



# Cisco Community Community Live event

## Catalyst 8000 Edge Platforms Family Overview

Sumant Mali & Shameel Ummer  
Technical Marketing Engineer

November 4<sup>th</sup>, 2020

# News & Upcoming events



# Upcoming Community Live Event

## CATALYST 8500 SERIES – DEEP DIVE

November 17th, 2020

With Sumant Mali

Participate: <http://bit.ly/CLdeepdiveNov>



Cisco Community | Routing



**NOVEMBER 17th**  
Sumant Mali  
*Public event*



**Community Live**  
Catalyst 8500 Series  
Deep Dive

Subscribe here now >>

The banner features a background image of two women in an office setting, one standing and one sitting at a computer. The design includes a dark blue and green color scheme with white text and icons.

# Become an event Top Contributor!

Participate in Live Interactive Technical Events and much more

<http://bit.ly/EventTopContributors>



Cisco Community / Events Top Contributors

## Events Top Contributors



This program recognizes Cisco experts in the Cisco Community (CSC) that host technical events (Webcasts, Ask the Experts, Tech Talks, and Facebook Forums.) With this program, Cisco recognizes the positive, valuable influence that our top Cisco experts exert on the communities. To learn more, please visit our [FAQs](#)

2014 2013



Julio Carvajal



Ryota Takao



## Cisco Designated VIPs

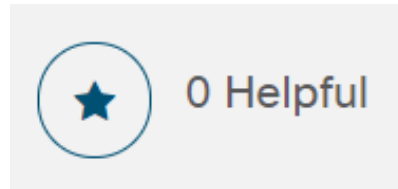


The Cisco Designated VIP program recognizes the top external individual contributors in Cisco's online communities, including the Cisco Support Community (CSC), Cisco Learning Network (CLN) and the Cisco Developers Network (CDN). Cisco Designated VIPs are recognized by their peers for their expertise and tireless contributions, and their abundant participation is vital to community success. With this program, Cisco formally recognizes the positive, valuable influence our top individual members exert on the communities overall. [FAQs](#)

# Rate content at the Cisco Community

Help us to recognize the quality content in the community

Rate documents,  
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Encourage and acknowledge people who  
generously share their  
time and expertise



# Cisco Community Experts



Sumant Mali  
Technical Marketing Engineer



Shameel Ummer  
Technical Marketing Engineer

Thank You For  
Joining Us Today!



Download Today's Presentation  
<http://bit.ly/CC-slides1104>

# Submit Your Questions Now!

Use the **Q&A** panel to submit your questions and the panel of experts will respond.

They will be answered eventually



Please take a moment to complete the survey at the end of the event





# Cisco Catalyst 8000 Edge Platforms Family

Redefining the WAN Infrastructure

Sumant Mali, Shameel Ummer  
IBNG - Technical Marketing  
November 2020

# Polling Question #1

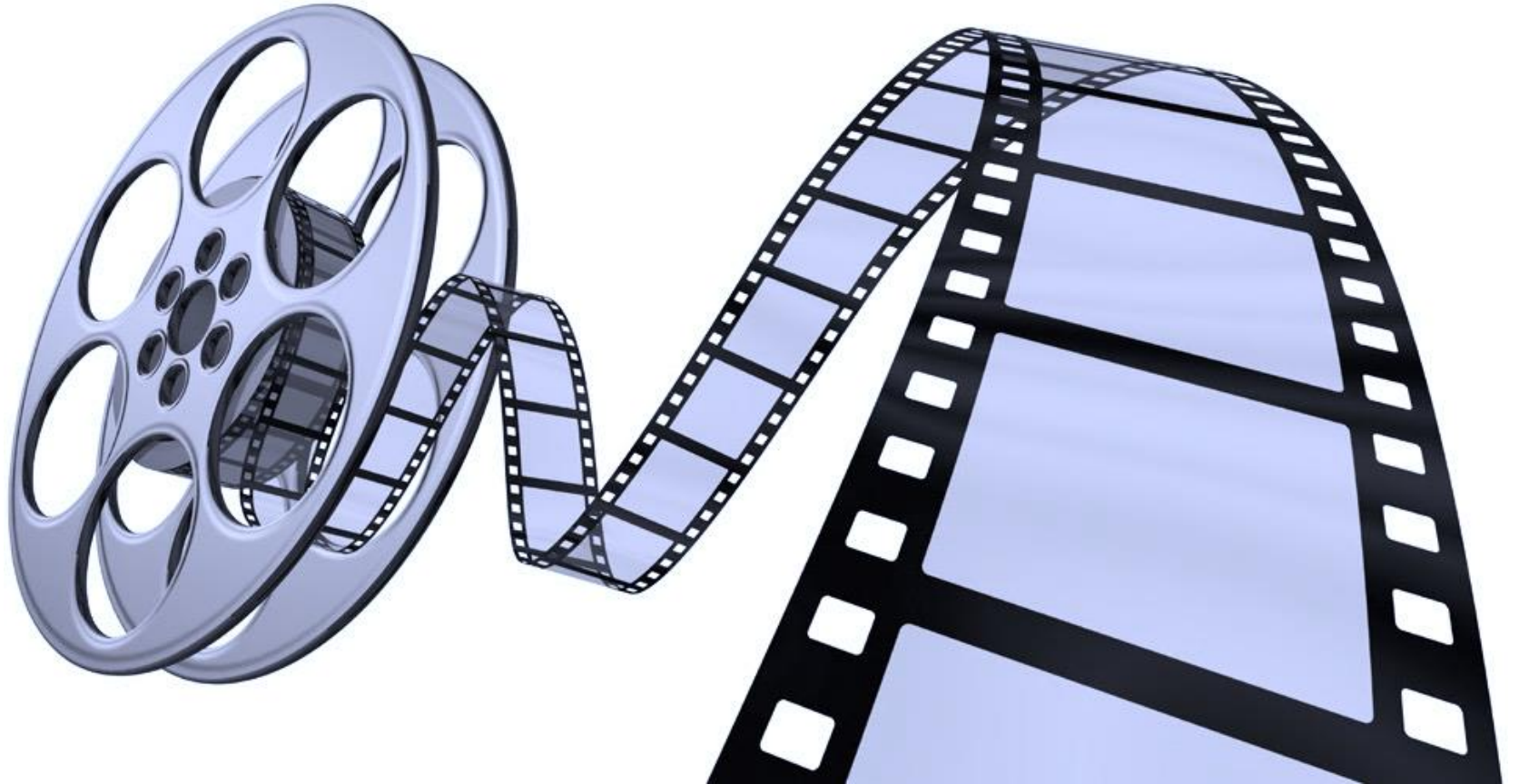
## What is Catalyst 8000 Edge Platforms Family?

- Switching Platforms
- Routing Platforms
- Wireless Controller Platforms



It was **1993** when  
the **Wide Area Network** took off...

