Co je nové v SP a ve světě rozlehlých sítí?

Peter Morvay

Systems Architect– #55452

15. 04. 2025

Agenda

1. Aktuálne WAN portfolio
   - Cisco 8K
2. Novinky z CL EMEA
3. Provider Connectivity Assurance – meranie vlastností služieb

Aktuálne WAN portfolio

WAN Platforms

Addressing all Places in the Network

CapEx | OpEx | Security | Converged | Time to Market | Programmable

ASR 920/900
NCS 500
Cisco 8010
Access

NCS 5500
NCS 560
Cisco 8200
Aggregation

ASR 9000
Cisco 8700
Edge

ASR 9000
NCS 5500
Cisco 8000
Core

ASR 9000
DCI

ASR 9000
NCS 5500
Cisco 8000
Peering

Cisco IOS XR Software

ASR 9000 Systems and Switch Fabric Overview

Integrated Fabric on RSP

ASR 9904

ASR 9006

ASR 9010

Hybrid Systems

ASR 9906

ASR 9910

Dedicated Fabric Cards

ASR 9912

ASR 9922

Integrated Fabric/RP/LC

ASR 9901

Integrated Fabric w/ Redundant RP

ASR 9903

ASR 9902

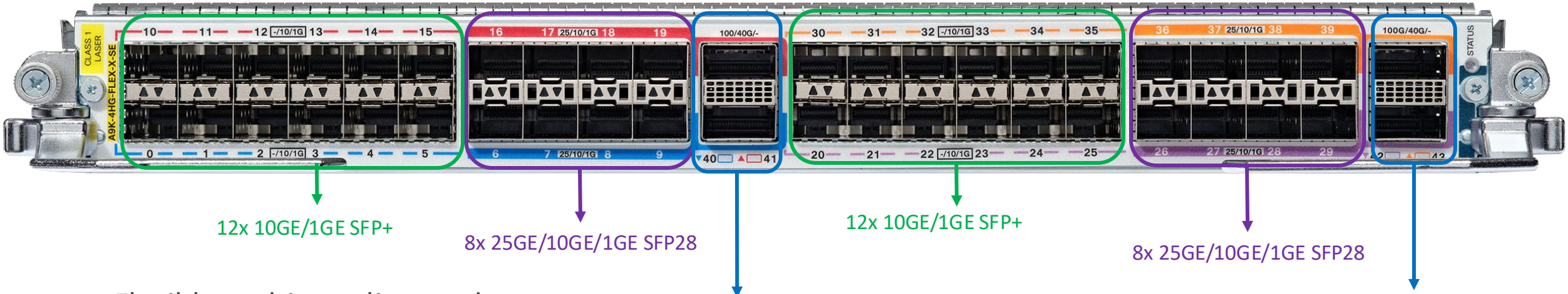
ASR 9000 5th Generation Portfolio

Up to 4T per slot

	Ports	Bandwidth	Multi-rate Ports	MACsec	Timing	RSP / RP
 **A99-10X400GE-X**	**10 Ports of QSFP-DD**	4 Tbps	Yes	MACsec	Class B SyncE	RSP5, RP3
 **A99-32X100GE-X**	32 Ports of QSFP28	3.2 Tbps	No	No	Class B SyncE	RSP5, RP3
 **A9K-20HG-FLEX**	15 Ports QSFP28 **5 Ports QSFP-DD**	2 Tbps	Yes	MACsec	Class C SyncE	RSP5, RP3
 **A9K-8HG-FLEX**	6 Ports QSFP28 **2 Ports QSFP-DD**	800 Gbps	Yes	MACsec	Class C SyncE	RSP5, RSP880-LT, RSP880, RP3, RP2
 **A99/A9K-4HG-FLEX**	4 Ports QSFP28 16 Ports SFP28 24 Ports SFP+	400 Gbps	Yes	MACsec	Class C SyncE	RSP5, RSP880-LT, RSP880, RP3, RP2

A9K-4HG-FLEX-X-SE & A99-4HG-FLEX-X-SE

5th Generation LightSpeed+ - 400GE Enhanced Multi-rate Line Card



- Flexible multi-rate line card
  - Supports multiple interface speeds in one slot
  - 4 x port-group
  - Each “port-group of 100G”can work independently as 1x 100G/40G or 4x 25G or 10x10G/1G
  - Native 1G support (without smart SFP): ZX/EX/SX/LH and Copper modules
- 7- and 5-Fabric variant
- MACsec on all ports

ASR 9000 5th Generation Compact Chassis

	Throughput	Ports	Multi-rate Ports	MACsec/OTN	Timing
 **ASR-9902**	800 Gbps	2 Ports QSFP-DD 6 Ports QSFP28 16 Ports SFP28 24 Ports SFP+	Yes	MACsec/ OTN	Class C
 **ASR-9903 (Fixed Ports)**	1.6 Tbps	16 Ports QSFP28 20 Ports SFP+	Yes	MACsec	Class C
 **A9903-20HG-PEC**	2 Tbps	15 Ports QSFP28 5 Ports QSFP-DD	Yes	MACsec	Class C
 **A9903-8HG-PEC**	800 Gbps	32 Ports SFP28 16 Ports SFP+	Yes	MACsec	Class C

NCS 5700 – Fixed Portfolio

High Scale Aggregation evolution

NCS5500 Products J/J+

25G | 40G | 100G

NCS-55A1-48Q6H

NCS-55A1-24Q6H-S/SS

40G | 100G

NCS 55A1-36H-S/SE

NCS 55A1-24H

10G | 25G | 100G

NCS 55A2-MOD-S/SE

1G | 10G | 25G

NCS 5501/SE

40G |100G

NCS 5502/SE

NCS5700 Products J2/J2c/J2C+

NCS-57D2-18DD-SYS

- 400G ZR/ZR+
- 2RU; 7.2 Tbps throughput
- 2x400G +16x400G/64x100G
- MACsec, IPsec*
- Class C Timing

NCS-57B1-6D24

- 400G ZR/ZR+
- 1RU; 4.8 Tbps throughput
- 24x100G + 6x400G
- MACsec, Timing

NCS-57B1-5DSE

- 400G ZR/ZR+
- 1RU; 4.4 Tbps throughput
- 24x100G + 5x400G
- MACsec, Timing
- External TCAM

NCS-57C3-MOD-S

- 400G ZR/ZR+
- 3RU; 2.4T throughput
- Fixed: 48x1/10/25G + 8x100G QSFP28
- 3 x MPA: 2x800G + 1x 400G
- MACsec, Timing

NCS-57C3-MOD-SE

- 400G ZR/ZR+
- 3RU; 2.4T throughput
- Fixed: 48x1/10/25G + 4x100G QSFP28
- 3 x MPA: 2x800G + 1x 400G
- MACsec, Timing
- External TCAM

NCS-57C1-48Q6D-S

- 400G ZR/ZR+
- 1RU; 2.4T throughput
- 32x1/10/25G + 16x1/10/25/50G + 6x400G
- MACsec, Timing

Segment Routing EVPN MACsec Timing 400G ZR/ZRP

NCS 5500/5700 – Modular Portfolio

High Scale Aggregation evolution

NCS5500 Products J/J+

40G |100G

NC55-24H12F-SE

NC55-18H18F

100G

NC55-36X100G-S

NC55-24X100G-SE

NC55-6x200-DWDM-S

40G | 100G

NC55-36X100G-A-SE

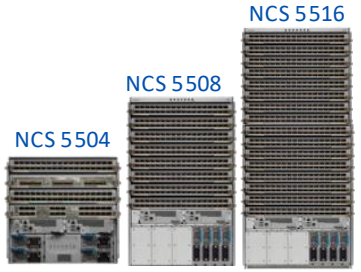
Modular

NC55-MOD-A-S/SE

NC55-MOD-A-SE

10G | 25G | 100G

NC55-32T16Q4H-A



- Segment Routing
- EVPN
- MACsec
- Timing
- 400G ZR/ZRP

NCS5700 Products J2/J2c

NC57-24DD

- 400G ZR/ZR+
- 18x100G, 30x200G/100G
- Through put 9.6 Tbps
- No eTCAM

NC57-18DD-SE

- 400G ZR/ZR+
- 18x100G, 30x200G/100G
- Through put 7.2 Tbps
- External TCAM

NC57-36H6D-S

- 400G ZR/ZR+
- 100G, 400G
- Throughput 4.8 Tbps
- Timing, MACsec, 800G-MPA

NC57-36H-SE

- 400G ZR/ZR+
- 100G, 400G
- Throughput 3.6 Tbps
- External TCAM

NC57-MOD-S

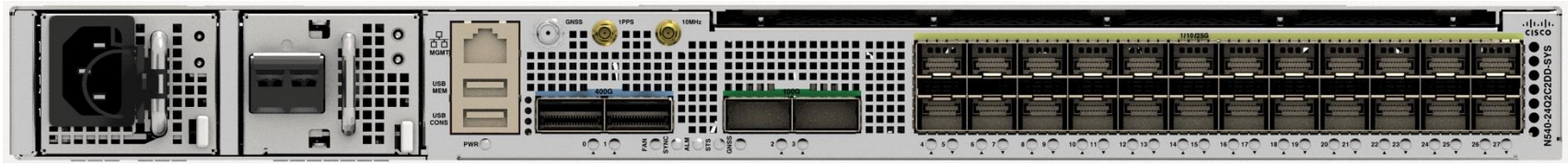
- 400G ZR/ZR+
- 10G, 25G, 50G, 100G, 400G
- Throughput 4.8 Tbps
- Timing, MACsec, 800G-MPA

NC57-48Q2D-(SE)-S

- 400G ZR/ZR+
- 1G, 10G, 25G, 50G, 100G, 400G
- Throughput 2.4 Tbps
- eTCAM & non-eTCAM versions, Class C Timing, MACsec

NCS 540 - Fixed Portfolio

- Introducing new NCS-N540-24Q2C2DD-SYS
  - Broadcom Q2A - 800Gbps
  - 2x 400GE + 2x 100GE + 24x 1/10/25GE



ASICS	
QUX	Qumran UX
QAX	Qumran AX
QMX	Qumran MX
J+	Jericho +
Q2A	Q2A

Introducing New NCS-N540-24Q2C2DD-SYS

1RU, 1T, 4x100G Access/Pre-Agg system

25.1.1
Feb'25

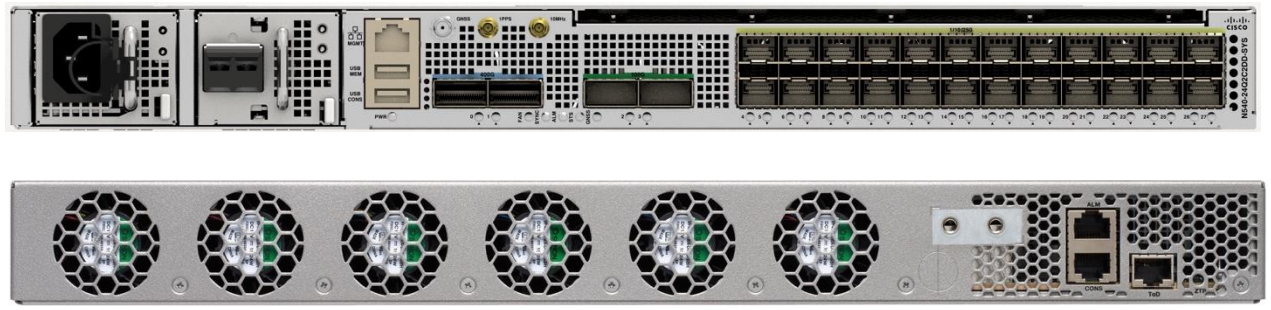
HARDWARE OVERVIEW	
Data Plane	1x Q2A Broadcom NPU 800Gbps/600Mpps
Control Plane	4 Core x86 CPU 16GB DRAM, 64GB SSD
Port Configuration	24x1/10/25G SFP28 + 2x100G QSFP28 + 2x400G QSFP56-DD
Product Capabilities	Class C timing, MACsec on 100/400G ports RON ready (Supports DCO optics)
Fans and PSU	6x Fans N + 1 redundancy 2x PSUs 1 + 1 redundancy
Dimension	1RU, <300mm depth
Use Case	CSG, Pre-agg/Agg, RON

1G	10G	25G	40G	100G	400G
24	24	24	4	4-10	2

PSUs (x2)

Pluggable 400W AC
Pluggable 400W DC

Q2A
800Gbps



FANs (x6)

Front to Back Airflow

Note: Program timelines are subject to change at CISCO's discretion.

NCS 540 Small Density Routers

N540X-6Z18G-SYS-D/A

N540X-8Z16G-SYS-D/A

N540X-4Z14G2Q-D/A

Passively Cooled
N540-6Z14S-SYS-D

N540-6Z18G-SYS-A/D

Interfaces	Throughput	Timing	Power
6x 10/1GE 18x 1GE	64G Max Interfaces: 78G	Class C	Fixed: 1+1 AC 1+1 DC
8x 10/1GE 4x 1GE SFP 4x 1GE RJ45 8x 1GE SFP or 16x 1GE cSFP	120G Max Interfaces: 104G	Class C	Fixed: 1+1 AC 1+1 DC
2x 25/10/1GE 4x 10/1GE 10x 1GE 4x 1GE Combo SFP/RJ45	120G Max Interfaces: 104G	Class C	Fixed: 1+1 AC 1+1 DC
6x 10/1GE 10x 1GE SFP 4x 1GE RJ45	64G Max Interfaces: 74G	Class C	Fixed: 1+1 AC 1+1 DC
6x 10GE SFP+, 18x 1GE SFP	64G Max Interfaces: 78G	No	Fixed: 1 AC PSU Dual-Feed DC

NCS 540 Medium Density Routers

N540-24Z8Q2C-SYS
N540(X)-ACC-SYS

N540X-16Z4G8Q2C-D/A

N540-28Z4C-SYS-D/A

N540X-12Z16G-SYS-D/A

N540-12Z20G-SYS-D/A

N540X-16Z8Q2C-D

Interfaces	Throughput	Timing	Power
2x 100/40GE 8x 25/10/1GE 24x 10/1GE	300G Max Interfaces: 640G	GNSS Class B	Modular: 1+1 AC/DC
2x 100/40GE 8x 25/10/1GE 16x 10/1GE 4x 1GE Cu	300G Max Interfaces: 564G	GNSS Class C	Fixed: 1 AC 1+1 DC
4x 100/40GE 28x 10/1GE	300G Max Interfaces: 680G	Class B	Fixed: 1 AC 1+1 DC
12x 10/1GE 12x 1GE 4x 1GE Cu	160G Max Interfaces: 136G	GNSS Class C	Fixed: 1 AC 1+1 DC
12x 10/1GE 20x 1GE	160G Max Interfaces: 140G	Class B	Fixed: 1 AC 1+1 DC
2x 100/40GE 8x 25/10/1GE 16x 10/1GE	300G Max Interfaces: 560G	Class C	Fixed: 1+1 DC

NCS 540 Large Routers

N540-24Q8L2DD-SYS

Interfaces	Throughput	Timing	Power
2x400GE 8X50/25/10/1GE 24x25/10/1GE	800G Max Interfaces: 1TB	GNSS Class C	Modular: 1+1 AC/DC

Cisco Agile Services Networking – 8000

Cisco 8000 Routers Positioning

Key Features

- 3.2T (1.2T) up to ~518T
- 400G & 800G Optimized, with support for 100G
- IP + Optical capabilities with 400G ZR/ZR+/Bright ZR+, ready for 800G ZR+
- New Silicon One architecture: longevity, trade off bandwidth, scale, cost & power.

