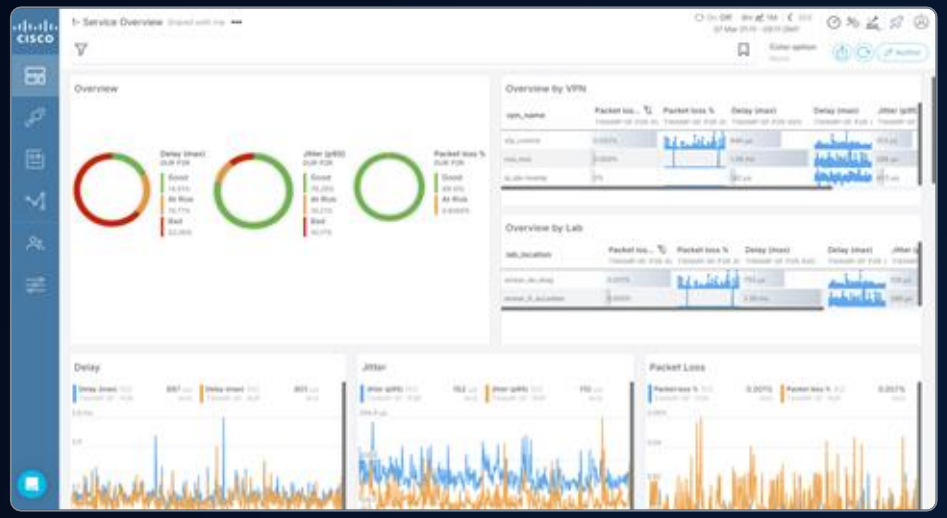
Assurance reporting and analytics

From the macro view to micro details

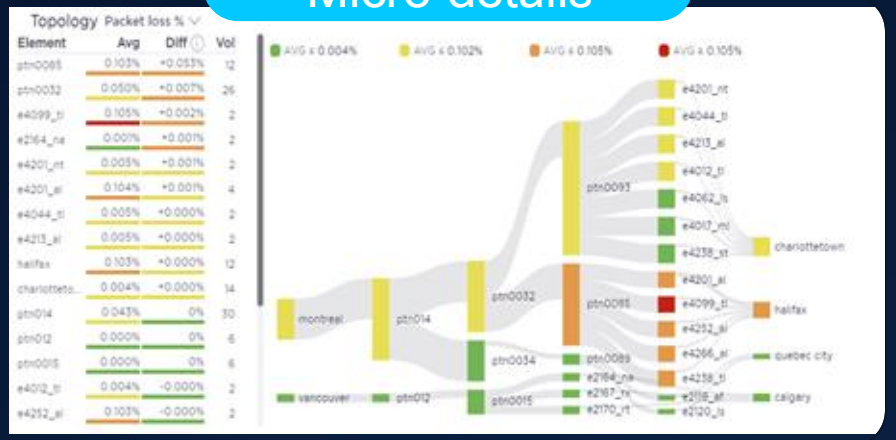
Macro view

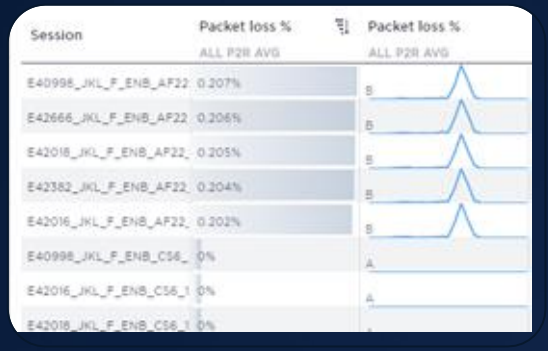


Analysis

Drill-down and clustering

Micro details



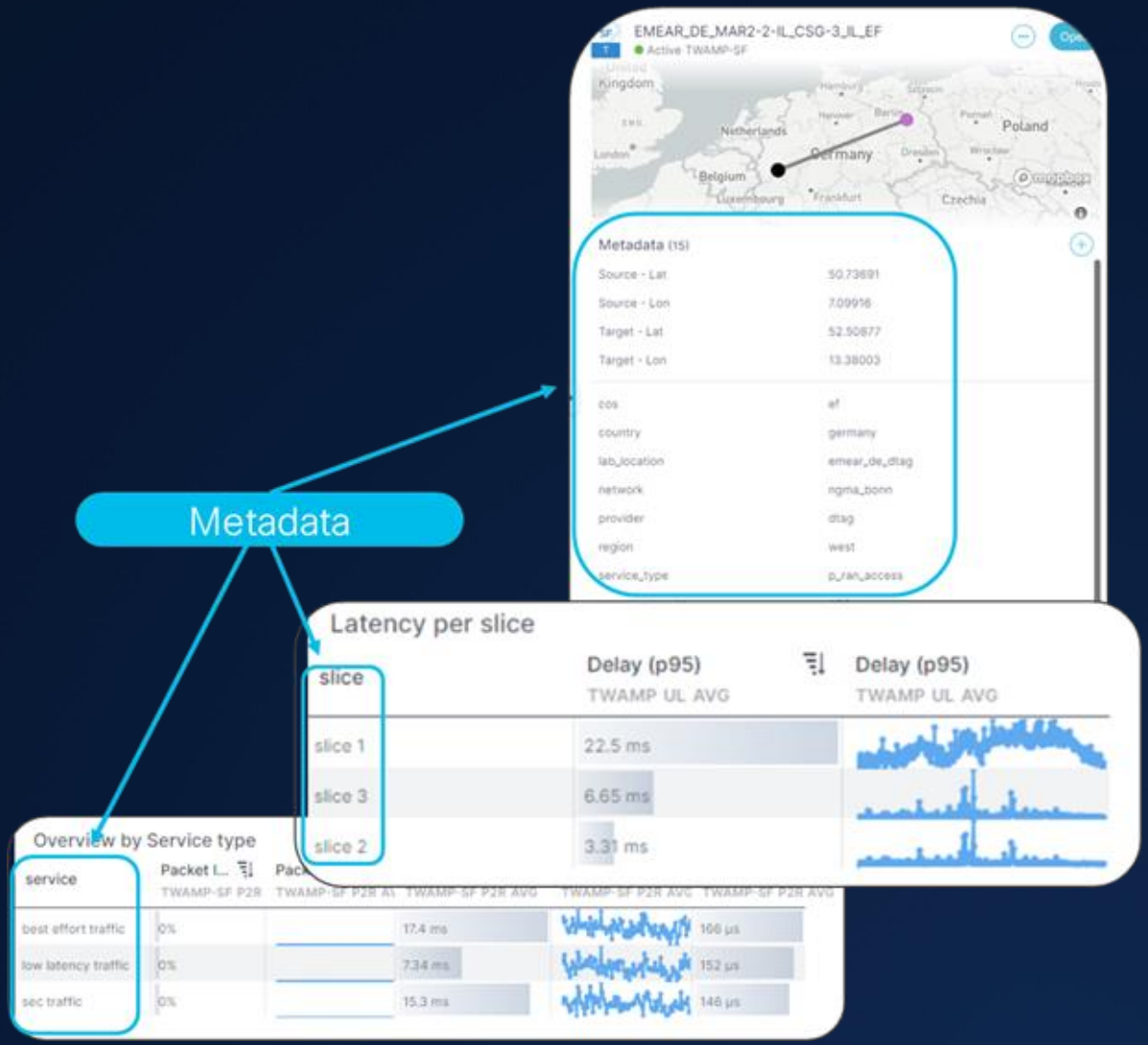


- Analytics and correlation capabilities
- Metadata enrichment makes data meaningful
- Quickly visualize network and pinpoint problems
- Increase efficacy of operations teams/

Assurance reporting and analytics

Leveraging metadata

- All Cisco assurance and non-Cisco data can be enriched with metadata
- Metadata is user-defined contextual information
  - Examples: site, region, class of service, geo coordinates, topology, etc.
- How it is used:
  - Filtering, grouping, aggregating relevant data
  - Correlate and find commonalities for root cause analysis and troubleshooting
  - Adds flexibility to dashboards to suit multiple usage scenarios