Let's Roll the Video





Get Ready for  
A New Era in WAN!

# Catalyst 8000 Edge Platforms Family



# 3

## Family Members

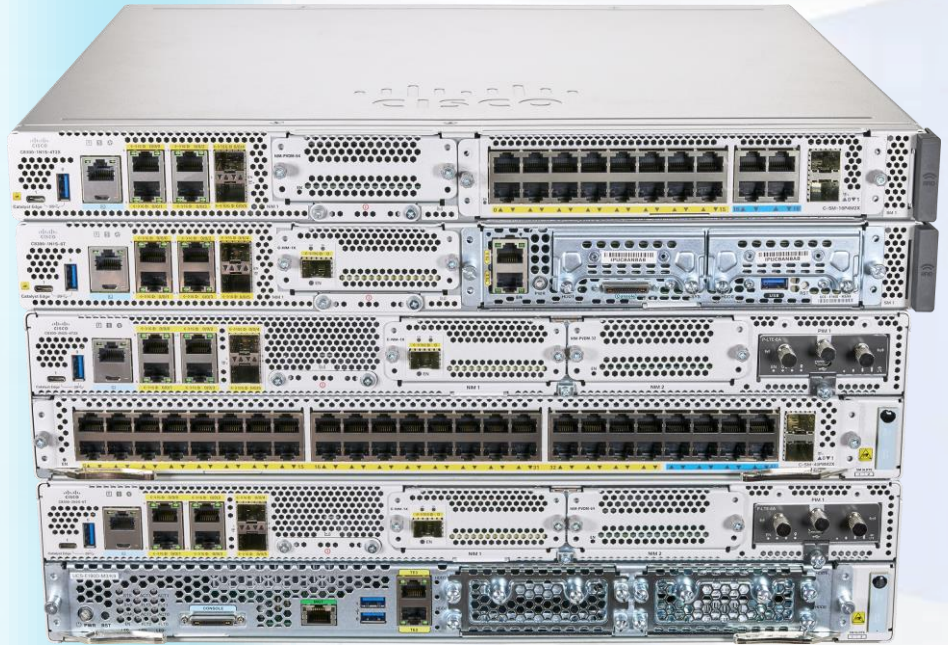


# Catalyst 8500

Purpose-built **SD-WAN Aggregation Edge** Platforms

# Catalyst 8300

Service Rich  
SD-WAN Branch  
Edge Platforms



**70+** Modules Supported



# Catalyst 8000V

x86/VNF hosted  
Edge Software



Catalyst 8000V



SRIOV  
Hypervisor/Cloud



Catalyst 8500 Series

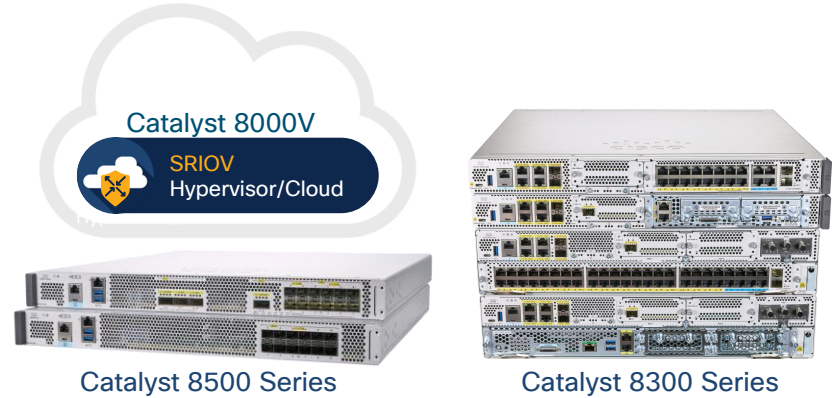
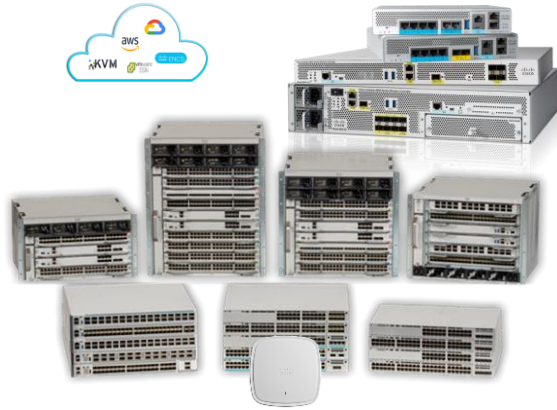


Catalyst 8300 Series

# Catalyst 8000 Edge Platforms Family

## Built for New Age of Intent Based WAN

# Catalyst Everywhere



## Catalyst 9K

Enterprise Campus Networks

## Catalyst 8K

Enterprise WAN Networks

## Catalyst 8500 Series Edge Platforms



ASR 1001/2-HX

Aggregation

## Catalyst 8300 Series Edge Platforms



ISR 4400

Modular Access

## Catalyst 8000V Edge Software

### Catalyst 8000V



SRIOV  
Hypervisor/Cloud



CSR 1000V

Cloud/Virtual

# Optimized for SASE with Cisco Secure Cloud-scale SD-WAN



One more thing...

A white Cisco Catalyst Cellular Gateway device is shown with three external antennas. The device is positioned in the upper left quadrant of the slide. Behind it, there is a large, faint, light blue shadow of a cellular tower. The background is white with faint, light blue concentric circles representing signal waves.

# Catalyst Cellular Gateway

Multi Gigabit Wireless WAN

4G/CAT18 (Orderable Now)

5G sub-6 (EFT Started)

# Catalyst 8000 – Certification & EFT

**30+**  
EFT Customers &  
Partners

**50+**  
Countries  
certified by FCS

**6+**  
Months of beta  
testing

“..Very pleased with the Cisco Catalyst 8000 Edge Platforms Family. The hardware has a **small footprint with good feature set and surprisingly high capacity**. The possibility to locate a 4G antenna (and in near future a 5G antenna) remote from the router itself with PoE is a feature that the NDMA will use in several cases...”

– Norwegian Defense

“Cisco SD-WAN Security delivers simplicity and automation so that we can apply the right security controls where needed, when needed. We are very **excited to bolster that solution with the Cisco Catalyst 8000 Edge Platforms Family**.”

– A renowned partner in EMEAR

“As we expand our intent based network, the **Cisco Catalyst 8000 Edge Platforms Family checks all the boxes for an agile SD-WAN solution** that can deliver the performance, security and visibility needed to deliver these real-time connected experiences”

– A major US Healthcare provider



“Fueled by a growing use of cloud-based applications, tele-medicine, ultra high-definition imaging and remote collaboration, our network must deliver secure, highly resilient and scalable connectivity. As we expand our intent based network, the Cisco Catalyst 8000 Edge Platforms Family checks all the boxes for a flexible SD-WAN solution that can deliver the performance, visibility, and security needed to deliver these real-time connected experiences.”