Target Use Cases

- IP Core, MPLS LSR
- Cloud Aggregation
- Routed DC ToR/Leaf
- SP Aggregation
- Peering
- Metro Edge

Introducing Cisco Agile Services Networking

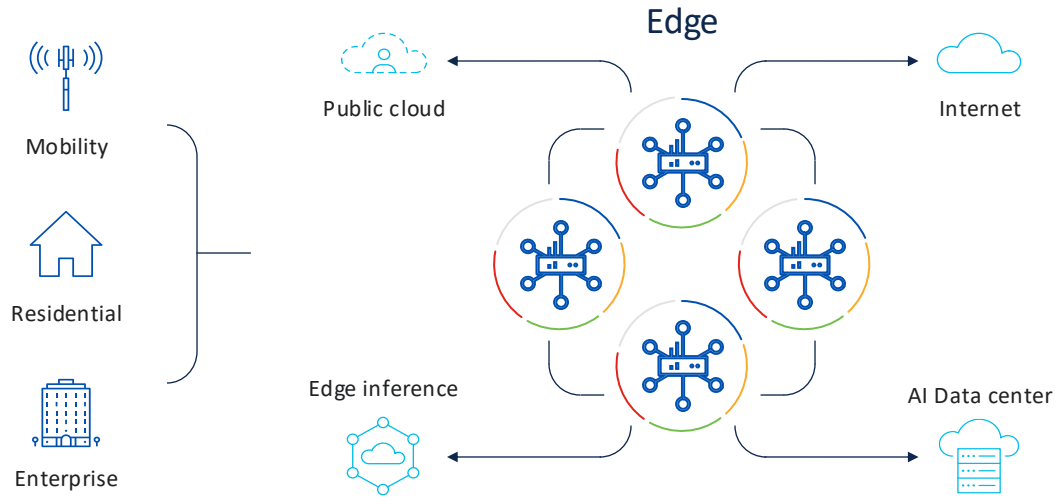
A network architecture for AI connectivity that enables service providers to monetize the delivery of assured services and networking

Validated Design

AI-powered automation and assurance

Edge Functions

- Business services
- Distributed peering
- Subscriber services
- 5G services
- Security services



Routed optical networking

Better performance	Simplified networking	Efficient transport	Increased resilience

Portfolio innovations to power AI connectivity

Routing infrastructure

1

Cisco 8000
Cisco Silicon One

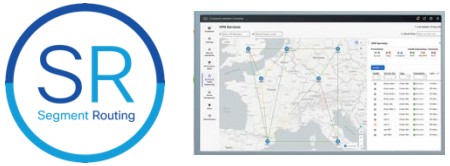
Unparalleled performance, TCO and operational simplicity

IP / optical convergence

2

Cisco Routed
Optical Networking

Dramatic cost and energy savings with coherent pluggable optics



Network programmability

3

Cisco Crosswork
Network Automation

SLA differentiation and policy control across DC, access, metro, backbone and cloud

Observability and insight

4

Cisco Provider Connectivity
Assurance

Real time visibility and insights for proactive and predictive experience assurance

Silicon One NPU for Cisco 8000 Routing Portfolio

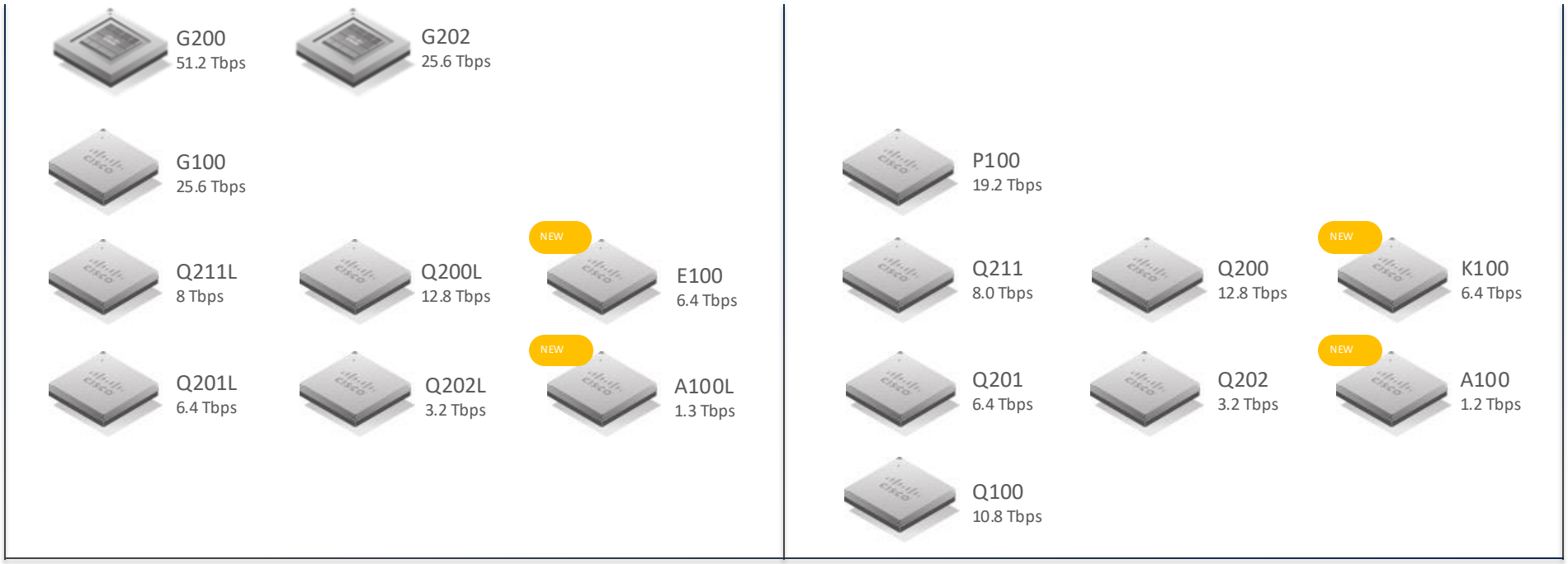
With Deep Buffers

Integrated MACsec, IPsec

Cisco Silicon One

One Architecture. Multiple Devices.

One Architecture, SDK and P4 Forwarding Code



Use Cases

- Spine
- Leaf
- TOR
- DCI
- Core
- Peering
- Spine
- Leaf
- TOR
- Edge
- Campus
- Core
- Pre Agg
- Agg On
- Access
- Access
- Data Center

Service Provider | AI-ML Web Scale | Enterprise

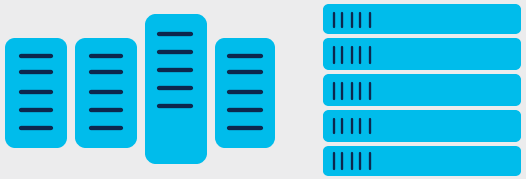
Cisco 8000 Adoption

5.5+ Million

100G ports shipped

2.5+ Million

400G ports shipped



145K+ systems

65K+ line cards

Verticals

Service Provider

Cloud

Public Sector

170+ customers

viettel

Arelion

T-Mobile

WebSprix

Deutsche Telekom

OTEGLOBE
the globe at your service

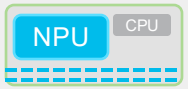
COLT

The fastest growing product family in Cisco SP history!

Right-Sizing Service Delivery

between Resiliency, Form, and Service Scale

Fixed

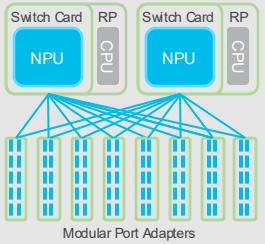


Class-leading cost and power efficiency

Small form factors (1-3RU)

Best suited for Spine & Leaf Architecture

Centralized

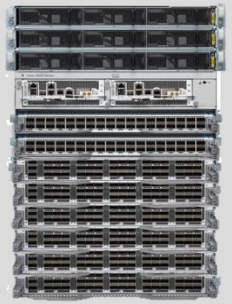


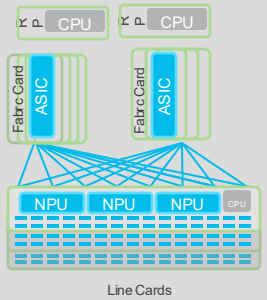
Redundancy at optimized cost & power

Flexible I/O modularity

Upgradability

Distributed

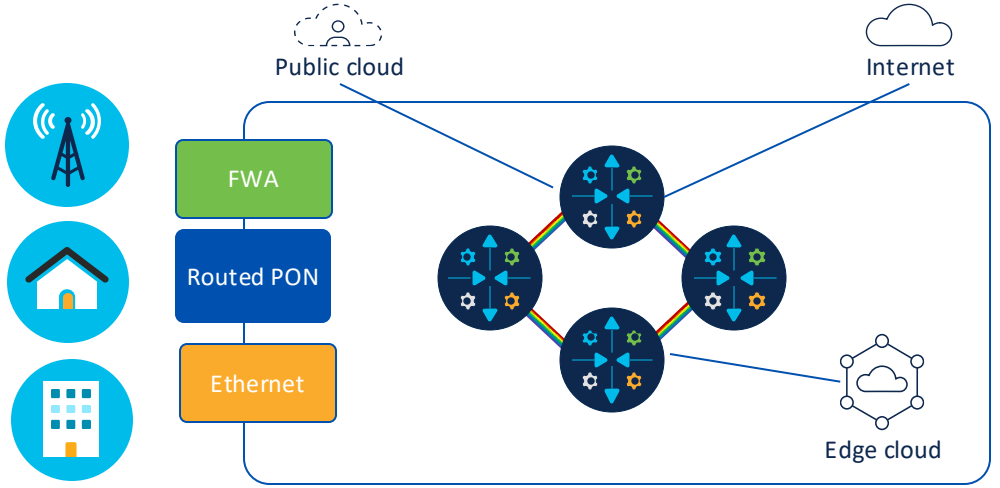




Maximum Scale and Port Fanout

N+1 Resiliency

Future expandability, upgradeability



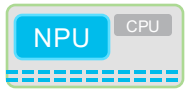
Feature Consistency
Consistent set of capabilities end-to-end where the level of logical scaling is dictated only by characteristics of the NPU configuration

Multi-Purpose Systems
Provides flexibility, versatility, consistency for diverse customer deployment scenarios.

Per Port Granularity
Maximize NPU performance through per port granular enablement.

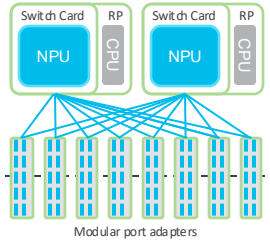
Cisco 8000 Naming Convention

FIXED



- **80xx**
  - Access / Pre-aggregation
- **82xx**
  - Core & Peering
  - NPU with HBM
- **87xx**
  - Service Edge & Aggregation
  - NPU with HBM

CENTRALIZED



- **86xx**
  - Core & Peering
  - NPU with HBM
- **84xx**
  - Service Edge & Aggregation
  - NPU with HBM

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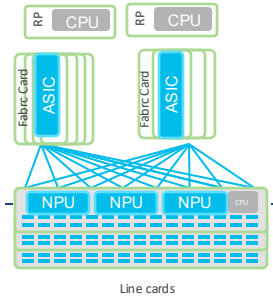
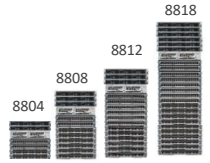
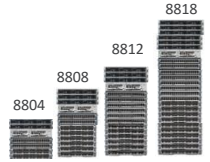




- **88xx**
  - Common commons for all use-cases

- **88-LCx-...-E**
  - Service Edge & Aggregation
  - Support comprehensive egress feature capabilities by default
  - NPU with HBM



- **88-LCx- w/o E**
  - Core & Peering
  - High capacity & Performance optimized
  - NPU with HBM

Lowest TCO for cost and power

Small form factors (1-3RU)

Best suited for spine and leaf architecture

Redundancy (CP & DP)

Flexible I/O modularity

Maximum scale and port fan-out

N+1 resiliency

Future Expandability and Upgradeability

Cisco 8000 Routing Portfolio

DISRIBUTED

CENTRALIZED

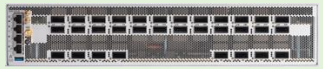
FIXED

14.4T; 88-LC0-36FH
14.4T; 88-LC0-36FH-M

9T; 88-LC0-34H14FH

28.8T; 88-LC1-36EH

12.8T; 8608



12.8T; 202-32FH-M

12.8T; 8201-32FH

5.6T; 8201-24H8FH

19.2T; 8212-48FH-M

Cisco
8000
Series

Powered By

Silicon One

Cisco IOS XR

12T; 88-LC1-12TH24FH-E

3.7T; 88-LC1-52Y8H-EM

12.8T; 8711-32FH-M

4.8T; 8404-SYS-D

Q3
CY25

6.4T; 8712-MOD-M

Q200 — 2nd Gen NPU

P100 — 3rd Gen NPU

P100 — 3rd Gen NPU

K100 — 3rd Gen NPU

Core & Peering

Aggregation & Edge

Cisco 8000 Fixed Portfolio

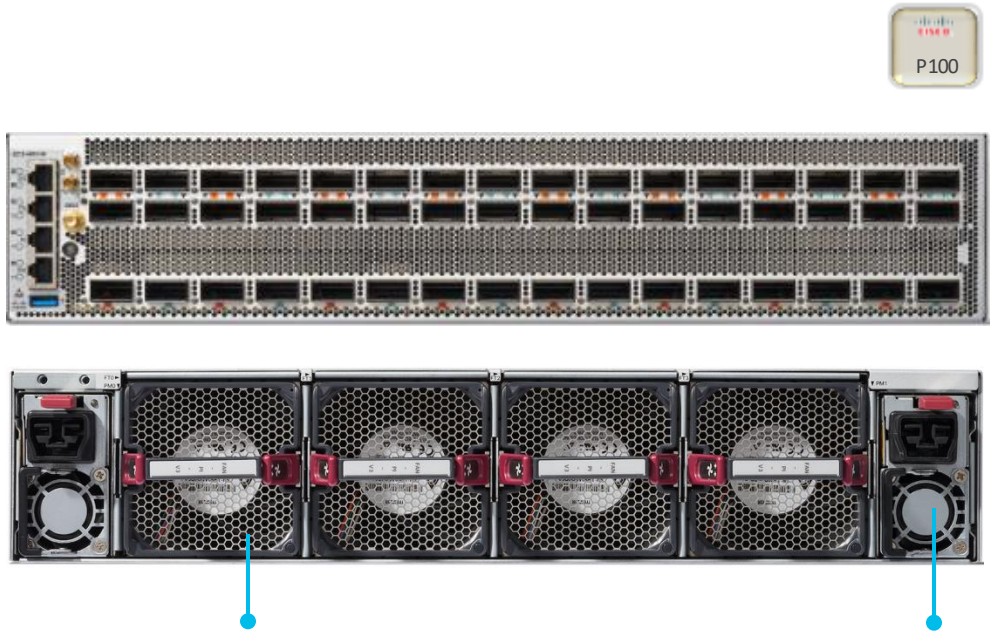
Cisco 8212-48FH-M

2RU, 19.2T, 3rd Generation P100 based dense 400G MACsec Router

Orderable now!
24.3.1

Hardware Overview

Data Plane	1x P100 NPU -19.2T
Control Plane	6x Core x86 CPU 64GB DRAM, 128 GB SSD
Port Configuration	24x QSFP56-DD / 24x QSFP-DD800
Product Capabilities	Timing Class C performance, MACsec all ports RON Architecture ready
Fans and PSU	4x Fans N + 1 redundancy 2x PSUs 1 + 1 redundancy
Typical Power	945W excluding optics
Dimension	2RU, 600mm depth
Use Case	Core, Peering, Data Center Core



FANs (x4)
Front to Back Airflow (Port-side Air Intake)

PSUs (x2)
Pluggable 3KW DC/AC/HV

10G	25G	40G	100G	400G	800G*
192	192	48	192	48	24

*2x400G and 8x100G

Cisco 8711-32FH-M

1RU, 12.8T, 3rd Generation P100 based 400G MACsec Router

Interop BEST OF SHOW AWARD 2024 Grand Prize

Orderable Now! 24.3.1

P100

Hardware Overview

Data Plane	1x P100 NPU -12.8T
Control Plane	6 Core x86 CPU 64GB DDR4 SODIMM, 480GB SSD
Port Configuration	32x QSFP56-DD / 16x QSFPDD-800
Product Capabilities	Timing Class C performance, MACsec all ports RON Architecture ready
Fans and PSU	6x Fans N + 1 redundancy 2x PSUs 1 + 1 redundancy
Typical Power	740W excluding optics
Dimension	1RU, 600mm depth
Use Case	Collapsed Core, Aggregation, Peering, Data Center Core & Spine

10G	25G	40G	100G#	400G	800G*
128	128	32	128	32	16

FANs (x6)

Front to Back Airflow (Port-side Air Intake)
Back to Front Airflow (Port-side Air Exhaust)

PSUs (x2)

Pluggable 2KW AC
Pluggable 2KW DC
Pluggable 2KW HV

*2x400G and 8x100G
#DR1 only

Cisco 8712-MOD-M

2RU, 6.4T, 3rd Generation K100 based Flexible MPA MACsec, IPsec Edge Router

Orderable Now
24.4.1

Hardware Overview

Data Plane	1x K100 NPU – 6.4T
Control Plane	6 Core x86 CPU 64GB DDR4 SODIMM / 480GB SSD
Port Configuration	4x MPAs:1.6T per slot • MPA 1: 4x QSFP56-DD • MPA 2: 16x QSFP28 • MPA 3: 16x SFP56 + 4x QSFP56-DD
Product Capabilities	GNSS, Timing Class C performance, MACsec all ports* RON Architecture ready
Management Ports	RS-232 console, 1 GbE Management, 1x USB2.0, GBP (ToD, 10MHz, 1PPS)
Fans and PSU	4 Fans with 3+1 Redundancy 2x PSU with 1+1 Redundancy
Typical Power	420W with 4xMPA (w/o optics)
Dimension	2RU, 600mm sheet metal depth
Use Case	Aggregation and Service Edge

MPAs (x4)

PSUs (x2)

Pluggable 2KW AC
Pluggable 2KW DC
Pluggable 2KW HV

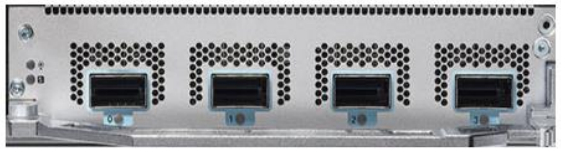
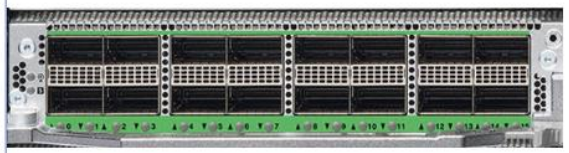
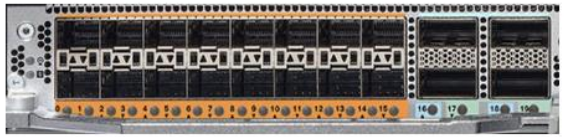
FANs (x4)

Front to Back Airflow (Port-side Air Intake)
Back to Front Airflow (Port-side Air Exhaust)

1G	10G	25G	40G	100G	400G
64	128	128	32	64	16

*SW support FCS+1

8712 Modular Port Adapters (MPAs)

			
MPA Type	MPA 1: 400G MPA	MPA 2: 100G MPA	MPA 3: Combo MPA
PID	8K-MPA-4D	8K-MPA-16H	8K-MPA-16Z2D
Port Combination	4x QSFP56-DD	16x QSFP28	16x SFP56 + 4xQSFP56-DD*
Throughput	1.6T	1.6T	1.6T
MACsec	Line-rate on all ports	Line-rate on all ports	Line-rate on all ports
Timing	Class C on 100G/400G	Class C on 100G	Class C on 25G/100G/400G; Class B on 10G
DCO Optics	All QDD ports	N.A	All QDD ports

*2x400G or 4x 100G/200G

*Roadmap

Note: Roadmap only. HW Design & program timelines are subject to change at CISCO's discretion.