Operations Enhanced Analysis

Operation enhanced analysis

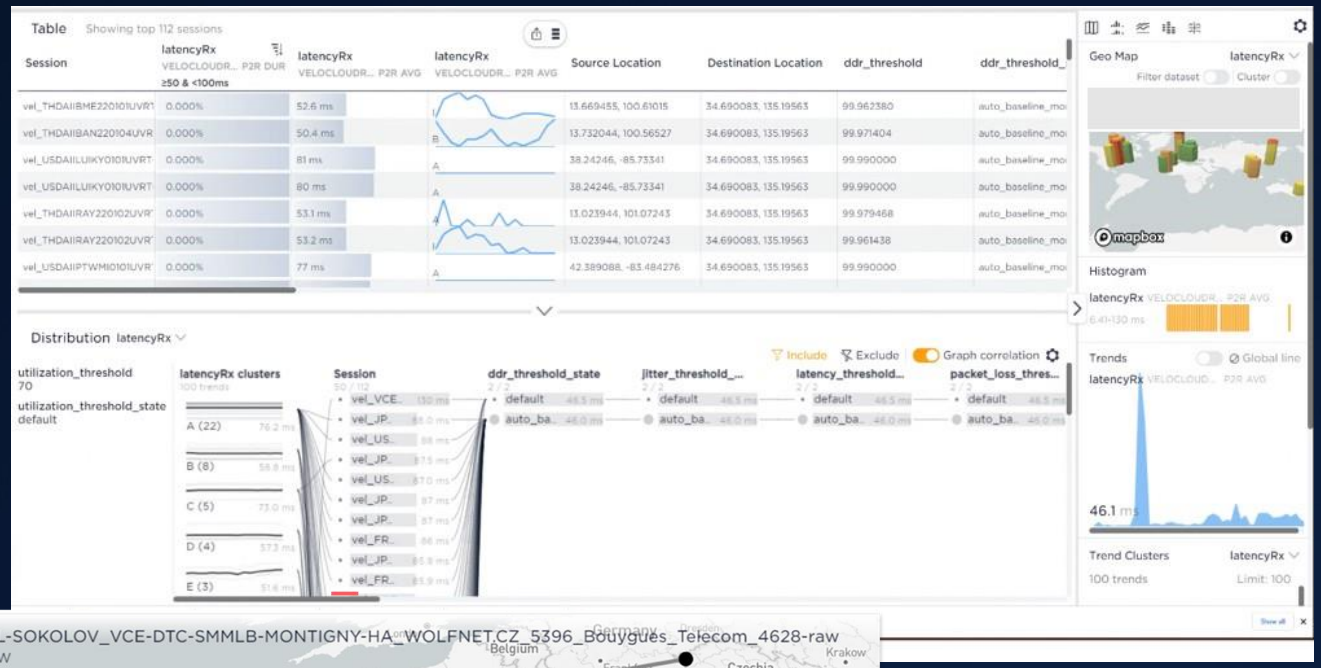
- Service performance Pattern Recognition and Clustering
- Service Relational Distribution
- Service performance trending

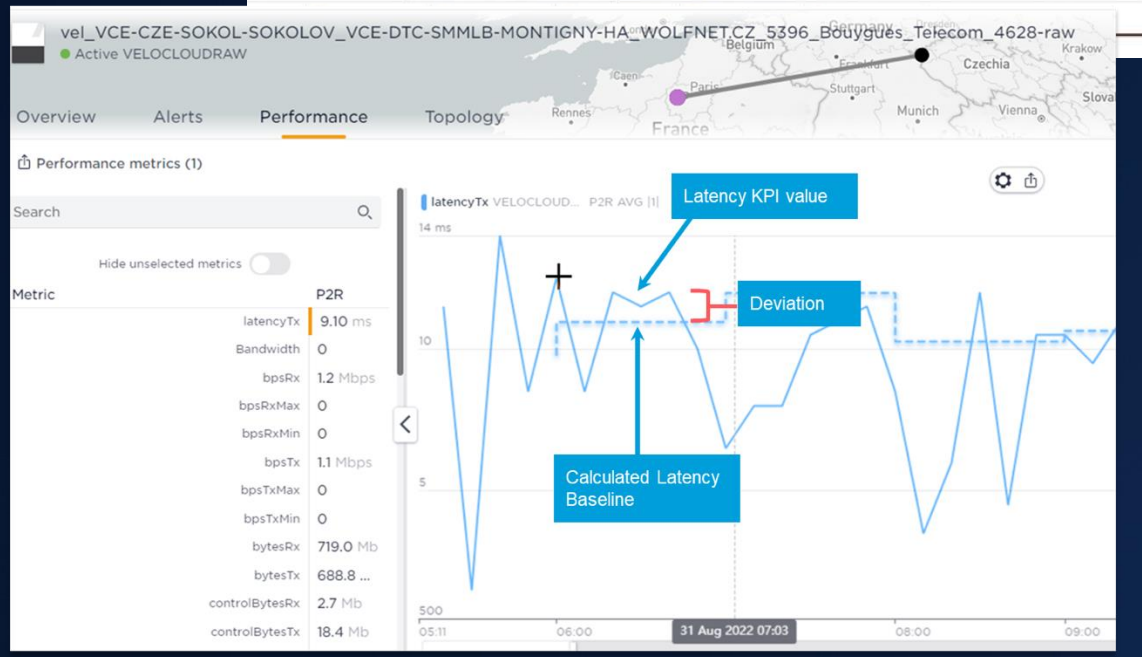
Machine Learning

- Time of Day, Day of week Baselining
- Ability to measure deviation from normal service performance baseline

Alerting

- Remove eyes from the glass
- Proactive monitoring
- Ties into AT&T systems and work flows





PCA

Provider Connectivity Use Cases

Segment Routing

SLAs enabled by the underlay operator (SR/SRv6)

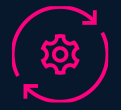
Data Center

Data Center to Disaster Recovery, Data Center Interconnects, Data Center to Campus

Core/Critical Network Monitoring

Proactive monitoring and predictive analytics to prevent user-impacting issues.