- Ed Vanderpool, IT Technical Manager at Adventist Health

# Customer Use Case

## Challenges

- Deploy services on-demand to 345 locations
- Secure access for increasing cloud-based applications
- Increase WAN edge performance
- Ensure optimal user experience

## Solutions

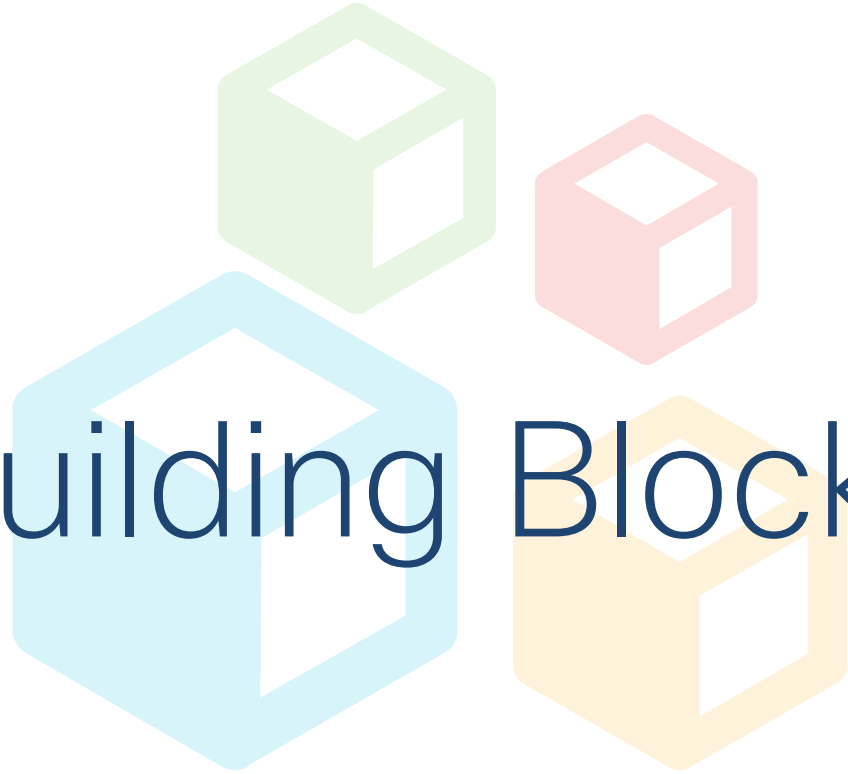
- Catalyst 8300 Series Edge Platforms
- Cisco SD-WAN
- Combined with existing SD-Access architecture

## Results

- Scalable, flexible services and connectivity
- End-to-end visibility
- Secure, connected user experience
- Complete intent-based networking solution