8000 Centralized Portfolio

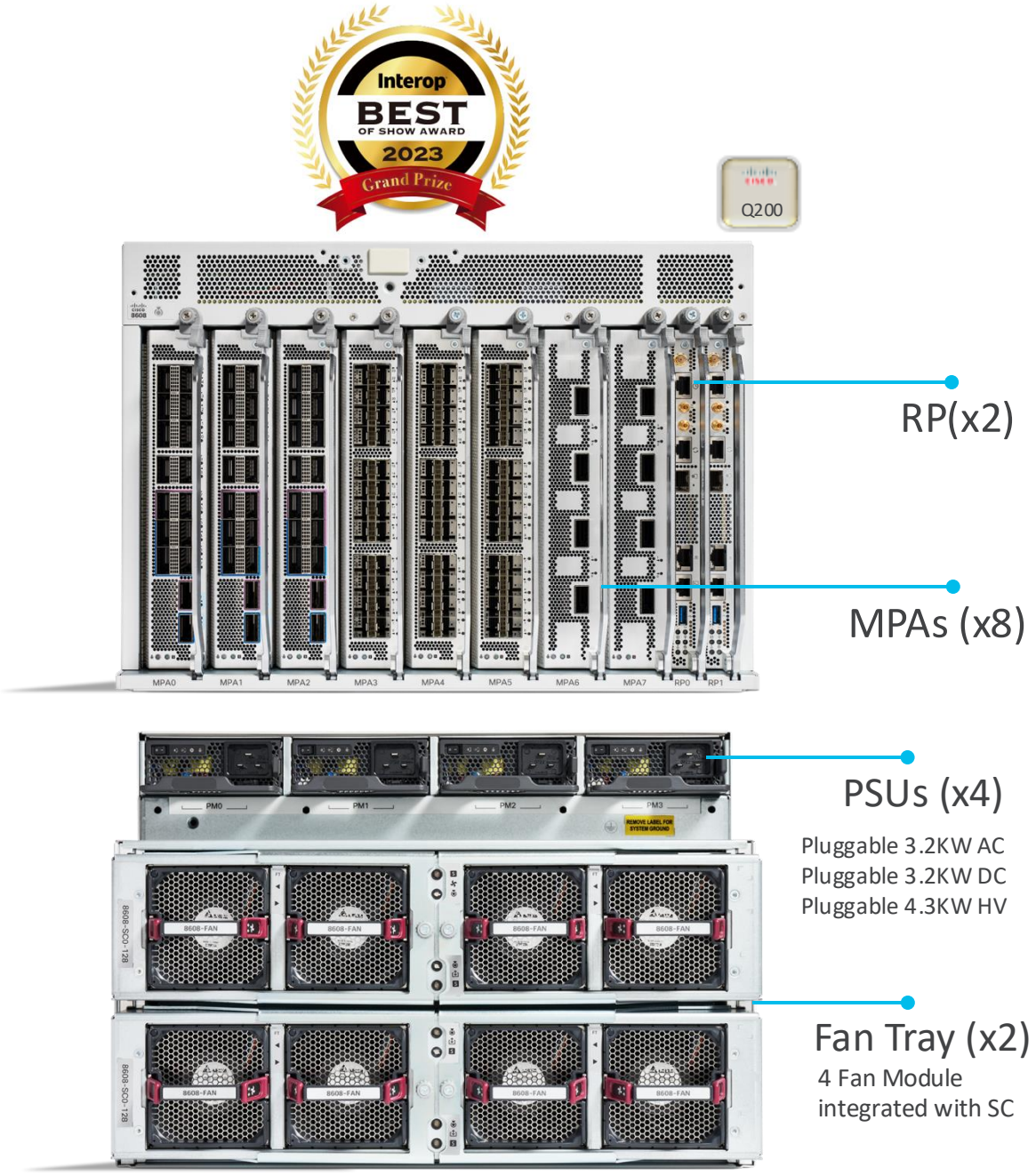
Cisco 8608

7RU; 12.8T Centralized Router

Hardware Overview

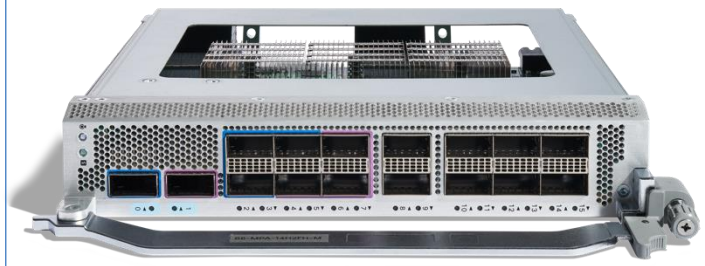
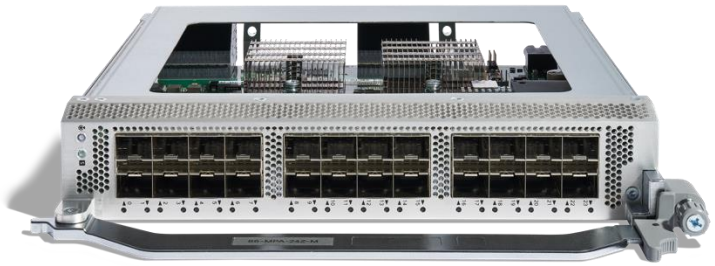
Data Plane	1x Q200 NPU – 12.8T
Control Plane	6-core x86 CPU 64 GB DRAM, 240 GB SSD
Port Configuration	Redundant Active/Standby RPs & Switch Cards 8 x MPAs:1.6T per slot • 14x QSFP28+ 2x QSFP56-DD • 4 x QSFP56-DD • 24 x SFP56
Product Capabilities	Timing Class C performance, MACsec all ports RON Architecture ready
Management Ports	RS-232 console, 1 GbE Management, 1x USB3.0, GPS (ToD, 10MHz, 1PPS)
Fans and PSU	3+1 / 6+2 Fan Redundancy, F2B Airflow 2+2 / 3+1 PSU Redundancy
Typical Power	1.6kW w/o optics
Dimensions	7RU; 580mm depth
Use Case	IP Fabric, Core, Peering, SP Aggregation, Tier 2 Cloud

1G*	10G	25G	40G	100G	400G
192	512	512	128	128	32



* Needs special rate changing optics for 1G interfaces

Cisco 8608 Modular Port Adapters (MPAs)

			
MPA Type	Combo MPA	50G MPA	400G MPA
PID	86-MPA-14H2FH-M	86-MPA-24Z-M	86-MPA-4FH-M
Port Combination	14x QSFP28 + 2x QSFP56-DD	24x SFP56	4x QSFP56-DD
Throughput	1.6T	1.2T	1.6T
MacSec & Timing	MACsec, Class C*	MACsec, Class C*	MACsec, Class C*
DCO Optics	ZR / ZR+ / BZR+ / OLS on all QDD ports	N.A	ZR / ZR+ / BZR+ / OLS on all QDD ports

*Roadmap

Cisco 8404-SYS-D

4RU, 4.8T Centralized Router

Orderability Target: May25
25.2.1

Hardware Overview

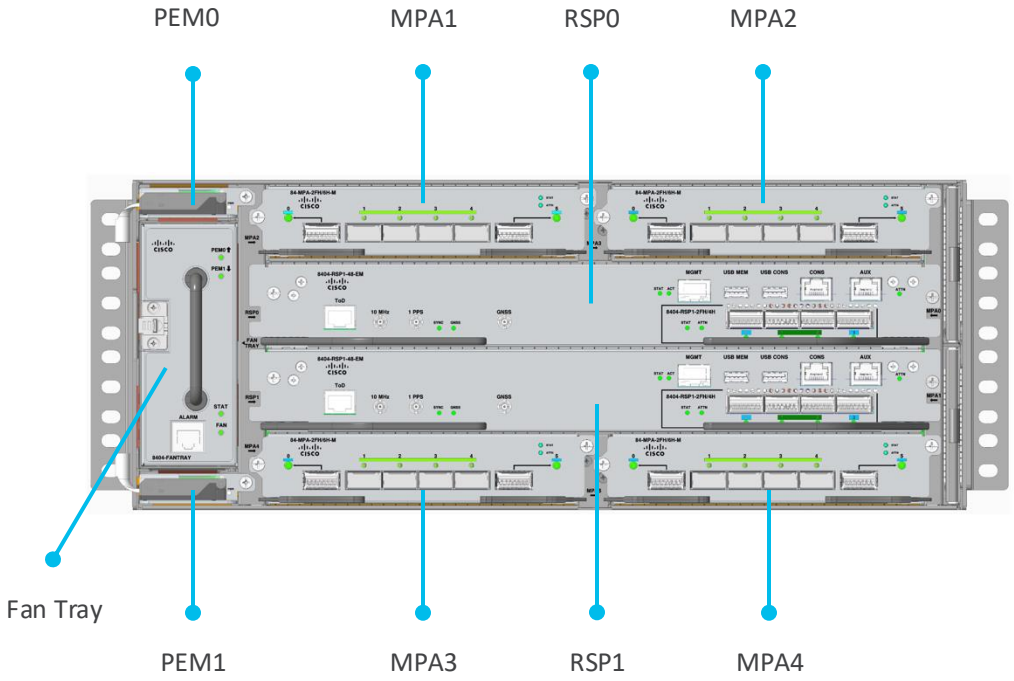
Data Plane	1x K100 NPU – 4.8T
Control Plane	8-core ARM CPU 32 GB DDR5, 128GB eMMC

Port Configurations	• 2x QDD + 2x QSFP28 on each **RSP**
	• 2 MPA Variants:
	  • 2x QSFPDD / 6x QSFP28
	  • 2x QSFP28 + 12x SFP56

Product Capabilities	Dual Route Switch Processor in Redundant Active/Standby mode Integrated fabric in Active / Active mode Timing Class C performance, MACsec all ports RON Architecture ready
Management Ports	RS-232 console, 1 GbE Management, 1x USB3.0, GPS (ToD, 10MHz, 1PPS)
Fans and PSU	Modular Fan tray with N+1 Redundancy, Side to side Airflow 2x DC-PEM for 1 + 1 Redundancy, No PSU as such, Power conversion independently done on each active component
Typical Power	1.4kW w/o optics
Dimensions	4RU height, 300mm depth
Use-case	Pre-aggregation, aggregation and Service Edge

1G	10G	25G	40G	100G	400G
48	80	80	32	32	12

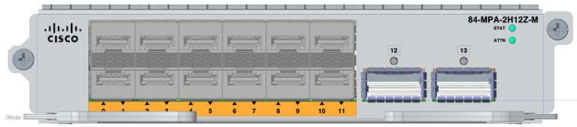
K100



Note: Roadmap only. HW Design & program timelines are subject to change at CISCO's discretion.

Cisco 8404 Modular Port Adapters (MPAs)

Orderability Target: May25
25.2.1

		
MPA Type	Combo 100/400G MPA	Combo 50/100G MPA
PID	84-MPA2FH/6H-M	84-MPA-2H12Z-M
Port Combination	2x QSFP56-DD or 6x QSFP28	2x QSFP28 + 12x SFP56
Throughput	0.8T	0.8T
MACSec & Timing	MACSec, Class C	MACSec, Class C
DCO Optics	ZR / ZR+ / BZR+ on all QDD ports	N.A

*Roadmap

Note: Roadmap only. HW Design & program timelines are subject to change at CISCO's discretion.

Cisco 8000 Distributed Portfolio

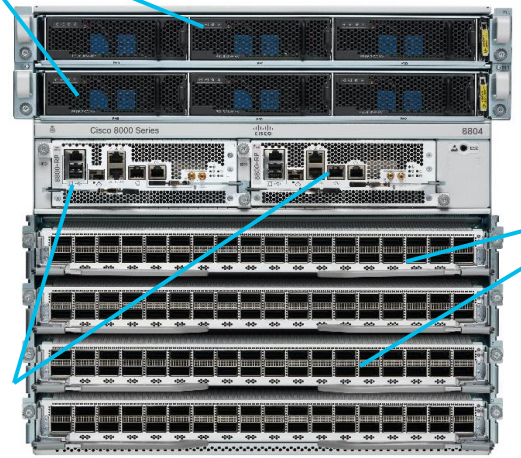
Cisco 8804-SYS

Physical Summary
4 Line Card slots
2 Redundant Route Processors
4 Redundant Fan Trays
8 Redundant Fabric Cards
2 Power Shelves (6 AC or 8 48V DC supplies)
Dimension: (H) 17.5 x (W) 17.45 x (D) 33 in.

RP2 + FC1

Power supplies

- 60A 48V DC (4.2kW)
- 100A 48V DC (6.3 kW)
- AC & High Voltage DC (6.3 kW)

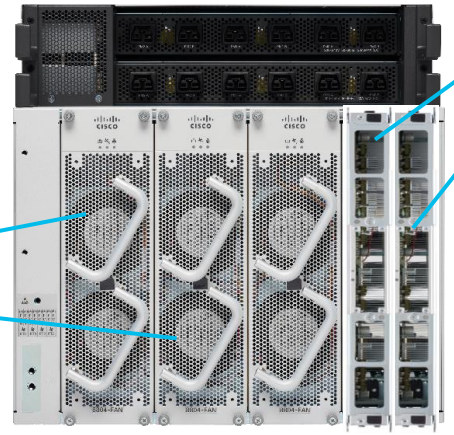


Line Cards

Route Processors (x2)

Fabric Cards

Fan Trays

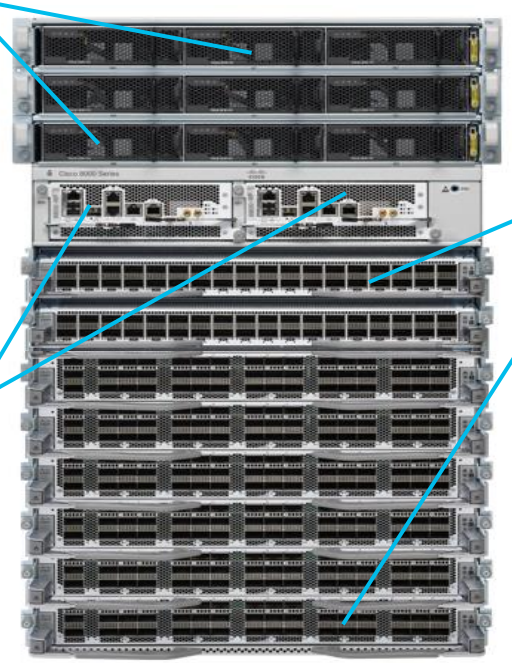


Cisco 8808-SYS

Physical Summary
8 Line Card slots
2 Redundant Route Processors
4 Redundant Fan Trays
8 Redundant Fabric Cards
3 Power Shelves
8 Line Card slots
2 Redundant Route Processors
Dimension: (H) 28 x (W) 17.45 x (D) 33.73 in.

Power supplies

- 60A 48V DC (4.4kW)
- 100A 48V DC (4.8 kW)
- AC & High Voltage DC (6.3 kW)



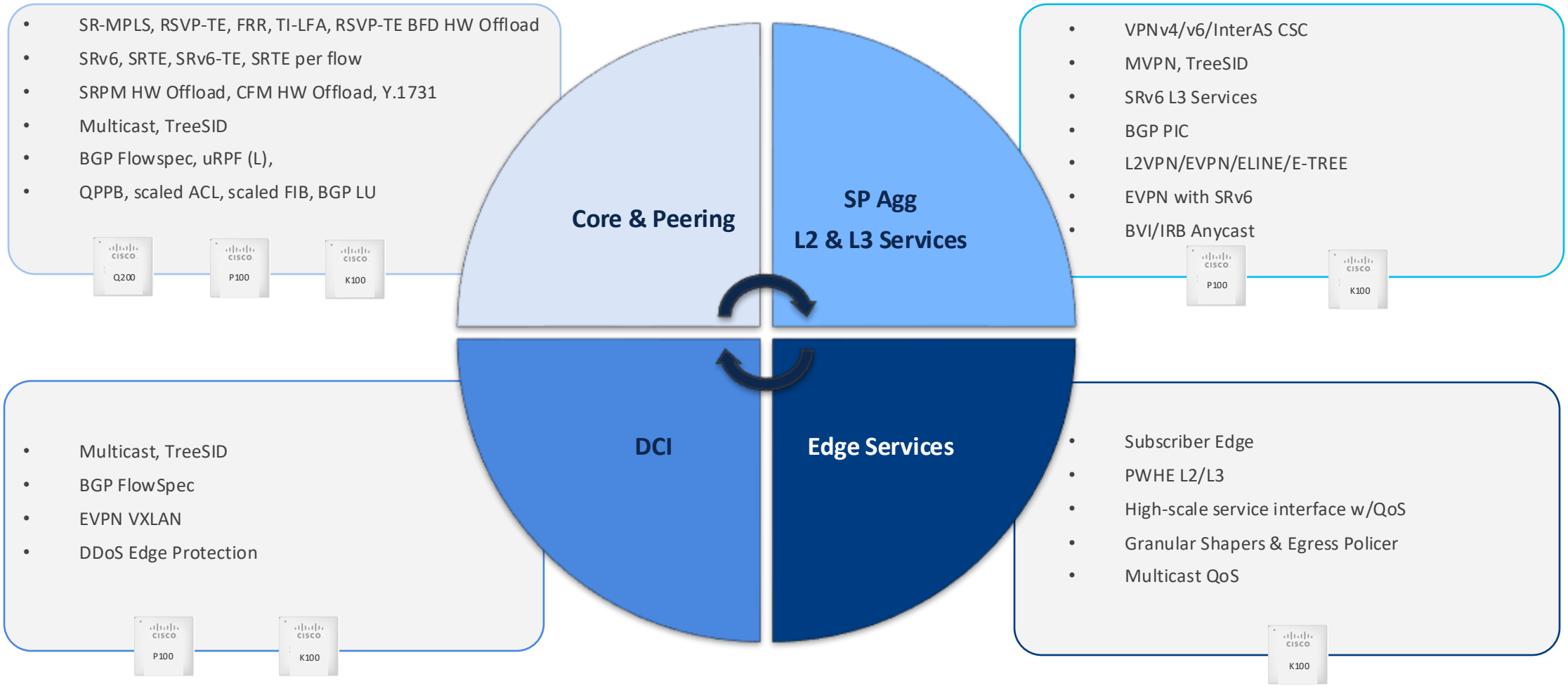
Line Cards

Route Processors (x2)

Fabric Cards

Fan Trays

Cisco 8000 SP Software Strategy



NG-Access 8010

Silicon One NPU for Cisco 8000 Routing Portfolio

With Deep Buffers

Integrated MACsec, IPsec

Silicon One for Access: Value Prop.