WAN



Network assurance across the WAN network with end-to-end visibility

AI Workloads

Measure performance for AI-native workloads, applications and LLMs

L2/L3 VPN Services

Layer 2 and 3 VPN/EVPN service performance monitoring

SDWAN

Proactive visibility of underlay and overlay

QoS/QoE

Ensure QoS markers are maintained across entire path

SLA Management

Monitor and alert on key performance metrics impacting SLA's

Customer Portal

SLA reporting portal to end-customers and internal stake holders

Private Wireless Networks

High-performance assurance in Private 5G/Wifi 6/7 environments

Live Events Broadcasting

Millisecond MoS performance measurements with packet loss at 0.01% increments

Gaming/eSports

Millisecond MoS performance measurement with packet loss at 0.01% increments

Telemetry

Streaming, SNMP, Message bus source (Kafka), VOIP/SDWAN

OT/IT Convergence

Correlate OT/IT performance, ingest sensor/PLC/AGV data

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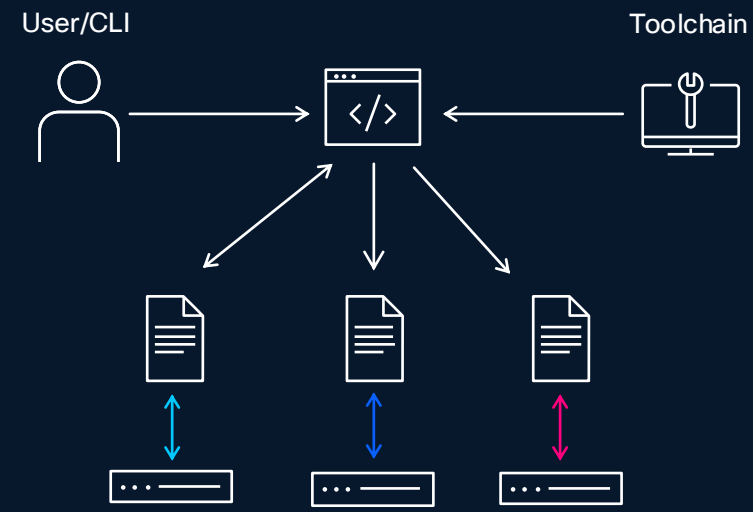
Multi-vendor

170 vendors, platforms and operating systems and counting...



- Abstracts underlying protocol and data-models
- Normalizes error-handling across vendors
- Eliminates the device adapter problem
- Removes complex device logic from the service logic