Key Building Blocks



# Third Generation QFP

## Scalable and Programmable ASIC Innovation



**2x queues**  
256k



**Up to 2x NBAR**  
Up to 80Gbps



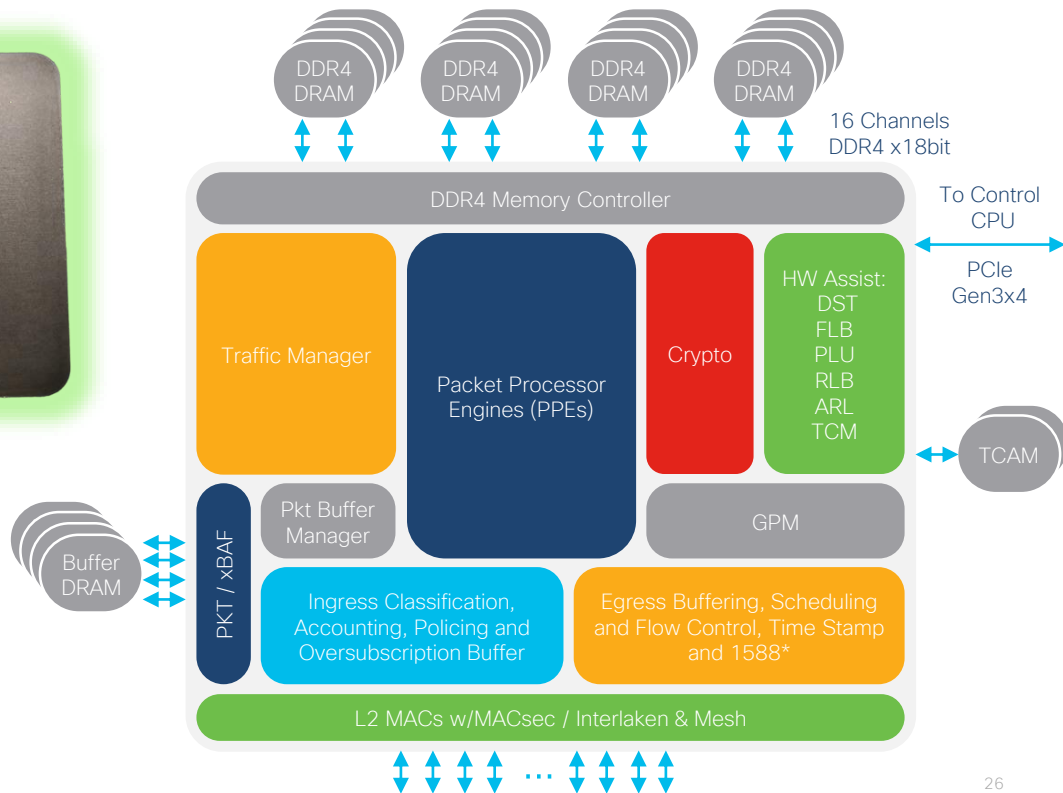
**Inline Crypto**  
Up to 137Gbps



**Up to 3x CEF**  
Up to 200Gbps



**8x DRAM**  
16M NAT, 32M CGN |  
6M FW Sessions



\*1588 is not supported currently



# QFP 3.0, Multi Threaded Parallel Processing

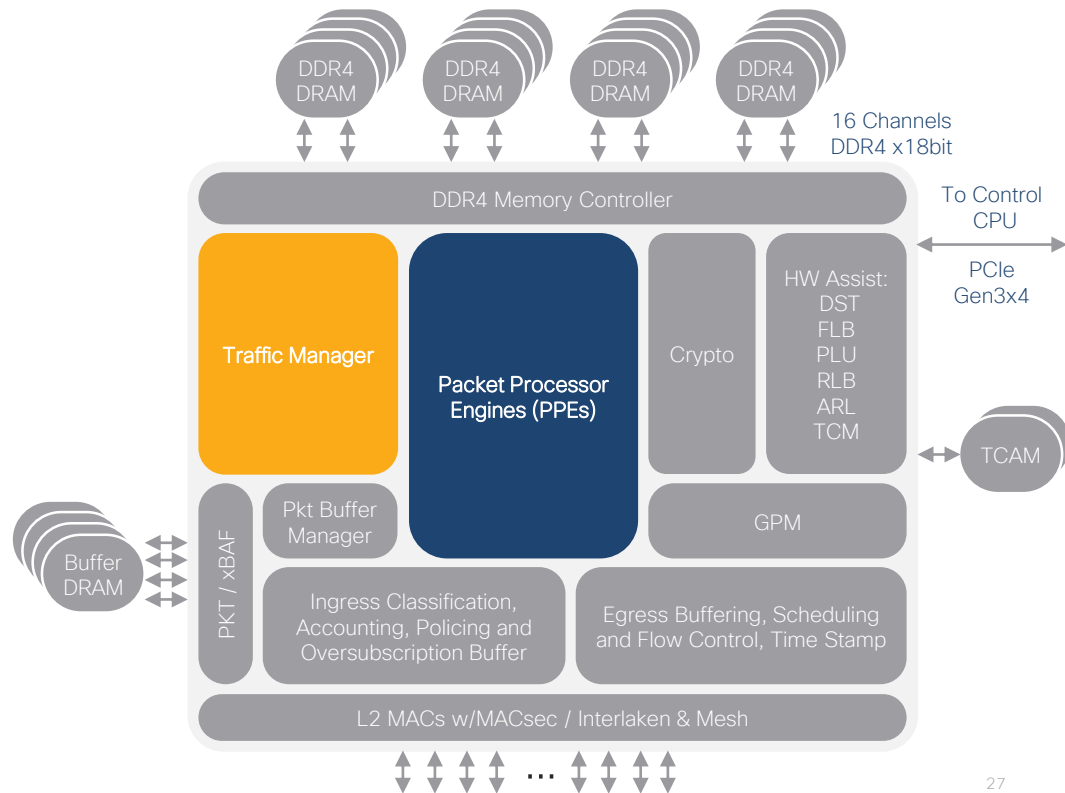
Tremendous Raw Power

## 224 PPEs

## 896 Threads

## 256K Queues

## Simultaneous Packets Processing





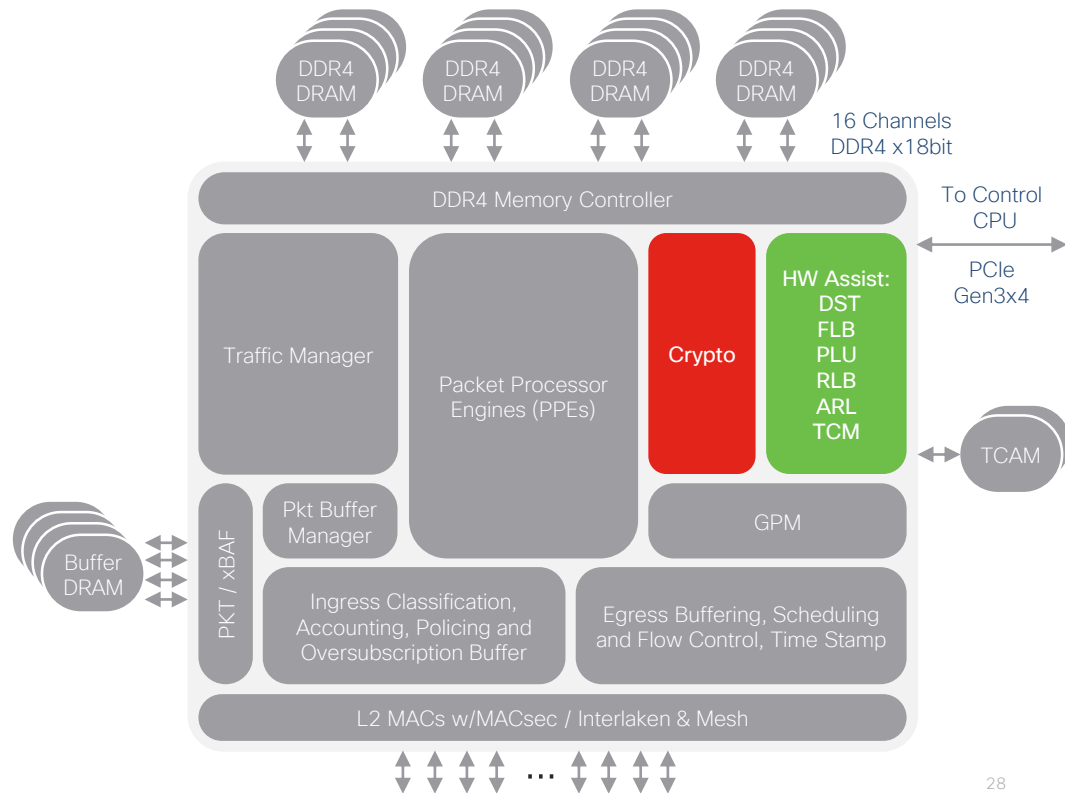