Flexible deployment

- i-temp devices
- Low-High density 1/10/25/100G portfolio
- 1G auto-neg support
- Low forwarding latency

Green SiOne

- Power efficient compared to previous generation (40% lower power)
- Smart Fan Algo

Best in Class Timing

- PTP /w Class C compliance
- Modular GNSS with PRTC-B for better performance
- 1G SyncE support

SiOne SDK & ASIC diversity

- Unified architecture with SiOne across Core, Edge, Access and DC
- True diversification

Utility certifications

- Smart Grid#, Railways#
- 80plus certification on PSU

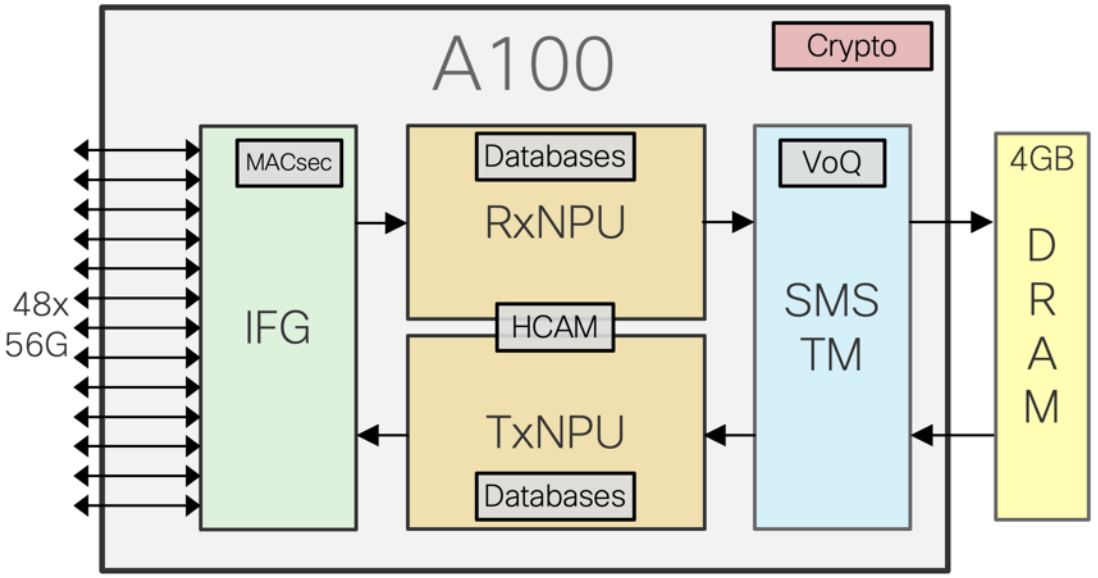
E2E security encryption

- MACsec on all ports including 1G
- Crypto engine for IPsec (up to 200G)

#Certification post FCS

Silicon One A100 (Argon)

- The new 16nm 1.2Tbps Silicon One NPU for the new Access portfolio
- The same architecture as P100 and K100 with
  - Single slice
  - Single IFG with 48x 56G SerDes
  - no HBM (external 4GB DRAM for packet buffering)
- Performance
  - 1.2Tbps 480Mpps (NPU@1GHz)
  - Up to 1.5Tbps @Larger Frames
- MACsec Line Rate on all SerDeses/speeds
- 200G Crypto Engine (IPsec)



Cisco 8000

Now Expanding to access

Access

1.2 T
56 G

	8011-4G24Y4H-I
ASIC	A100
Rack Units	1 RU
MACsec	Yes (integrated)
Ports	4x QSFP28 40/100GE 24x SFP28 1/10/25GE 4x 1GE RJ45 10/100/1000ME
Total Throughput	1.2Tbps

8011-4G24Y4H-I (Glandon)

Shipping!

Mar 2025

25.1.1

Hardware Overview

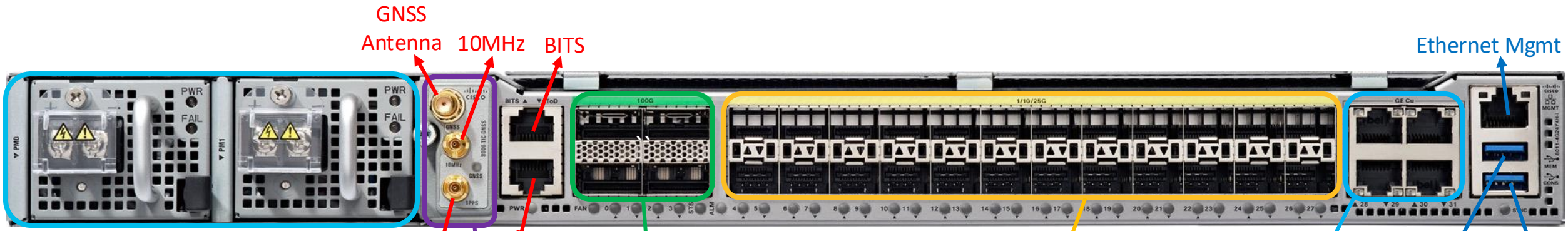
Data Plane	1x A100 NPU 1.2T 480Mpps (16nm) 4GB DDR5 external packet buffer
Control Plane	4 core ARM CPU 2.2GHz 16GB DRAM / 32GB eMMC
Port Configuration	4x QSFP28 40/100GE 24x SFP28 1/10/25GE 4x 1GE RJ45 10/100/1000ME
Management Ports	Front: 1G Ethernet OoB management, USB console, USB memory Back: serial console/aux, alarm
Timing Capabilities	SyncE + PTP G.8273.2 class C all ports/speeds Ports: 10MHz, 1PPS, ToD, BITS Optional: u-blox F9 PRTC-B GNSS module with antenna port
Product Capabilities	MACsec* line rate on all ports/speeds 200G crypto engine (IPsec*) 1G auto negotiation on all ports
Power and Cooling	I-Temp: -40°C to +65°C at 300m 2x modular DC or AC PSUs (1+1 redundancy) 5 redundant fixed fans Front to back airflow
Power Consumption	Typical 85W without optics
Dimensions	1RU Depth: 260mm

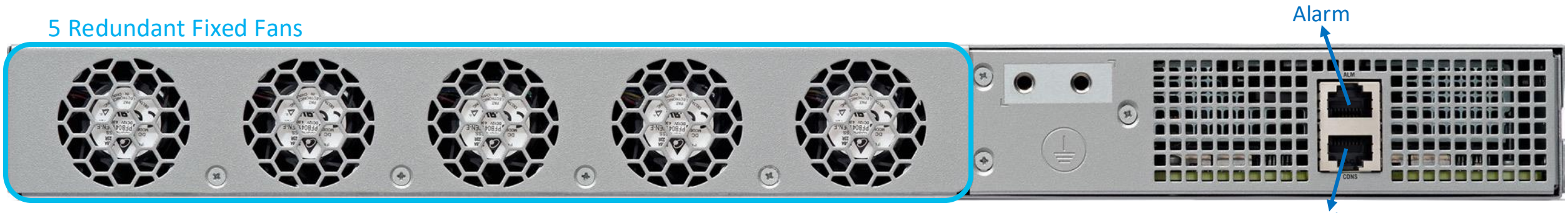
1G	10G	25G	40G	100G	400G
24+4	24	24	4	4	N/A

*post FCS

Cisco 8010
8011-4G24Y4H-I

A100 1.2T @480Mpps	ARM 4C CPU 16GB DRAM	Power: Modular 1+1 DC/AC	F2B Airflow Fixed Fans
FCS Q1 2025 IOS XR 25.1.1	MACsec all ports/speeds	I-Temp -40/+65C	G.8273.2 Class C





Sustainable concepts implemented in 8011-4G24Y4H-I

Materials

- Shorter light pipes
- Minimal plastic labels
- Minimal plastic parts used

Standardization

- Reused mechanical parts across 8010 products
- Common fasteners used
- Reused fans
- Reused rack mount kits

Smart Energy

- Gold efficient PSU
- Default power off on unused ports

Reuse and Repair

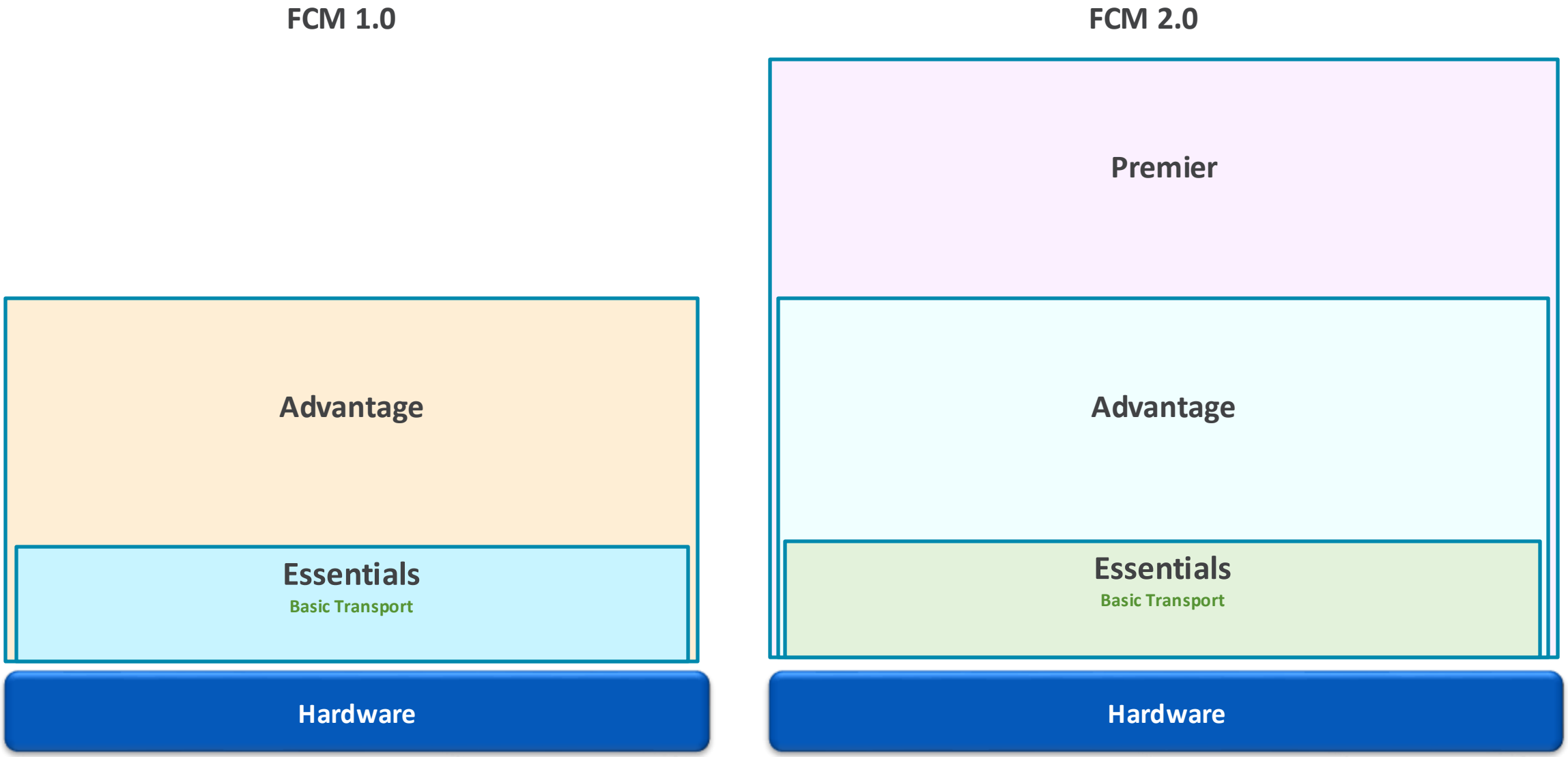
- Common fastening hardware
- Accessible and replaceable batteries
- No adhesive used for assembly
- Sub-assemblies can be disassembled individually without damaging

Packing and Accountability

- No foam packaging
- Thermo form end caps used
- No paper documents will be shipped

FCM 2.0: Licensing structure

FCM Licensing Model Today vs Future



Flexible Consumption Model (FCM 2.0)

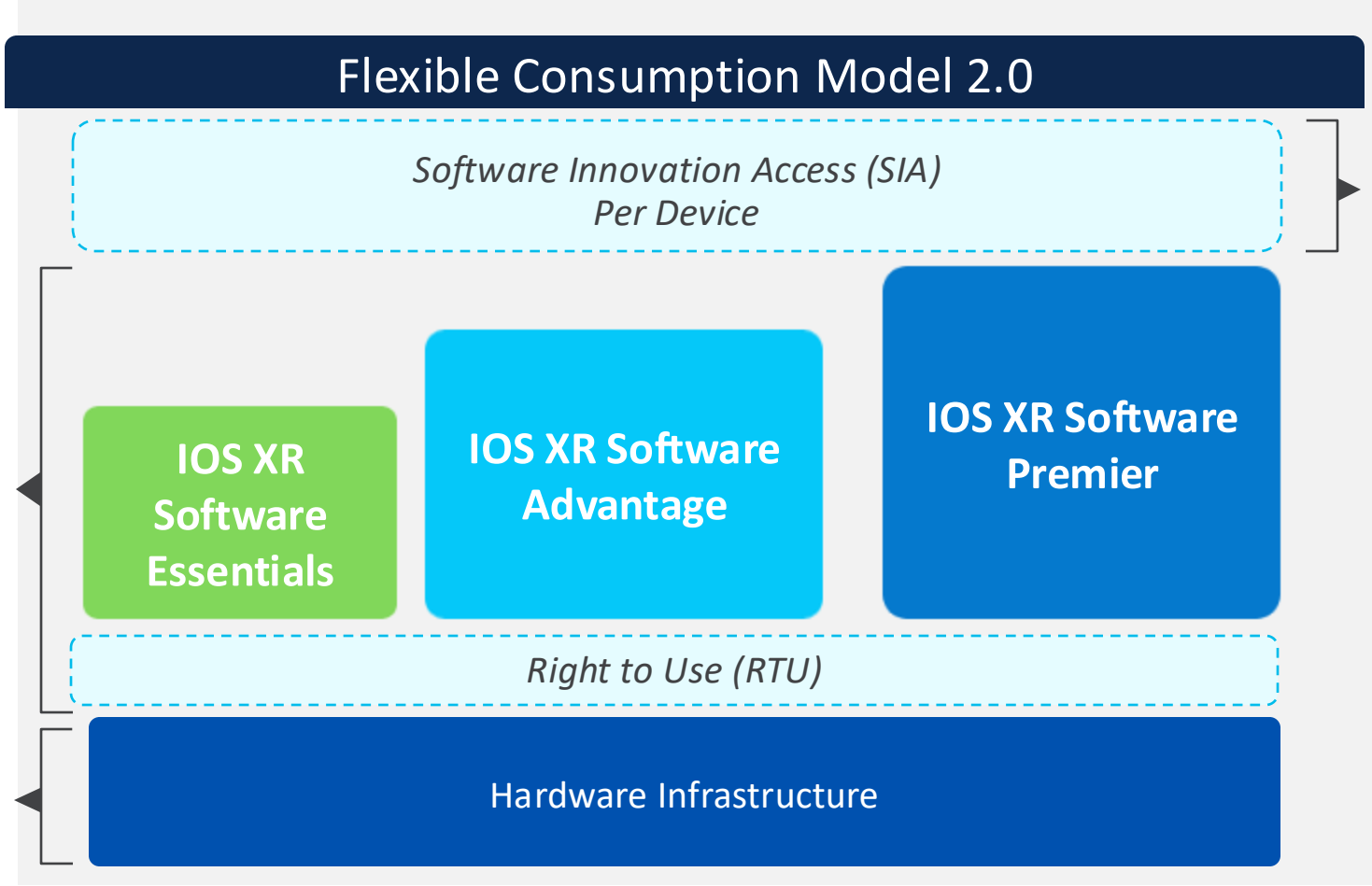
Offer Structure

2

Three suites: Essentials, Advantage, and Premier

1

Hardware is separated out from Software suites



3

SIA per Device provides pooling of licenses, continuous software innovation and investment protection