AI connectivity use cases and solutions

Data Center

Edge

AI increasing demand for local processing and networking

	2027	
25%	DATA PROCESSING	75%
90%	2021	10%

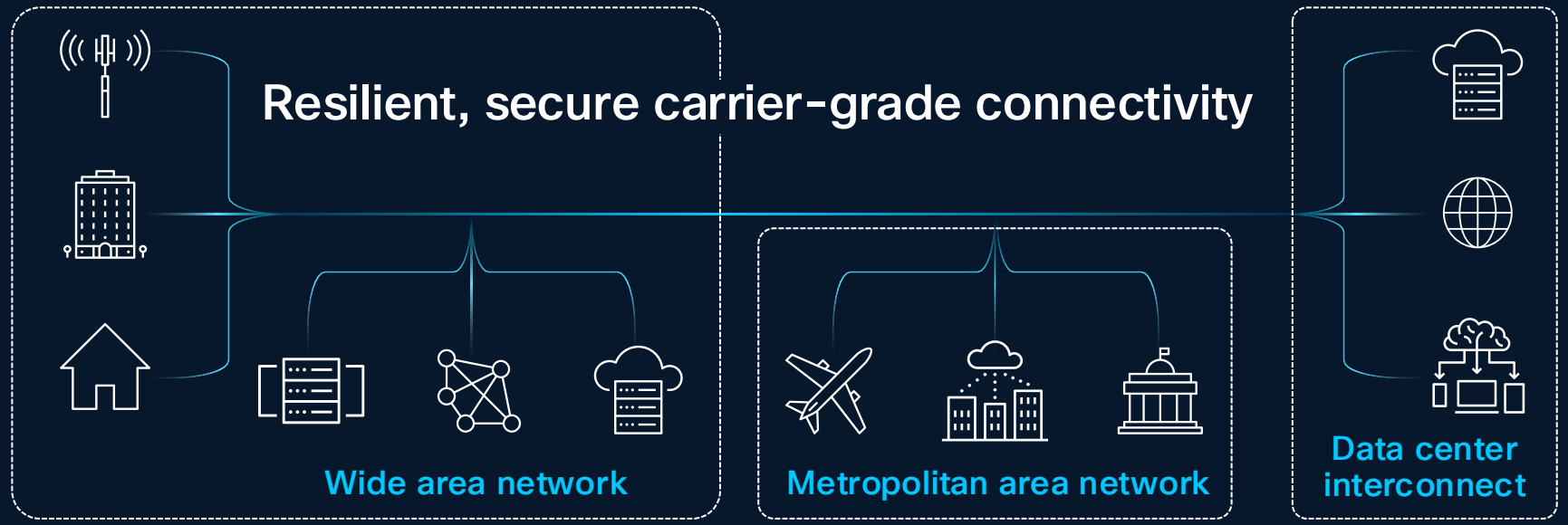
Source: Gartner

Common AI connectivity needs across all sectors

Scale network capacity
Distribute100G to 800G data rates closer to user demand

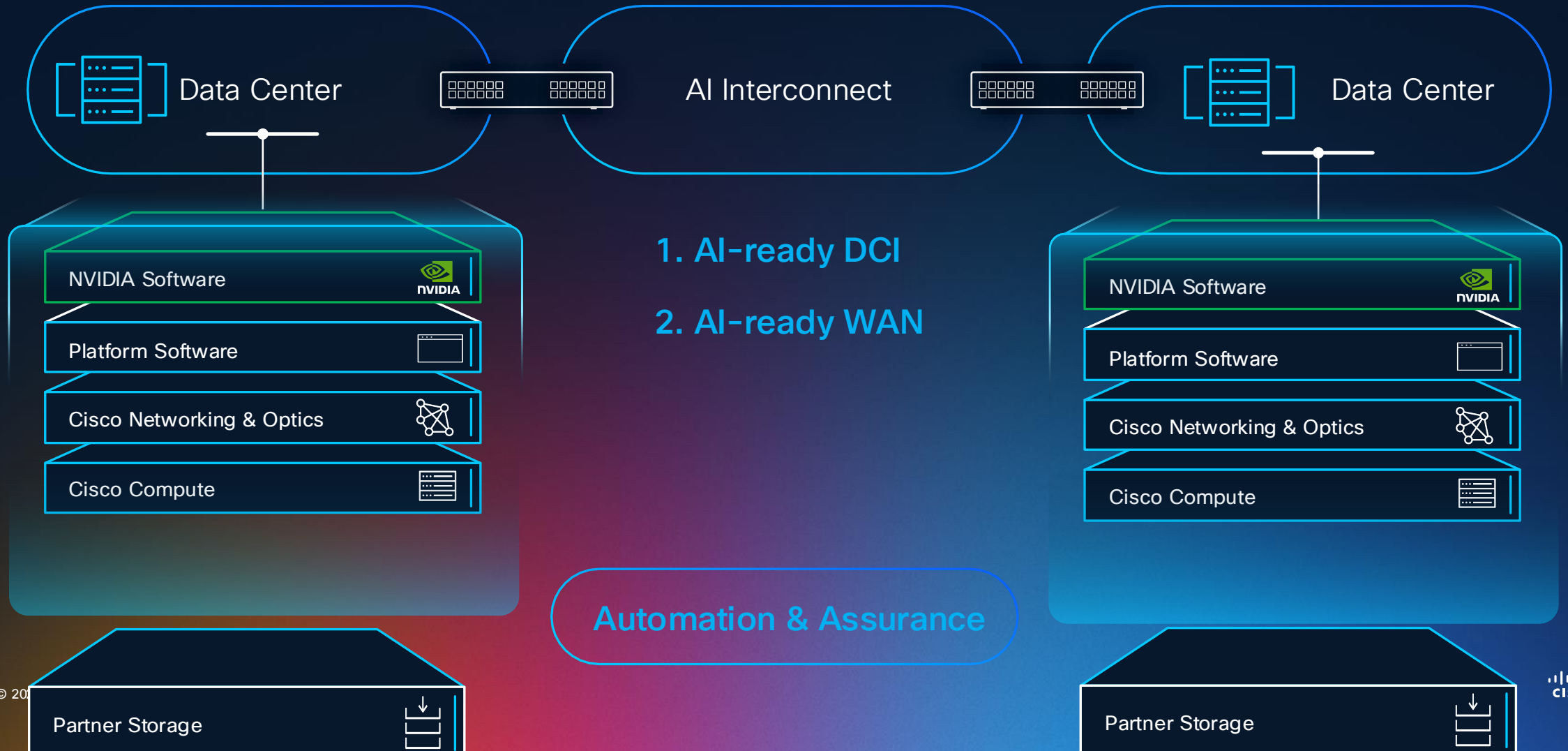
Improve quality of service
Migrate from internet and traditional MPLS to segment routing and SRv6