# QFP 3.0, Inline Crypto Engines

## Hardware Accelerated IPsec

# 16 Crypto Engines

## Up to 137Gbps Crypto Performance

### Suite-B Crypto Hardware Assist





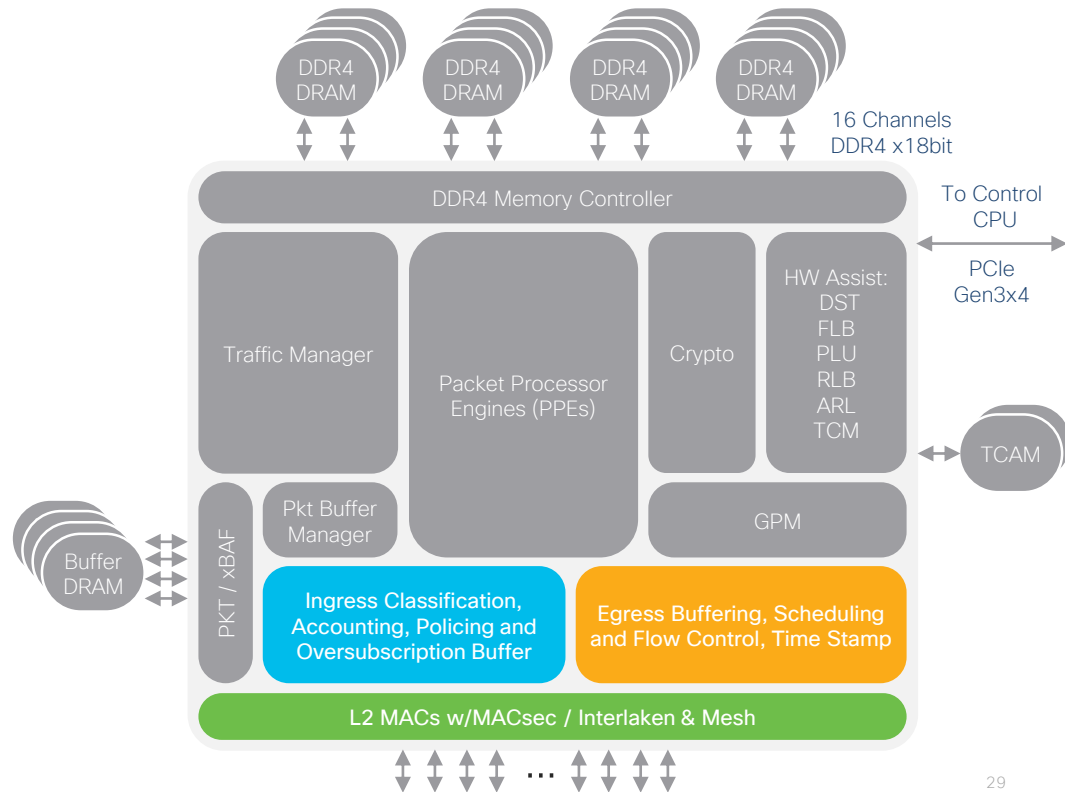
# QFP 3.0, Built-in Layer 2 Aggregation

End to end traffic Management

# 240Gbps Layer 2 Aggregation

## Per Port L2/L3 Classification

Ingress, Egress  
Traffic Management

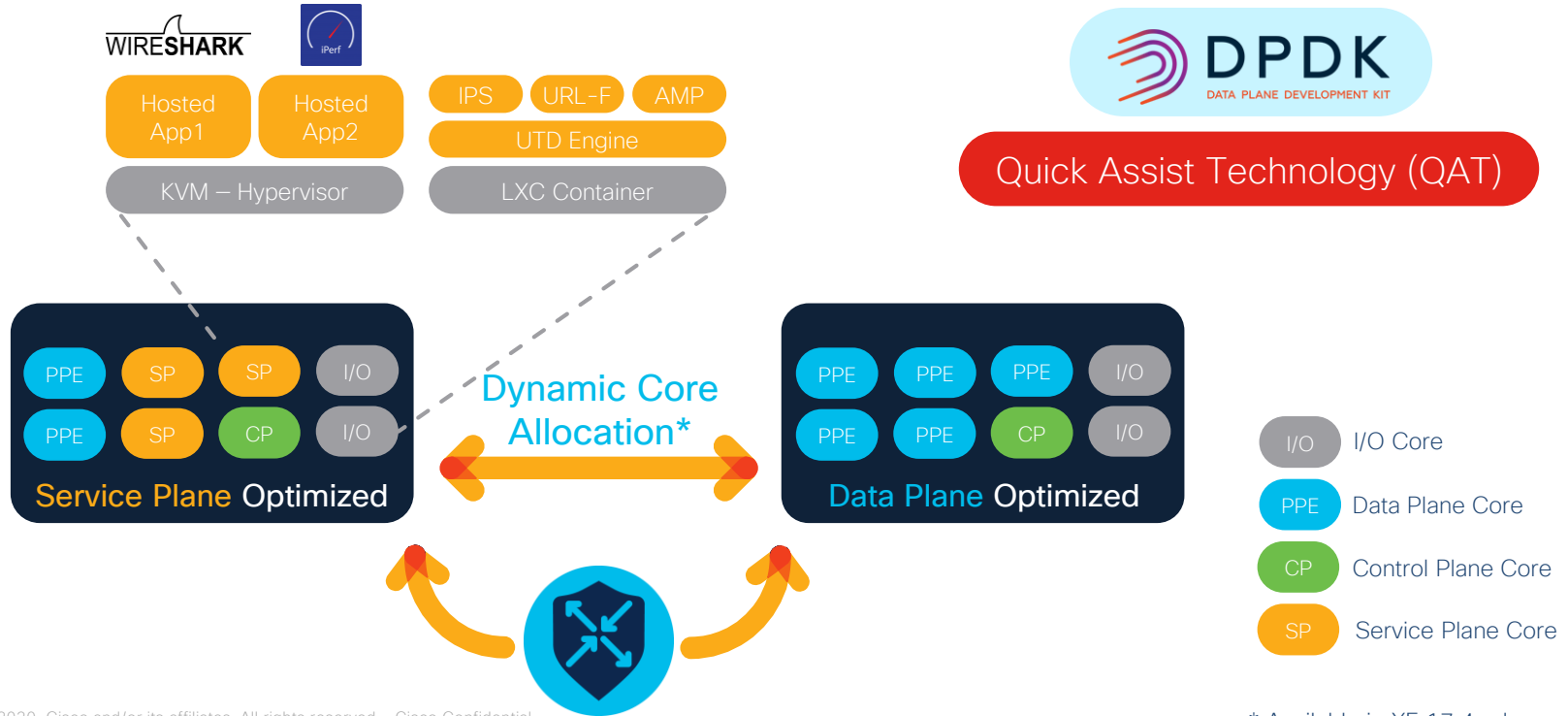


# x86 Multi-core SoC Architecture

## Key Datapath Innovations



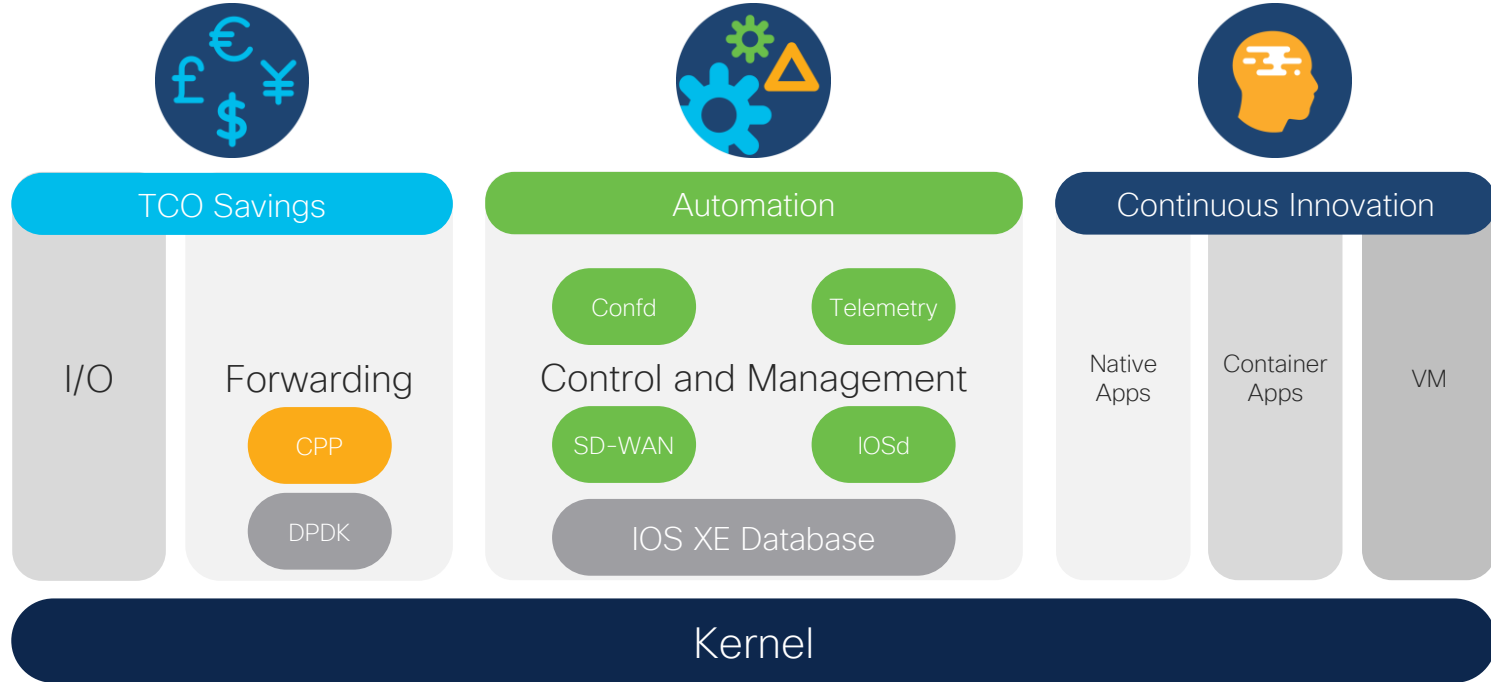
X86 Multi-core CPU



# Open IOS XE – A Modern Operating System

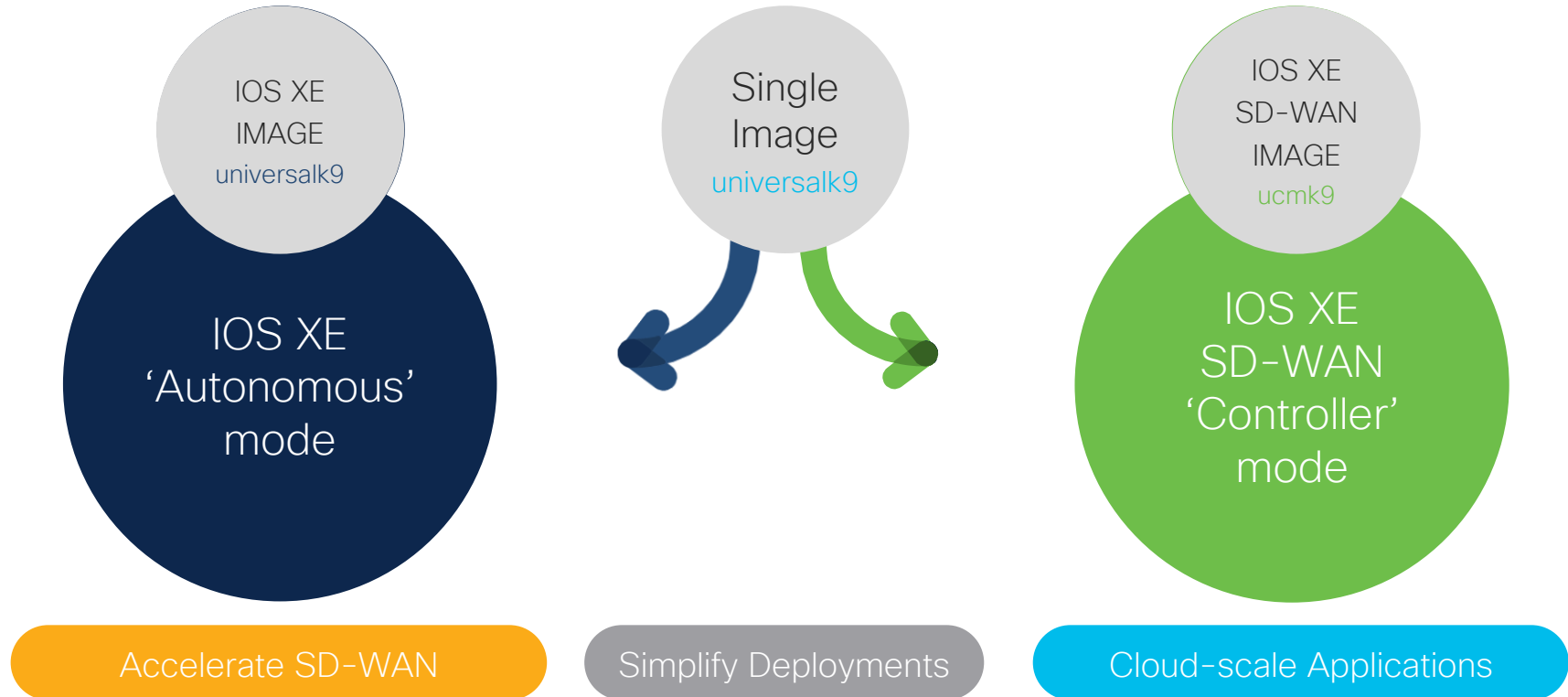


Open and Extensible  
IOS XE



Open, API, Model Driven & Secure Operating Systems