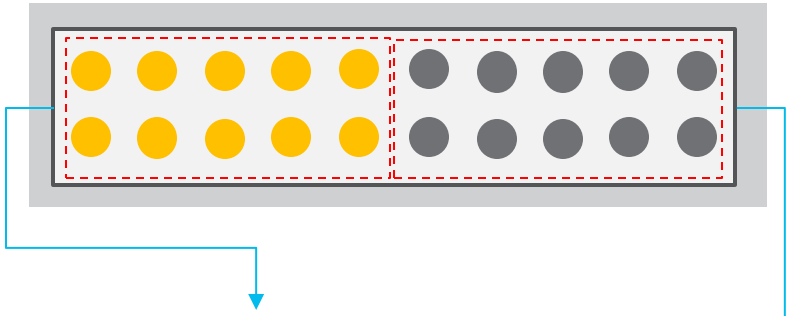
3 years of SIA - Mandatory

*__Premier__ is a superset that includes Essentials and Advantage Software features

** __Advantage__ is a superset that includes Essentials Software features

FCM 2.0 - One SIA Per Device

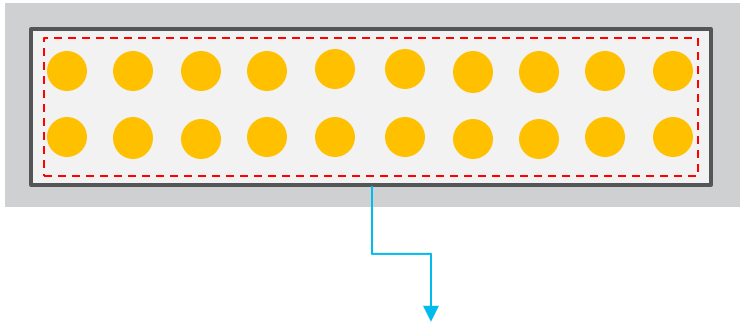
FCM 1.0: SIA per Port



- SIA Purchase at FCS
- One / Two SIA Licenses Per Port

- Additional SIA Per Port
- Required to be Purchased During Capacity Expansion

FCM 2.0: SIA per Device



- Single SIA Per Device
- Device = Fixed Pizza Box or Modular LC
- Purchase at FCS Only
- No Additional SIA needed during Capacity expansion

FCM 2.0 - Feature Definition Changes

Notable Changes

	FCM 1.0	FCM 2.0	
PRM	NA	• **Premium Services*:** PWHE, EVPN HE, Egress NetFlow/sFlow • **Subscriber Management***: AGF-UP, Subscriber Session Steering, Integrated NAT • **Security*:** IPsec, TunnelSec • **SaaS Integration**: Cisco SW Integration, Advanced API, 3rd Party App hosting • TDM (along with smart SFP)*	

ADN	• **L2 Advanced Services:**
	  • **E-LAN (Bridging):** VPLS, EVPN L2 GW, EVPN IRB w/ Anycast GW, EVPN VxLAN
	  • **E-LINE (P2P)**: L2VPN PW Services, EVPN-VPWS, MS-PW, MC-LAG, pMC-LAG
	• **L3VPN (including VRF-lite):** > 8 VRFs, MPLS IPv4/v6 VPN (L3VPN/6VPE), Multicast VPN (MVPN) IPv4, IPv6 Provider Edge (6PE), GRE
	• **Peering:** BGP FlowSpec, BGP attribute-download, BGP Policy Accounting, BGP Monitoring Protocol (BMP), Peering Scale (> 512K v4 routes, > 50K v6 routes)
	• **Traffic Engineering:** MPLS-TE, RSVP-TE, SR-TE
	• **Security / MACSec*:** IEEE 802.1EA-2006, IEEE 802.1AEbn- 2011 (256-bit key), IEEE 802.1AEbw-2013 (extended packet numbering), AES-256/GCM, XPN, Link Bundle Member Support
	• **SL-API:** Batch updates straight to RIB, Bring your own Protocol, Lower-level Functionality – for e.g., Route Conflict resolution (RIB), label management etc. offloaded to XR
	• **BNG Enablement**:** Per port enablement. Additional per subscriber license also required
		• **L2 Services:**
		  • E-LAN (Bridging): EVPN VPLS
		  • EVPN IRB w/ Anycast GW, EVPN VxLAN
		  • E-LINE (P2P) : L2VPN VPWS, EVPN-VPWS, Multi Segment-PW
		• **L3 Services:**
		  • MPLS IPv4/v6, VPN (L3VPN/6VPE)
		  • IPv4, IPv6 Provider Edge (6PE), GRE
		  • Multicast VPN (MVPN)
		  • >16 VRFs
			• **Peering:** BGP FlowSpec, BGP attribute-download, BGP Policy Accounting, BGP Monitoring Protocol (BMP)
			• **Traffic Engineering:** MPLS-TE, RSVP-TE, SR-TE, SRv6-TE, P2MP RSVP-TE, TREE SID
			• **Security*:** MACsec
			• **Subscriber Management**: Cloud Native BNG-User Plane, User Plane Geo Redundancy, IPoE, PPPoE, LAC, LNS
			• **RON**: PLE (OTU, FC, SONET/SDH)
			• **Advanced Timing* :** Virtual Port, A-PTS, GNSS receiver, Timing support on breakout Cables**

ESS	• **Routing:** IP, ISIS, OSPF, BGP, MPLS, SR, Basic Multicast (PIM) ICMP, IGP Flex-Algo
	• **L2 and Interface:** Dot1Q, QinQ, VLAN, EFP (L2transport), IRB/BVI, PWHE
	• **Management:** Enhanced Telemetry, Yang models, CLI/SSH, SNMP, up to 8 VRF/VRF-lite, NetFlow
	• **QOS:** QoS / H-QoS, PBR/ABF
	• **Ethernet:** E-OAM (Link-level Fault-Management)
	• **HA:** BGP PIC,TI-LFA FRR, IP-FRR, G.8032
	• **Security:** ACL's, LPTS, SSH, Radius/TACACS
	• **PTP timing***:** G.8275.1, G.8275.2, 1PPS, ToD, 10Mhz, Internal GNSS
		• **L2 Transport**
		  • Dot1Q, QinQ
		  • VLAN, EFP (L2transport), IRB/BVI
		  • Static Tunnels: GRE/VxLAN/IPnIP
		• **L3 Transport**
		  • IGP Flex-Algo, IP, ISIS, OSPF, BGP, MPLS
		  • SR, SRv6
		  • Basic Multicast (PIM & ICMP, MLD), MLDP
		• **Services:** up to 16 VRF
			• **Management*:** Enhanced Telemetry, Yang models, CLI/SSH, SNMP, NetFlow, SL API
			• **Infra:** QoS, H-QoS, PBR, ABF, E-OAM (Link-level Fault-Management), CFM and Y.1731, SR-PM, BFD
			• **HA*:** BGP PIC,TI-LFA FRR, IP-FRR, G.8032
			• **Security:** ACL's, LPTS, SSH, Radius/TACACS
			• **Timing*:** G.8275.1, G.8275.2, 1PPS, ToD, 10Mhz

*Subject to Platform Capability

FCM 2.0
3 Tier Model

IOS XR RTU Premier (PRM)

- **L2 Services:**
  - > *1K (Attachment Circuit + PW)
- **L3 Services:**
  - VRFs : >128 VRFs*
- **Max Scale supported for all features by the HW**

- **Premium Services* :**PWHE, EVPN HE, Egress NetFlow / sFlow
- **Subscriber Management :** AGF-UP, Subscriber Session Steering, Integrated NAT
- **Security*:** IPSec , TunnelSec
- **SaaS Integration:** Cisco SW Integration , **Advanced API**
- TDM (along with smart SFP)*

IOS XR RTU Advantage (ADN)

- **L2 Services:**
  - E-LAN (Bridging): L2VPN VPLS , EVPN-VPLS
  - EVPN IRB w/ Anycast GW, EVPN VxLAN
  - E-LINE (P2P) : L2VPN VPWS, EVPN-VPWS, Multi Segment-PW
  - Up to 1K (Attachment Circuit + PW)
- **L3 Services:**
  - MPLS IPv4/v6 , VPN (L3VPN/6VPE)
  - IPv4, IPv6 Provider Edge (6PE), GRE
  - Multicast VPN (MVPN)
  - > 16 & <= 128 VRFs
  - FIB Scale:> 512k & <=2M

- **Peering:** BGP FlowSpec, BGP attribute-download, BGP Policy Accounting, BGP Monitoring Protocol (BMP)
- **Traffic Engineering:** RSVP-TE , SR-TE , SRv6-TE , P2MP RSVP TE, **TreeSID**
- **Security*:** MacSec
- **Subscriber Management :** Cloud Native BNG-User Plane, User Plane Geo Redundancy, IPoE , PPPoE, LAC, LNS
- **RON** – PLE
- **Advanced Timing*:** Virtual Port, A-PTS , GNSS, Timing support on breakout Cables**

IOS XR RTU Essentials (ESS)

- **L2 Transport:**
  - Dot1Q, QinQ
  - VLAN, EFP (L2transport), IRB/BVI
  - Static Tunnels: GRE/VxLAN/IPnIP
- **L3 Transport:**
  - IGP Flex Algo, IP, ISIS, OSPF, BGP, MPLS
  - SR transport, SRv6 transport
  - Basic Multicast (PIM & ICMP,MLD), MLDP
  - FIB Scale: < 512k (v4 + v6 routes)

- **Management*:** Enhanced Telemetry, Yang models, CLI/SSH, SNMP, NetFlow , SL API
- **Infra:** QoS, HQoS, PBR, ABF, E-OAM (Link-level Fault-Management) , CFM and Y.1731, SR-PM, BFD
- **HA*:** BGP PIC,TI-LFA FRR, IP-FRR, G.8032
- **Security:** ACL's, LPTS, SSH, Radius/TACACS
- **Timing*:** G.8275.1, G.8275.2, 1PPS, ToD, 10Mhz

*Subject to Platform Capability

**Please check Release Notes & HW Config for Supported Platforms

cnBNG Control Plane has separate License

FCM 2.0
3 Tier Model

IOS XR RTU Premier (PRM)

- **L2 Services:**
  - > *1K (Attachment Circuit + PW)
- **L3 Services:**
  - VRFs : >128 VRFs*

- **Premium Services* :**PWHE, EVPN HE, Egress NetFlow / sFlow
- **Subscriber Management :** AGF-UP, Subscriber Session Steering, Integrated NAT
- **Security*:** IPSec , TunnelSec
- **SaaS Integration:** Cisco SW Integration , **Advanced API**
- TDM (along with smart SFP)*
- **Max Scale supported for all features by the HW**

IOS XR RTU Advantage (ADN)

- **L2 Services:**
  - E-LAN (Bridging): L2VPN VPLS , EVPN-VPLS
  - EVPN IRB w/ Anycast GW, EVPN VxLAN
  - E-LINE (P2P) : L2VPN VPWS, EVPN-VPWS, Multi Segment-PW
  - Up to 1K (Attachment Circuit + PW)
- **L3 Services:**
  - MPLS IPv4/v6 , VPN (L3VPN/6VPE)
  - IPv4, IPv6 Provider Edge (6PE), GRE
  - Multicast VPN (MVPN)
  - > 16 & <= 128 VRFs
  - FIB Scale:> 512k & <=2M

- **Peering:** BGP FlowSpec, BGP attribute-download, BGP Policy Accounting, BGP Monitoring Protocol (BMP)
- **Traffic Engineering:** RSVP-TE , SR-TE , SRv6-TE , P2MP RSVP TE, **TreeSID**
- **Security*:** MacSec
- **Subscriber Management :** Cloud Native BNG-User Plane, User Plane Geo Redundancy, IPoE , PPPoE, LAC, LNS
- **RON** – PLE
- **Advanced Timing*:** Virtual Port, A-PTS , GNSS, Timing support on breakout Cables**

IOS XR RTU Essentials (ESS)

- **L2 Transport:**
  - Dot1Q, QinQ
  - VLAN, EFP (L2transport), IRB/BVI
  - Static Tunnels: GRE/VxLAN/IPnIP
- **L3 Transport:**
  - IGP Flex Algo, IP, ISIS, OSPF, BGP, MPLS
  - SR transport, SRv6 transport
  - Basic Multicast (PIM & ICMP,MLD), MLDP
  - FIB Scale: < 512k (v4 + v6 routes)

- **Management*:** Enhanced Telemetry, Yang models, CLI/SSH, SNMP, NetFlow , SL API
- **Infra:** QoS, HQoS, PBR, ABF, E-OAM (Link-level Fault-Management) , CFM and Y.1731, SR-PM, BFD
- **HA*:** BGP PIC,TI-LFA FRR, IP-FRR, G.8032
- **Security:** ACL's, LPTS, SSH, Radius/TACACS
- **Timing*:** G.8275.1, G.8275.2, 1PPS, ToD, 10Mhz

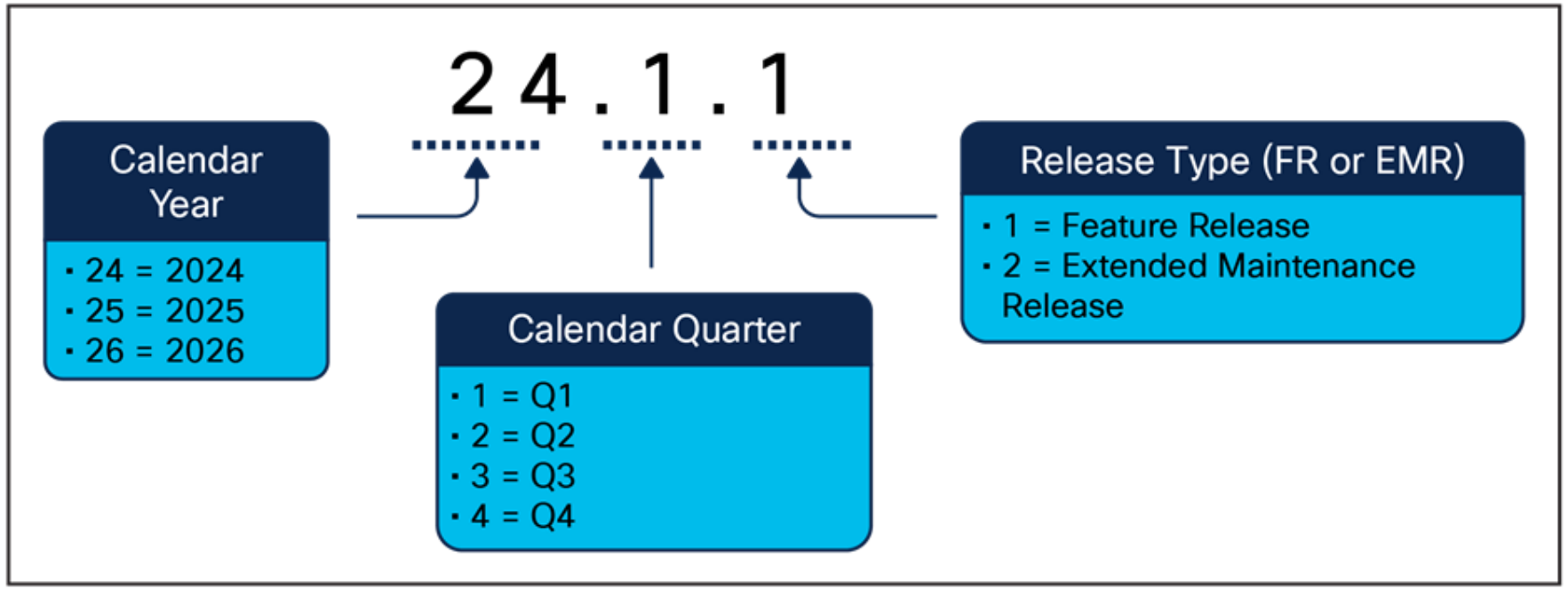
*Subject to Platform Capability

**Please check Release Notes & HW Config for Supported Platforms

cnBNG Control Plane has separate License

IOS XR Release Taxonomy Update

24.2.21 – SP
End April



- 4 Feature Releases (FR) + 4 Extended Maintenance Releases (EMR) per calendar year.
- Extended Maintenance Releases will be released 90 days after the Feature Release

800G & Optics

Cisco 8000 800G Support

- 800Gbps (2x400GbE or 8x100GbE) & 800G ZR+
  - 88-LC1-36EH, 8212-48FH-M, 8711-32FH-M

Home › News › Colt Showcases Cisco 800G ZR+ Coherent Optics in AS8220 Network

Colt Showcases Cisco 800G ZR+ Coherent Optics in AS8220

Technical details

The trial utilised the following technologies:

- Cisco 800G ZR+ coherent pluggable optics with Interoperable PCS as defined in OpenROADM for enhanced performance
- Cisco 8711 and 8212 Cisco Silicon One based platforms
- Third party line system

PCS is a transmission shaping technique that provides additional link performance beyond traditional transmission modes such as 16QAM. Industry standardisation of an interoperable PCS transmission shaping function, once relegated to proprietary performance-optimised transponder platforms including those for submarine applications, is a tremendous leap forward in the progress of MSA pluggable module capabilities.