Protect assets
Increase visibility and security across the network



Manufacturing | Automotive | Energy | Finance | Education | Cities | Retail | Government | Healthcare | Telcos

AI Interconnect Use Cases

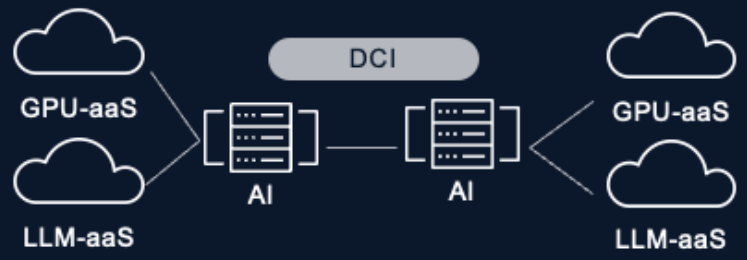


Phased connectivity demands

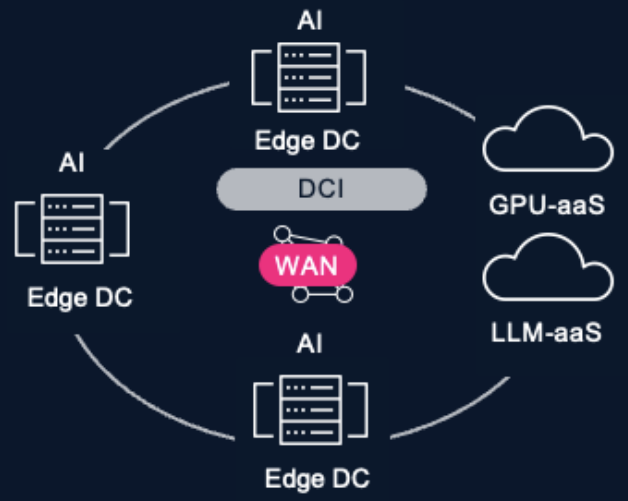
Infrastructure components including WAN and Data Center with automation/assurance and security

Infrastructure meeting the evolution of AI towards the edge

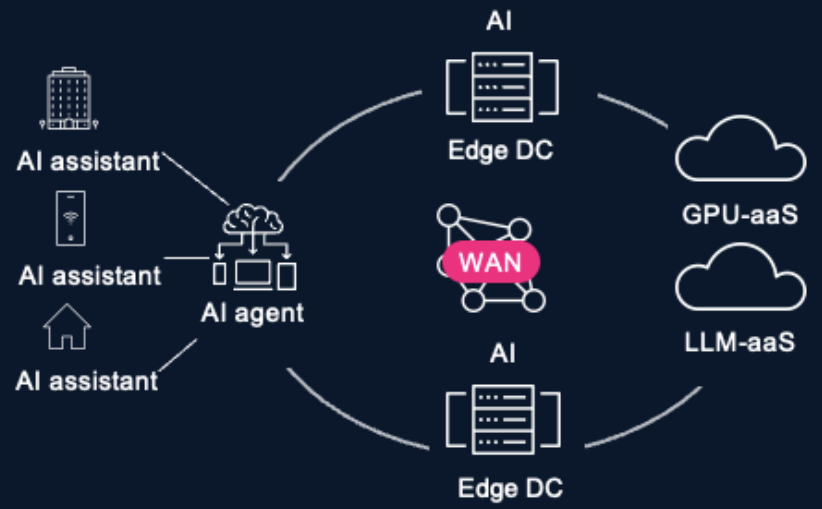
Experimentation
Centralized massive training