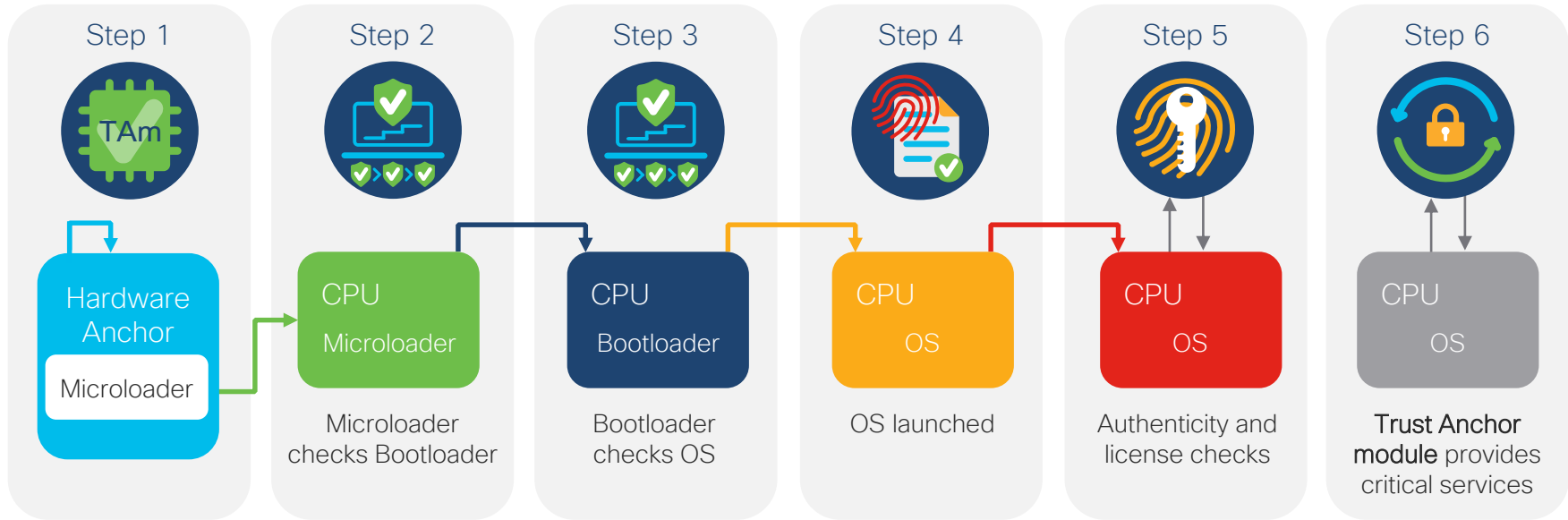
# Easy Operations with Single Image







# Secure Platform with Trustworthy Solutions



First instructions run on CPU stored in tamper-resistant hardware

Confidentiality

Integrity

Authenticity

A stylized icon of a person, consisting of a light blue circle for the head and a light green rounded rectangle for the body, centered behind the text.

# User Centric Design



# Built-in Radio Frequency Identification (RFID)

## Passive Ultra High Frequency (UHF) RFID

- Locating the device easy
- Good read range: 1 to 4 meters
- UHF: 860Mhz to 960MHz
- Industry standard:  
ISO 18000-6C compliant



Inventory Management (Tracking) has never been Easier



# Front Panel hosted Label Tray



QR Label Tray

- A plastic strip that contains
  - Product ID
  - PID version ID
  - CLEI
  - TAN
- QR code encoded with
  - Device Family, Base PID
  - Device MAC
  - Vendor
  - Serial Number
  - HW Version



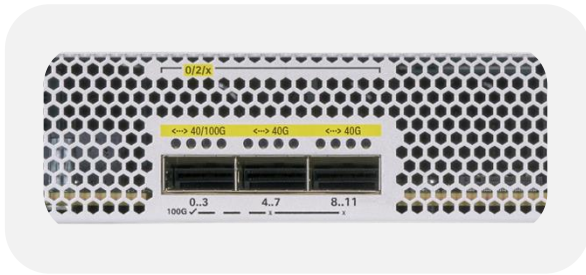
Easy access to Label Information, Device Identification



# Industrial Design and Ergonomics



Circle Pattern  
Hex Packing



Rounded Frame  
4 mm



Satin Aluminum Based  
Textured Finish

## Polling Question #2

How much of SD-WAN aggregate IMIX throughput you need per headend platform?