Colt is the first to field trial 800G ZR+ coherent modules with Interoperable Probabilistic Constellation Shaping (PCS) in Cisco Routers.

Stockholm, February 20, 2025 – Arelion today announced it has successfully completed a field trial on its long-haul route between Stockholm, Sweden, and Hamburg, Germany, using Cisco 800G ZR+ Coherent pluggable optical modules in Cisco 8000 series routers powered by Cisco Silicon One. The trial demonstrated IP transmission at 800 Gbps over 1,069 kilometers, providing higher cost savings than currently deployed technologies. Cisco 800G ZR+ pluggables reduce Arelion CAPEX costs by 66 percent and OPEX costs by 95 percent while allowing Arelion to fully utilize the port capacity of Cisco's next-generation routers.

All New
Cisco Coherent Pluggable Optics

- 400G DCI / metro / regional / ultra long haul
- 800G DCI / metro / regional

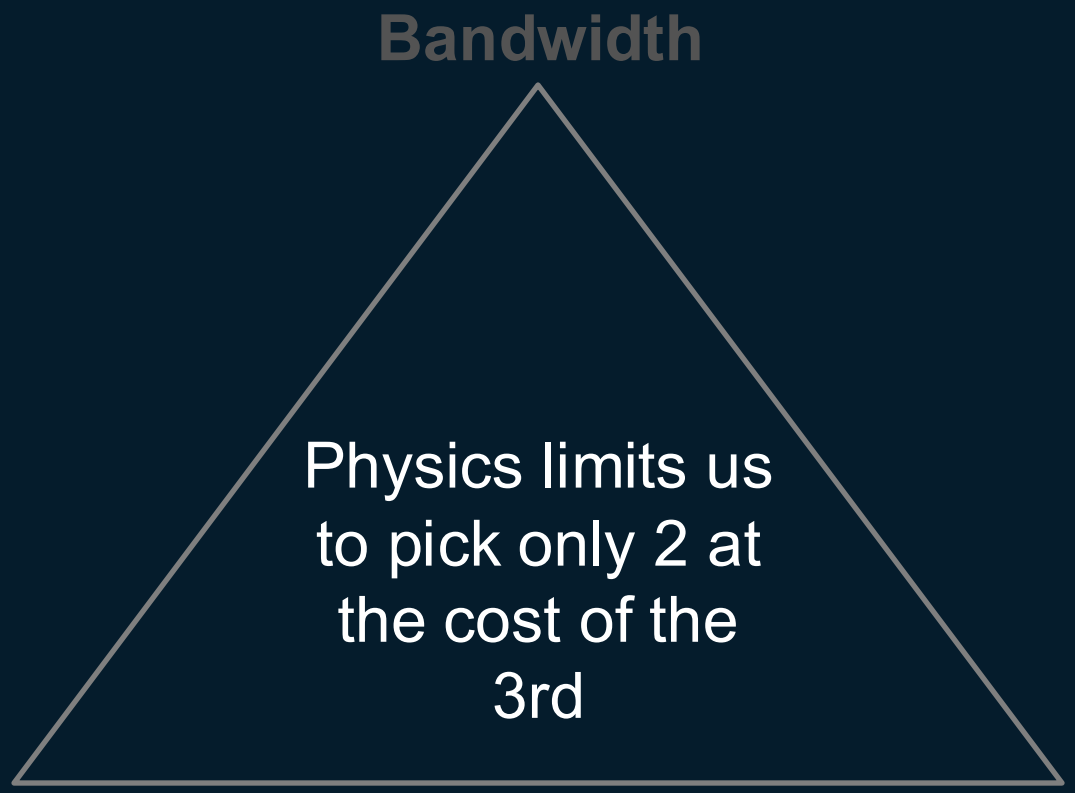
AVAILABLE FEBRUARY 2025

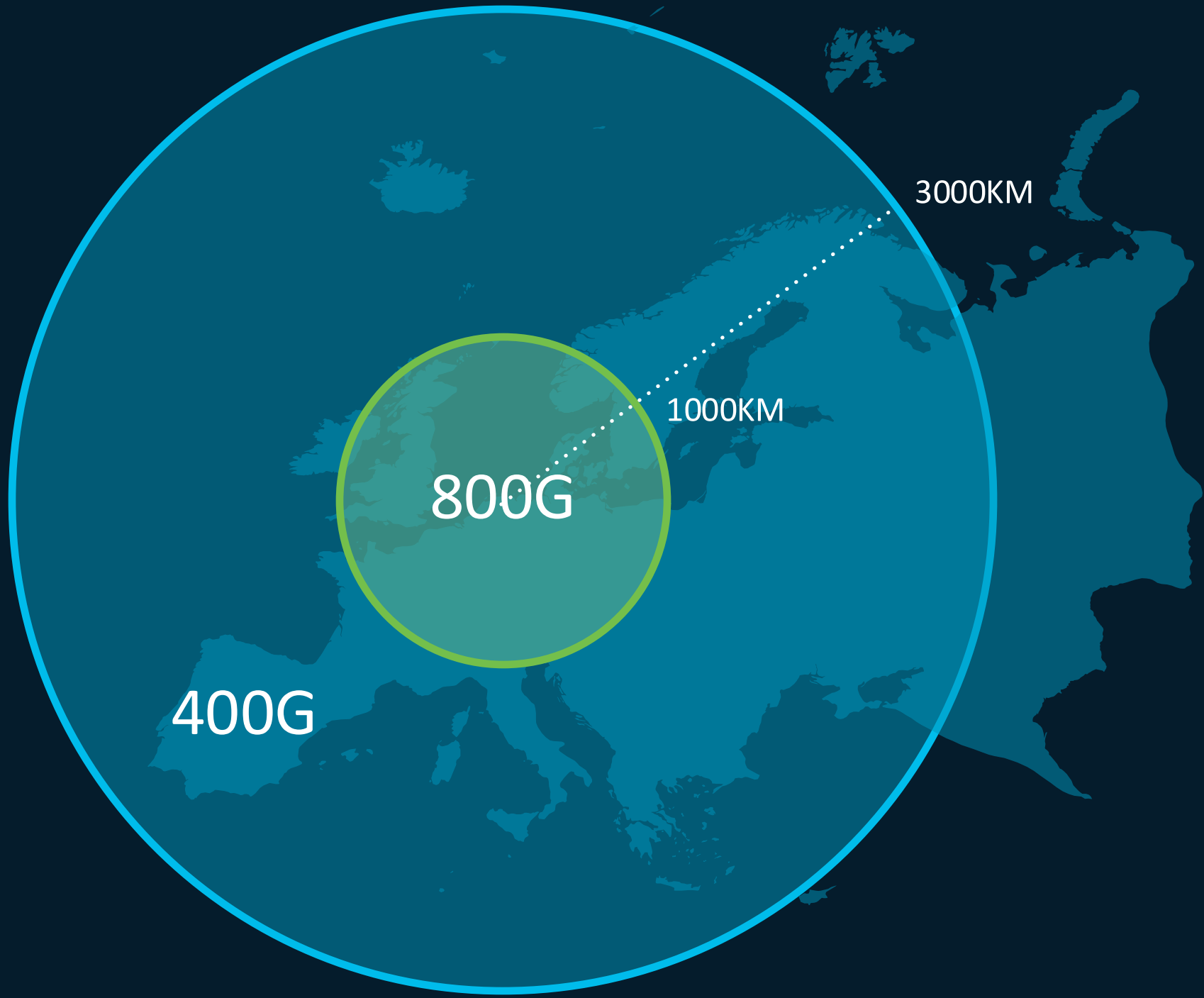
DCI

Metro

Regional

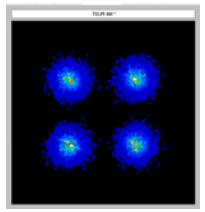
Ultra Long Haul

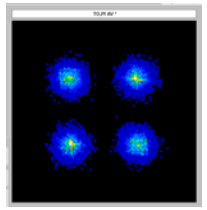

Bandwidth
Physics limits us to pick only 2 at the cost of the 3rd
Reach
Spectrum


3000KM
1000KM
800G
400G

400G Ultra Long-Haul in QSFP-DD

- 400G QPSK over 3,000km
  - Demonstrated over real fiber transmission line!
- In-built EDFA and TOF
  - +1dBm High Tx output power, C and L-band
  - Suitable for ROADM/WSS networks
- Designed for existing 400G platforms
  - 8x56G SerDes and <24W power consumption
- Multiple baud rates at 400G with PCS
  - Flexible Channel Spacing: 75/87.5/100/112.5/125/150 GHz
- Backward compatible with Bright ZR+
- Max Power <24W (EOL)
- QSFP-DD form factor





400ULH Modes*

400G QPSK/150GHz Spacing:	3000KM
400G 98Gbd/112.5GHz Spacing:	2500KM
400G 87Gbd/100GHz Spacing:	2000KM
400G 75Gbd/87.5GHz Spacing:	1600KM
400G 66Gbd/75GHz Spacing:	1200KM

OpenZR+ modes @ 400G/200G/100G

**Assuming SMF28 fiber with 80KM spans with hybrid amplifiers*

But also Smaller: QSFP28 ZR DCO

Compatible with QSFP28 Router ports

- 100G Staircase FEC
- 80km dark fiber, 300km DWDM amplified
- C-band tunable
- CMIS 5.2

Two different versions available

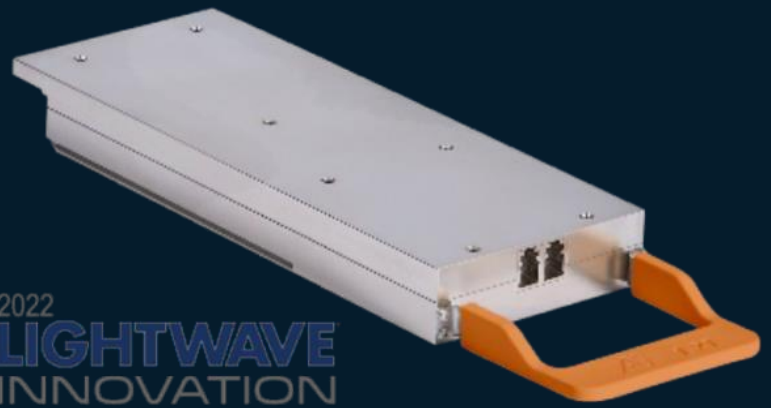
- C-temp: DP01QS28-E20=
- I-temp: DP01QS28-E25=

Lead Platform: NCS540 Tortin

Coherent Interconnect Module 8

(CIM 8)

Industry's first single carrier 1.2T pluggable



2022 LIGHTWAVE INNOVATION REVIEWS 5.0

- 1.2 Tbps capacity over a single wavelength within a 150GHz channel
- Powered by 8th generation 5 nm CMOS Jannu DSP ASIC
- Supports Cloud/DCI, metro, long-haul and submarine with wide network coverage for 800G
- Chromatic dispersion tolerance >±350,000 ps/nm

Cisco *Smart Switches*

Announcing
Cloud on-ramp
N9324C-SE1U

- Cloud-edge, zone-based segmentation & DCI use case
- 24-port 100G | 800G throughput
- Silicon One E100 + 4 AMD DPU (Elba)
- Nexus Dashboard + NS-OX

AVAILABLE MARCH 2025

Announcing
Top-of-rack
N93484Y2C6D-SE1U

- Top-of-rack use case
- 48-port 25G, 6-port 400G, 2-port 100G | 800G throughput
- Silicon One E100 + 2 AMD DPU (Giglio)
- Nexus Dashboard + NS-OX

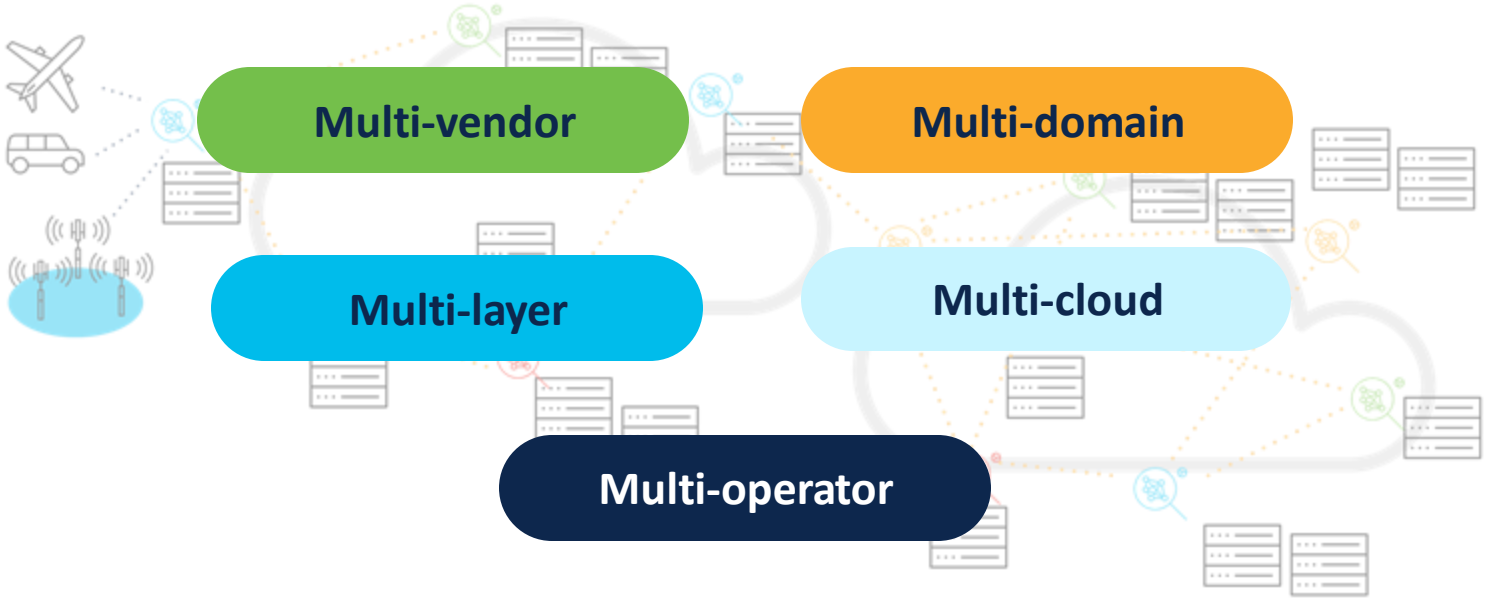
AVAILABLE JULY 2025

cisco Live!

Cisco Provider Connectivity Assurance

Customers expect a great experience while network complexity and costs increase

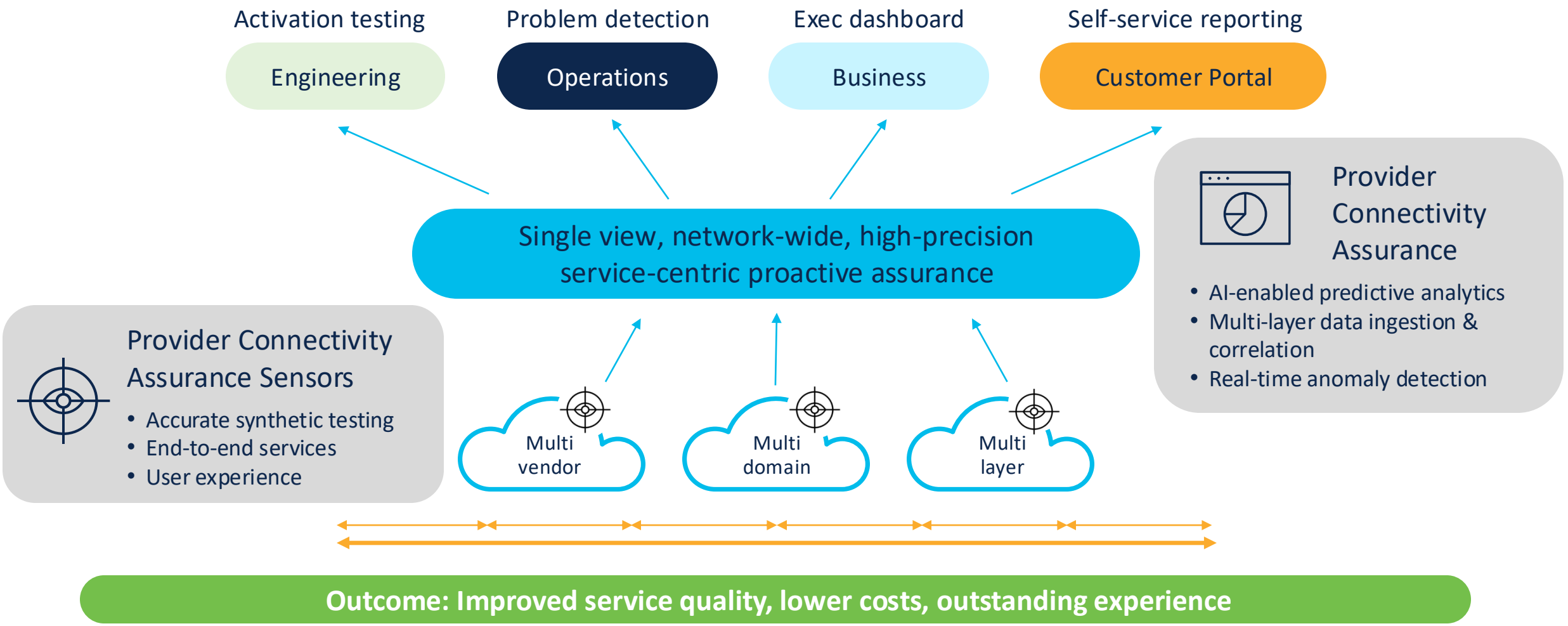
- Higher demands on networks and services
- Complex & distributed network; fragmented tools
- Performance visibility silos
- Expensive site visits
- Lengthy resolution times