Production
inference, finetuning



Multi-agent, multi-LLM, multi-modal, reasoning



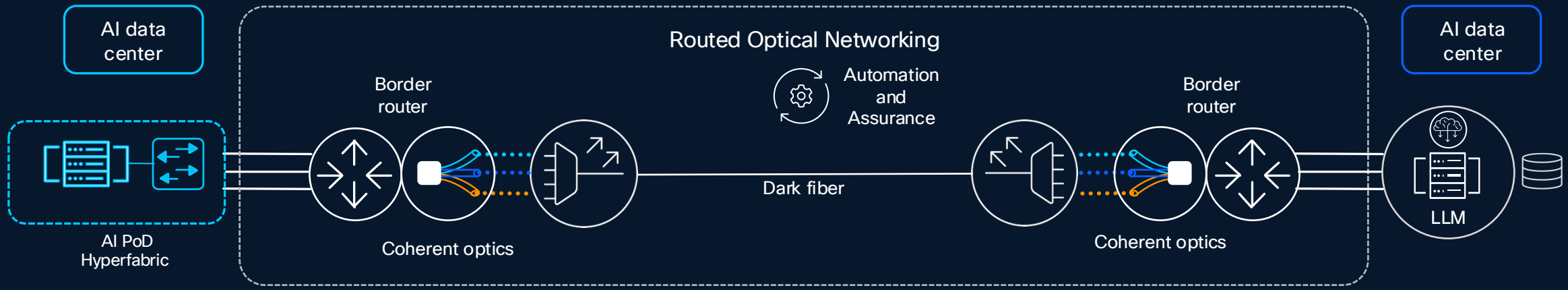
DCI Expansion
Today

Any-to-Any DCI
Next 12 months

Intelligent AI Connectivity
36 Months +

AI-Ready data center interconnect

High-capacity point-to-point



Key benefits

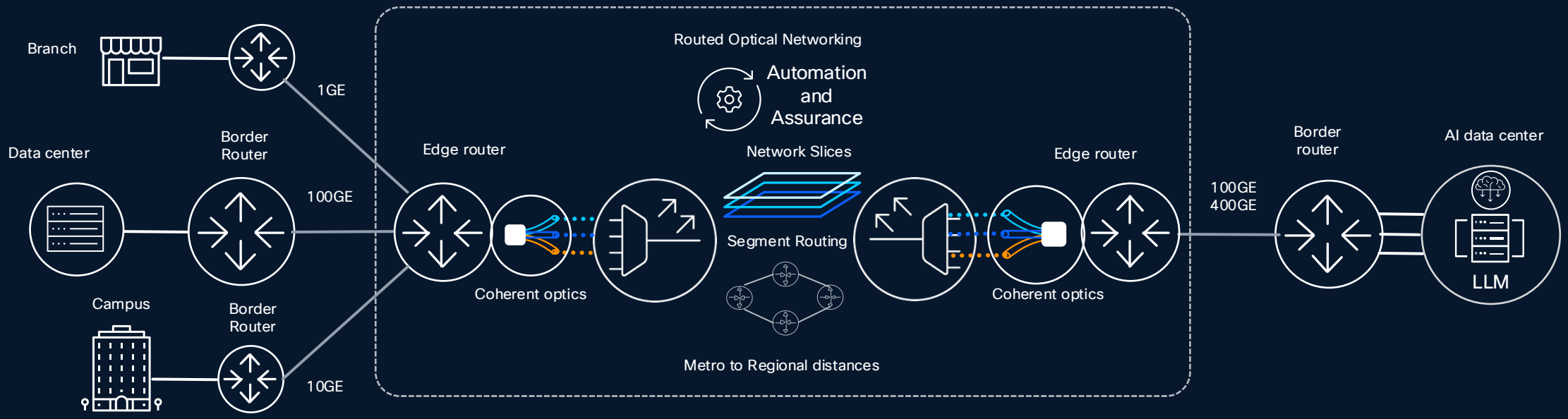
- Cisco Routed Optical Networking replaces power-hungry transponders with small pluggable optics (converge IP and optical layers)
- Suitable for any scale: from 100s of Gbps to 10s of Tbps to meet growing demands of AI
- Broad platform compatibility (e.g., Cisco 8000 and Nexus)
- Delivers up to 66% TCO 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
- 500+ customers for Routed Optical Networking and optical customers—including the most demanding hyperscalers in the world

AI-ready Wide Area Network

High-capacity point-to-multipoint



Key benefits

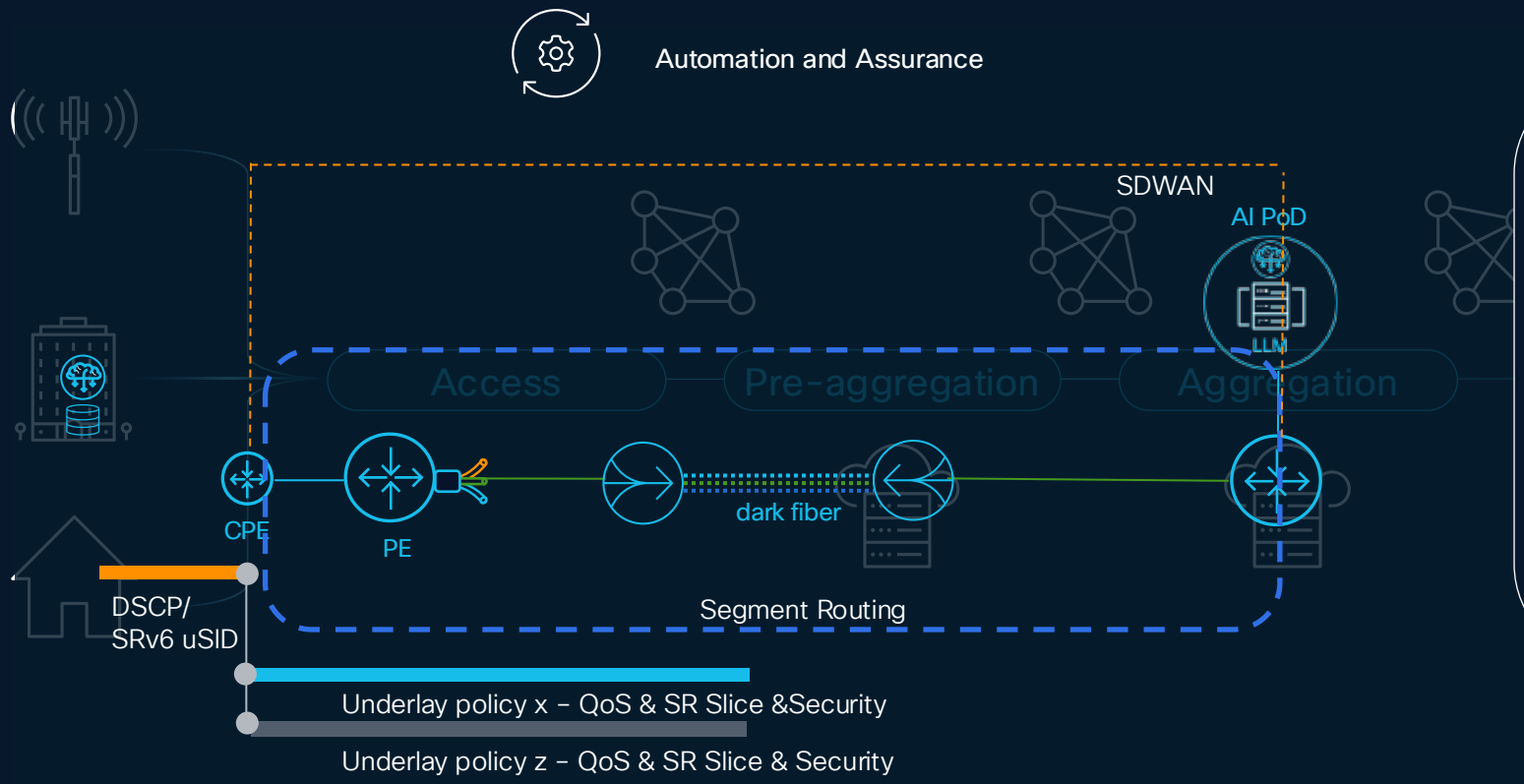
- End-to-end programmable network to enable any service anywhere, with assured, secure, high-performance connectivity at scale and lower power
- Network controllers for easy service provisioning and management across IP and optical layers, and network APIs for full programmability

Why Cisco

- Industry pioneer in segment routing: network slicing and intent-based service policies for low latency, guaranteed bandwidth and secure paths. Segment routing has fewer protocols and is easier to manage
- End-to-end solution: Routers, optics, optical, management/automation and service assurance with embedded security

Intelligent AI Connectivity

Building Differentiation: Overlay/underlay integration for SLA Based WAN



SD-WAN overlay integrated with SR underlay

Guaranteed SDWAN SLA intent enforced end-to-end

SD-WAN service SLA mapped to SR slice, QoS and security policy

Integrated service view

Network and SDWAN data correlated for an integrated overlay/underlay service view

Cisco’s blueprint for AI connectivity

Cisco Silicon One

New

G300- 102.4T Router Chip
SCALE OUT

P200- 51.2T Router Chip
SCALE ACROSS

Cisco Optics

New

Cisco 1.6T optics for AI data centers
Cisco 800G Linear Pluggable Optics
SCALE OUT

Cisco 400G/800G ZR/ZR+
Coherent Pluggable Optics
SCALE ACROSS

Cisco 8000

IOS XR & SONiC

New

Cisco 8132 / 8133
102.4T, 2RU/3RU
64 x 1.6TE OSFP

Cisco 8223
51.2T, 3RU, 64 x 800GE
(OSFP/QSFP-DD800)

Cisco Crosswork

Simplify and scale with Agentic AI-ops

New

Multi-agentic AI framework |
Integrated Performance Measurement

Resources to learn more

Cisco Agile Services Networking

View on Cisco.com

Cisco 8000

View on Cisco.com

Cisco Crosswork Network Automation

View on Cisco.com

Cisco Provider Connectivity Assurance

Visit Cisco.com

Cisco Routed Optical Networking

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