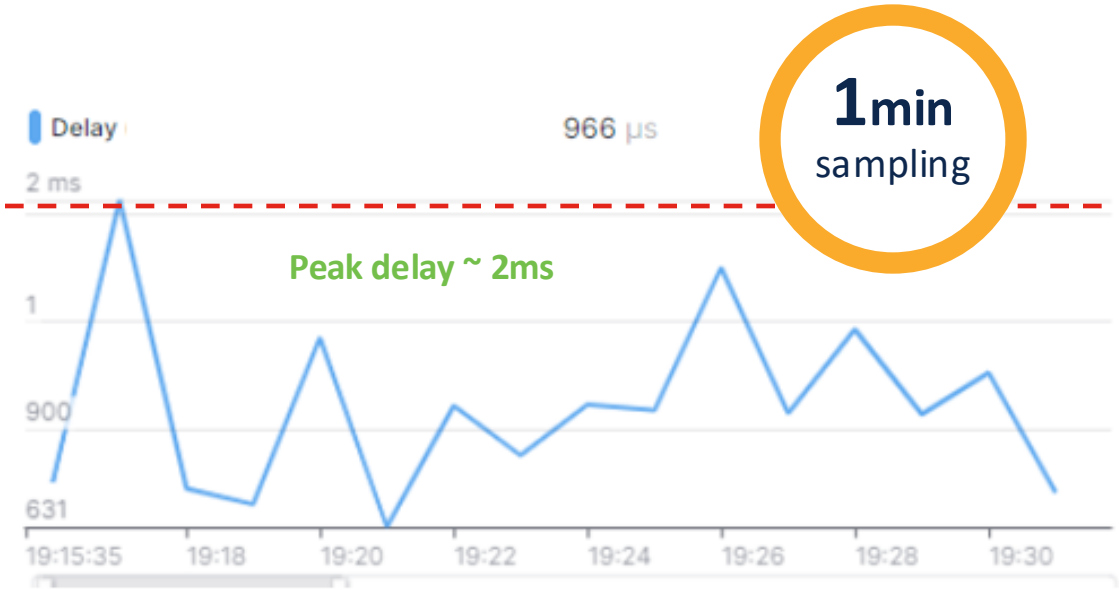
Multiple layers, vendors and domains
Silos of network & service data

Introducing Cisco Provider Connectivity Assurance

Proactive assurance with real-time visibility and unparalleled accuracy for consistently great digital experiences



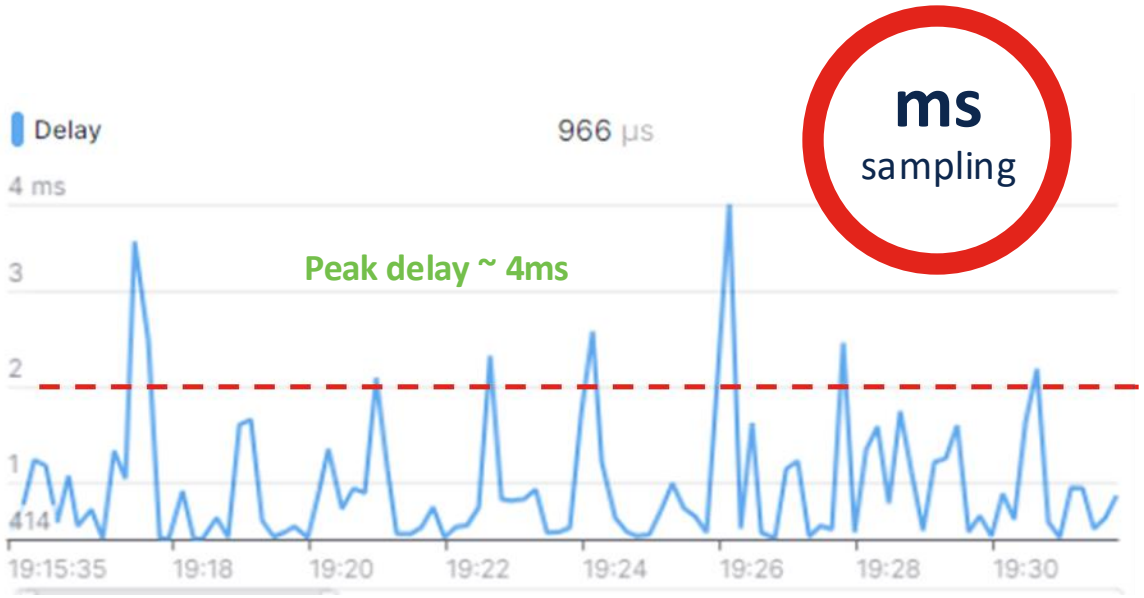
Customer perception is measured in milliseconds, not minutes



Everything looks fine! Latency is below threshold

Perception

Service is performing according to SLA/SLO



But in reality

Customer is impacted! SLA is breached

Service is impacted by intermittent latency issues

Assurance Sensors: SFPs and Modules

Programmable FPGA-driven small form-factor modules

Enables extended feature set

- Service Activation Test (SAT)
  - Full line rate test traffic generation
  - RFC-2544 or Y.1564
- Continuous active performance monitoring
  - TWAMP, Y.1731, UDP/ICMP Echo
- Per flow bandwidth metering (high sample rate)

Key advantages

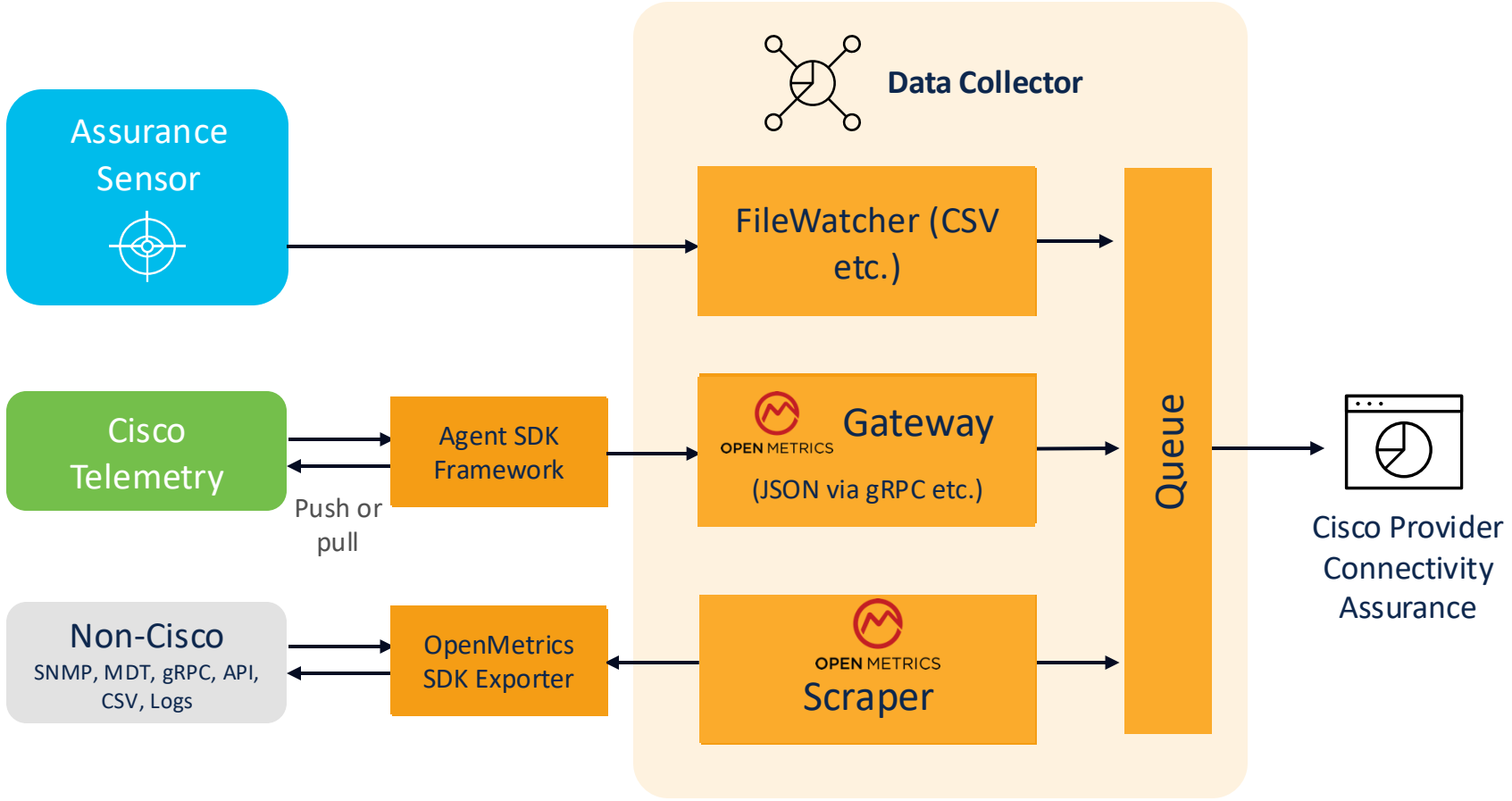
- Hardware timestamping accuracy
- Easy to deploy
- In-line with service traffic or
- Out of-line in a spare port
- Flexible discovery and management options

Multiple optical and electrical port options

Cisco Provider Connectivity Assurance

Data collector

- Receive or poll performance monitoring data
- Enhance PM assurance data from Cisco sensors by pulling 3rd party data
- Multi-vendor Support
- SDK available to build customer's own collectors
- Able to consume dynamic metadata from other places



Integrated Performance Measurement

Measurement Sensors

PM probing

SR-PM: XR/XE LC-CPU PCA Sensor SFPs

IPM probing

Hardware PM

Active probing from any P to any Q via **any ECMP path**

Latency, Loss, Liveness

Latency **Histogram**

Absolute Loss

Measurement data

PCA

- Data collection infra
  - Measurement
  - Path Analytics
- Timeseries Database
  - Network status history
- Measurement and Path correlation
- Rendering and visualization

Path Data

KPIs

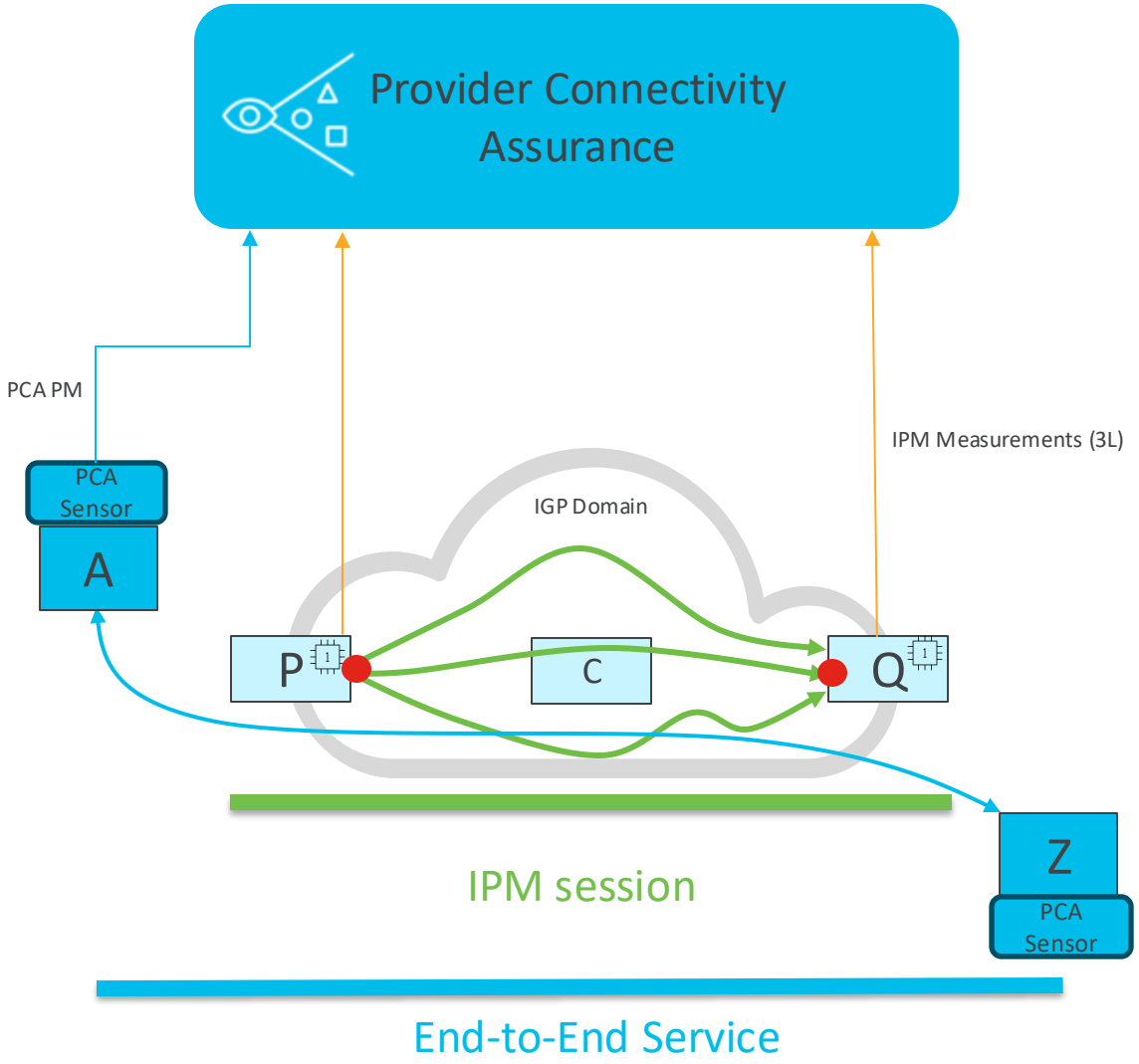
Routing Analytics (CNC)

- Path Analytics
  - For each P to Q, list of **ECMP Paths**
  - **End-to-end propagation delay**
- **Service Health**
  - **Combine IPM analysis from PCA with other service health metrics**

PCA and Integrated Performance Measurement (IPM)

Measure All ECMP paths:

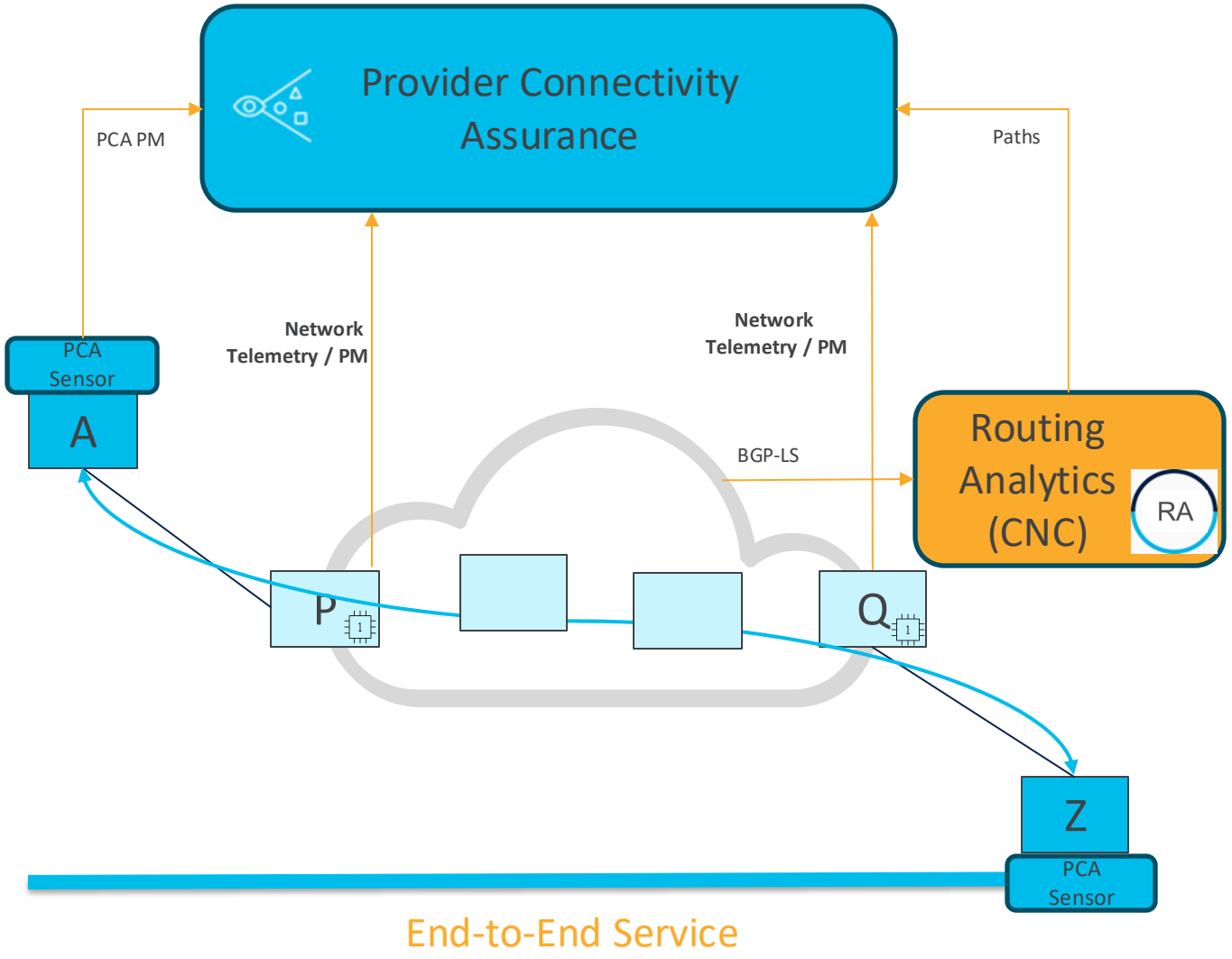
- Each probe measures latency, loss and liveness
- Latency histogram instead of min, avg, max
- Absolute loss instead of loss approximations
- Liveness detection (sub-2ms)



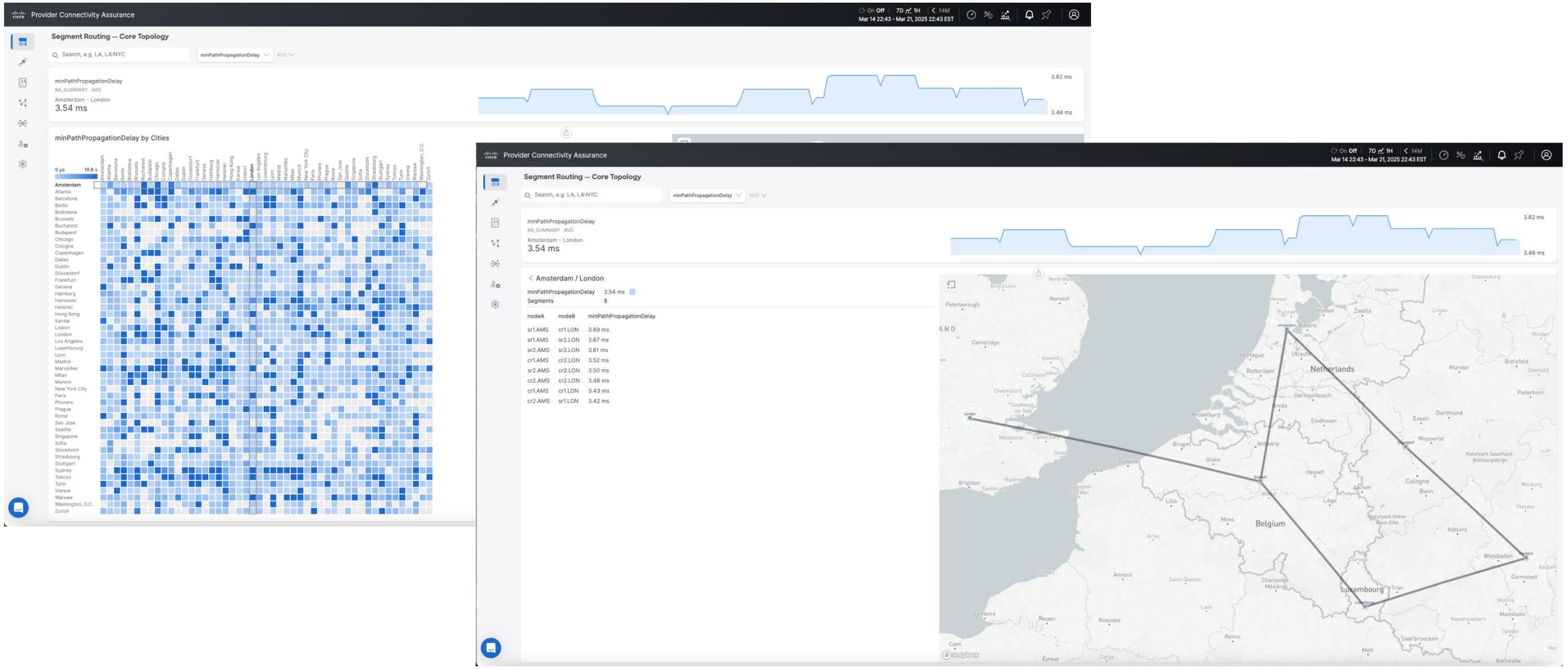
PCA and Routing Analytics (RA)

Routing Analytics:

- Collect P-Q network path information from the network
- Collect Min propagation delay
- Provide this path information to PCA so it can be correlated to the end service performance

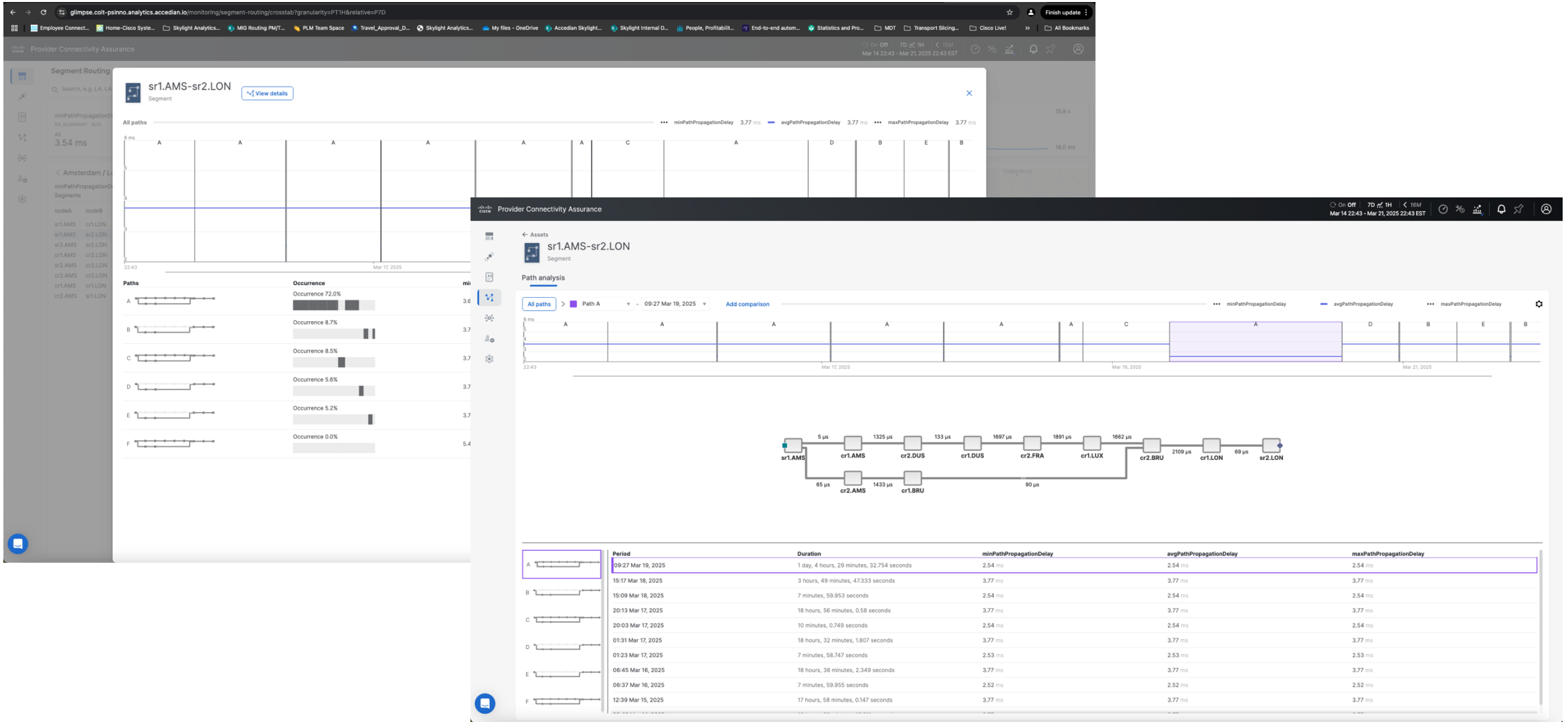


PCA and RA: Macro Visibility



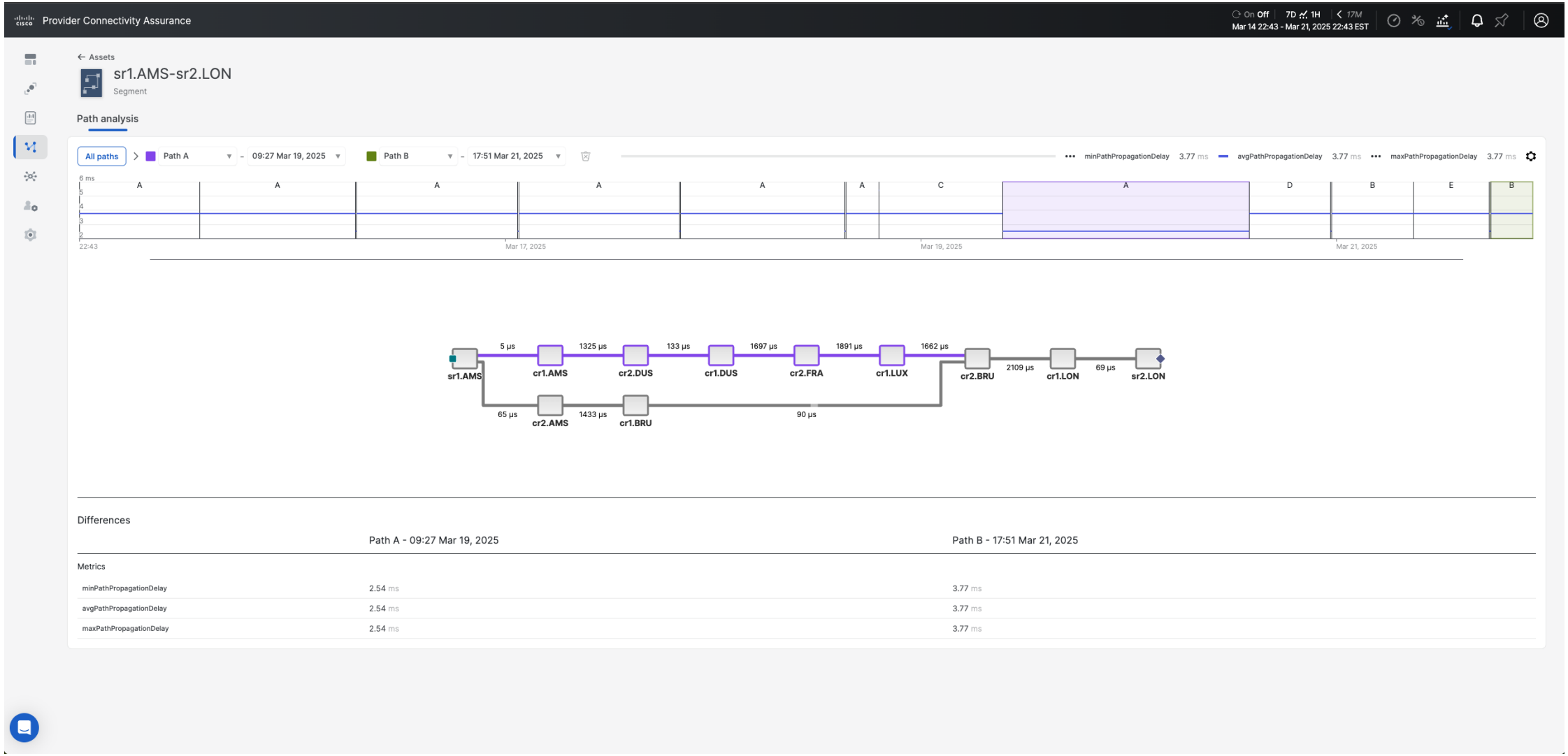
Limited Availability Q3FY25

PCA and RA: Path details and ECMP graphs



Limited Availability Q3FY25

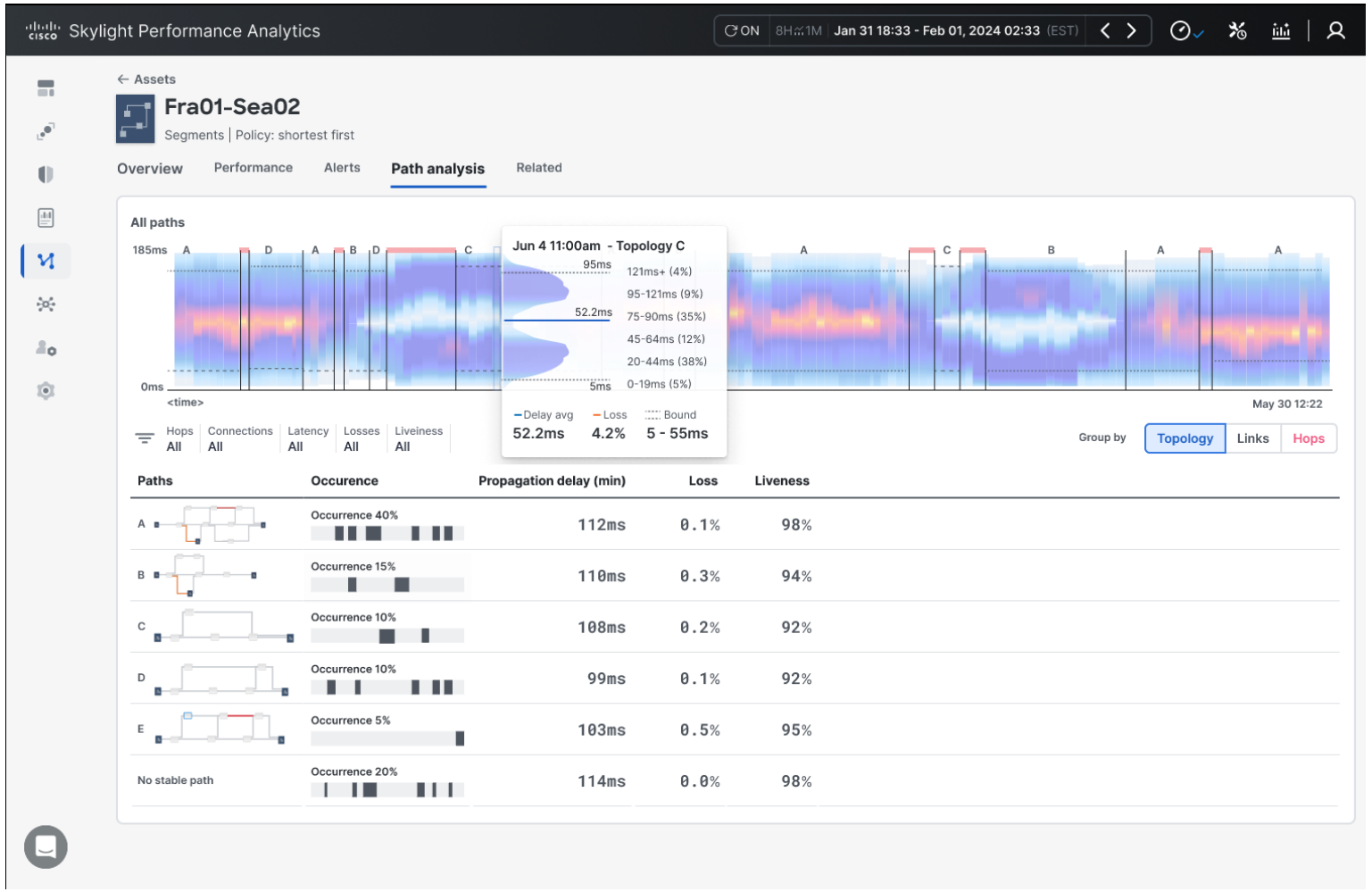
PCA and RA: EMP graph compare



Limited Availability Q3FY25

PCA Correlation of IPM and ECMP

- Leverage Integrated Performance Measurement
  - Let the network measure itself, in detail and in real time
  - Be able to understand path, performance and SLAs at a level of detail and accuracy never before possible



SRv6 uSID

Build Anything End-to-End

IPM

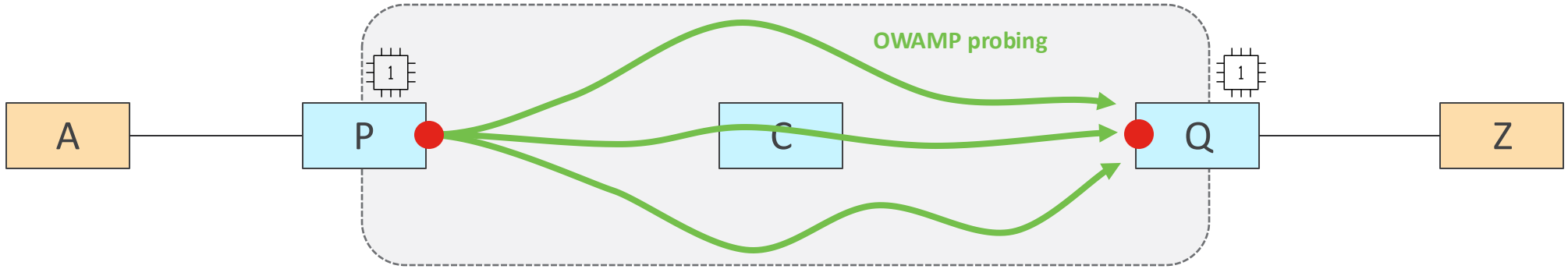
Measure Everything

Roadmap


CISCO

Additional slides

A little more about IPM



- Native HW to measure one way core service path (P→Q) performance
- Silicon One (Q200) delivers upto 14 Million Probes Per Second
- Latency, loss and liveness (3L) measurements
- Benefits:
  - High measurement accuracy
  - Reports experience across all ECMP paths