- 5 to 10 Gbps
- 10 to 20 Gbps
- 20 to 50 Gbps
- More than 50 Gbps



# Catalyst 8500

Aggregation Redefined



# Cisco Catalyst 8500 Series Edge Platforms

## Best Platform for SD-WAN Aggregation

01 Improved Data Plane

02 Accelerated SD-WAN Services

03 High Speed Multicloud Access

04 Highly Scalable Control Plane

3rd Generation Quantum  
Flow Processor



Hardware  
Accelerated Services



Up to 8000 SD-WAN  
IPsec Tunnels



High Speed DIA, DCA  
100/40/10/1G Ports





# Catalyst 8500 for SD-WAN

## Data Center Hub, Campus Edge

100G, 40G Port Connectivity

High Speed DIA, DCA

Headend Multicast Replication

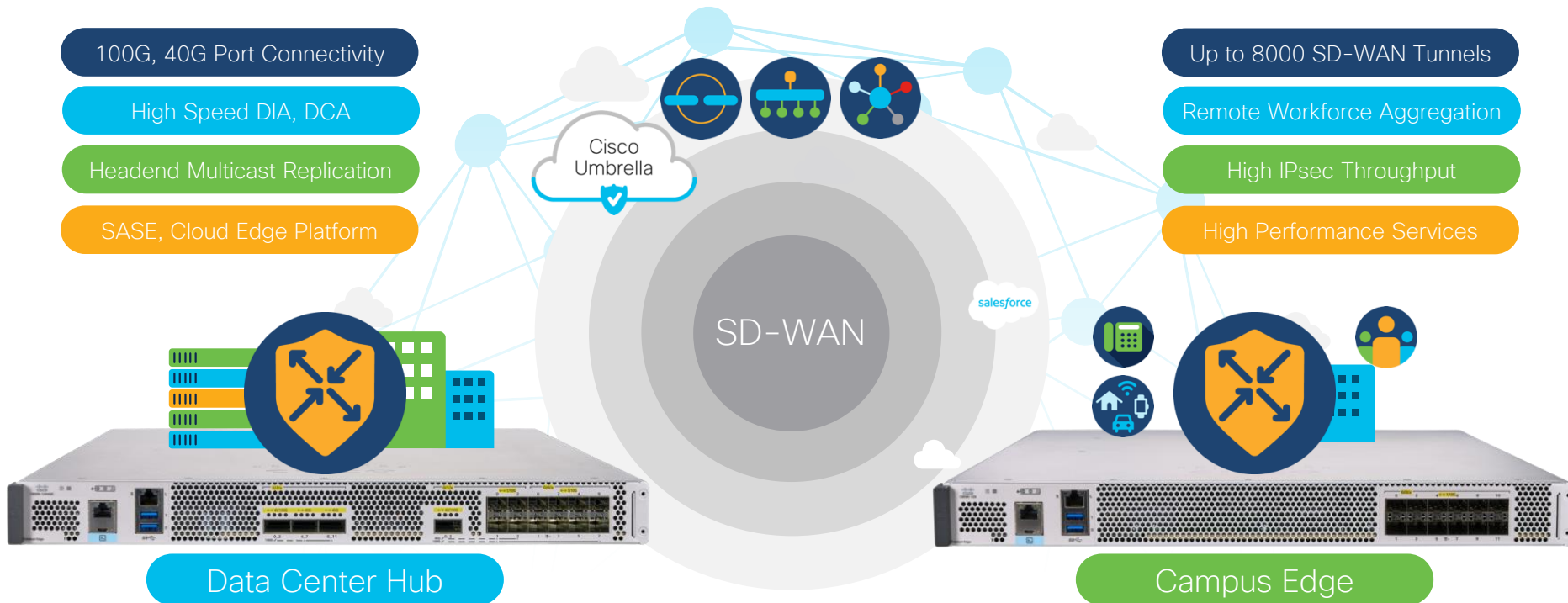
SASE, Cloud Edge Platform

Up to 8000 SD-WAN Tunnels

Remote Workforce Aggregation

High IPsec Throughput

High Performance Services



# Catalyst 8500 for Cloud-Scale, Co-location

Large capacity in small form factor

Cloud MSP: Edge, CPE

## Rich Features

Multi-tenant, VRF Aware

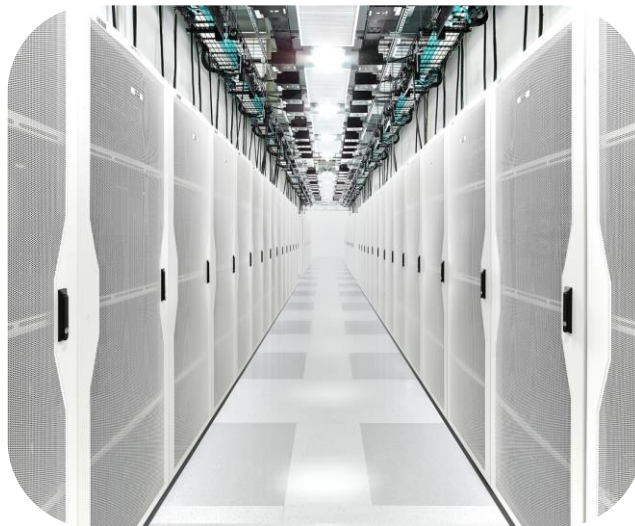
VxLAN

Route Scale

Convergence Services

IPsec, NAT, Firewall

B2B Redundancy



Co-lo, Cloud Gateway

## Highly Scalable

8000 VRFs

4M IPv4, IPv6 Routes

16M NAT, 32M CGN

6M Firewall Sessions

Up to 8000 IPsec Tunnels

WAN MACsec on all ports

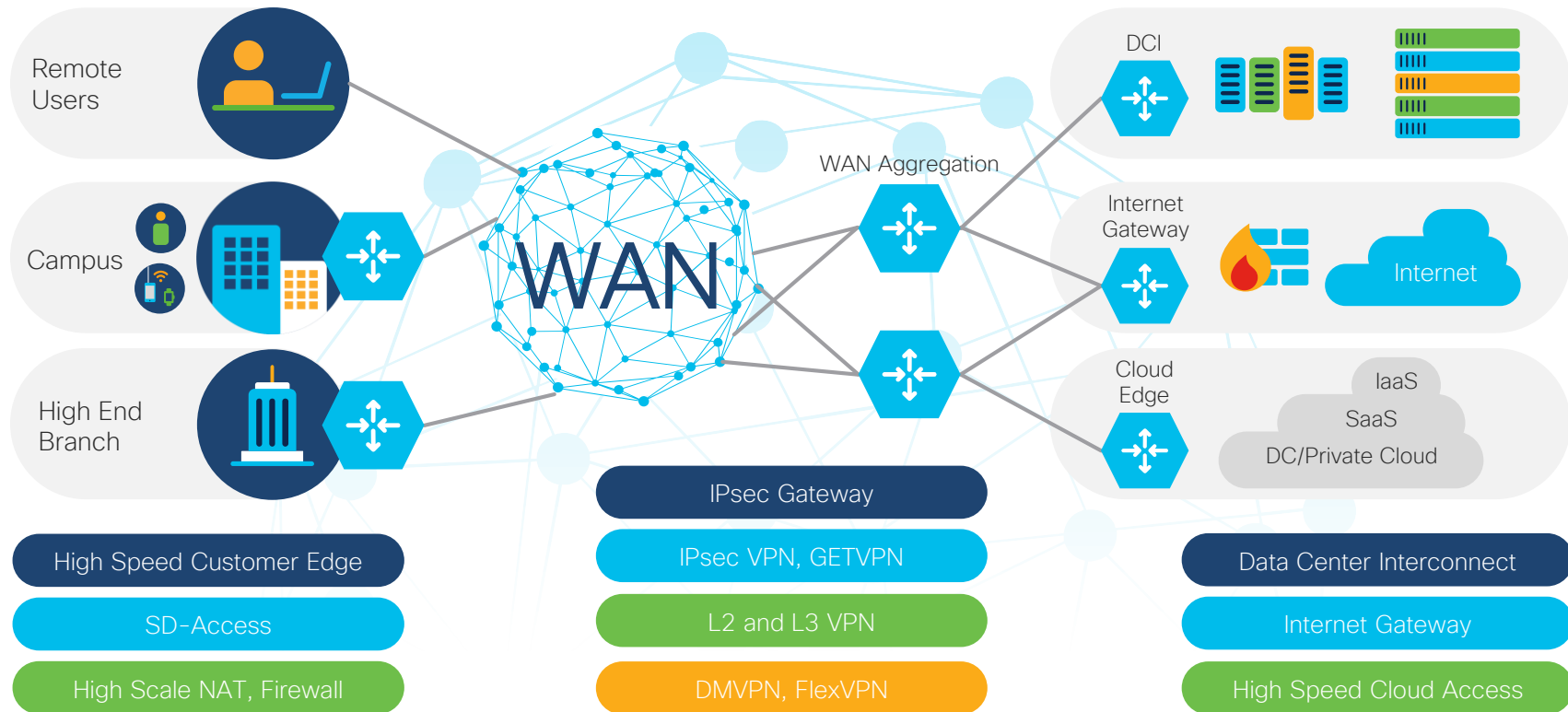
Port Flexibility: 100/40/10/1G

Small 1 RU form factor

Platinum Power Efficiency

# Catalyst 8500 for Enterprise Networks

## Traditional Routing Headend Applications



# Cisco Catalyst 8500 Series Edge Platforms

## Highly Capable 1RU SD-WAN Headend

### Integrated Rich Services

NBAR2, NAT, Firewall, QoS, etc.  
Industry's Leading Service Edge Platforms

### Edge Intelligence

Compute  
Container based Apps



### Scale

Up to 8000 SD-WAN Tunnel Aggregation  
High Speed 100/40 Gigabit Ethernet Ports  
High Density 10/1 Gigabit Ethernet Ports

### Multi-layer Security

High Throughput MACsec and IPsec  
Trustworthy Solutions  
Umbrella SIG

## Highlights

All Ports  
Built-in

WAN  
MACsec

Third  
Generation  
QFP

Up to  
200Gbps  
CEF

5G  
Ready

## Manageability

vManage

DNA Center

Open APIs

Analytics

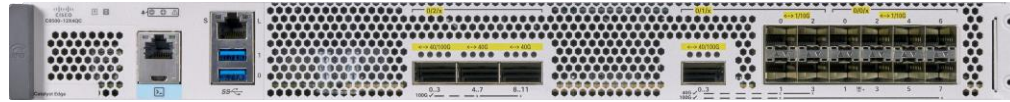


Built-in  
Port  
Flexibility

# Catalyst 8500 Series Edge Platforms

100G, 40G  
'C' 'Q'

C8500-12X4QC



2 QSFP28, 2 QSFP  
12 SFP+

10G, 1G  
'X'

C8500-12X



12 SFP+

Up to 200 Gbps CEF,  
High Performance IPsec

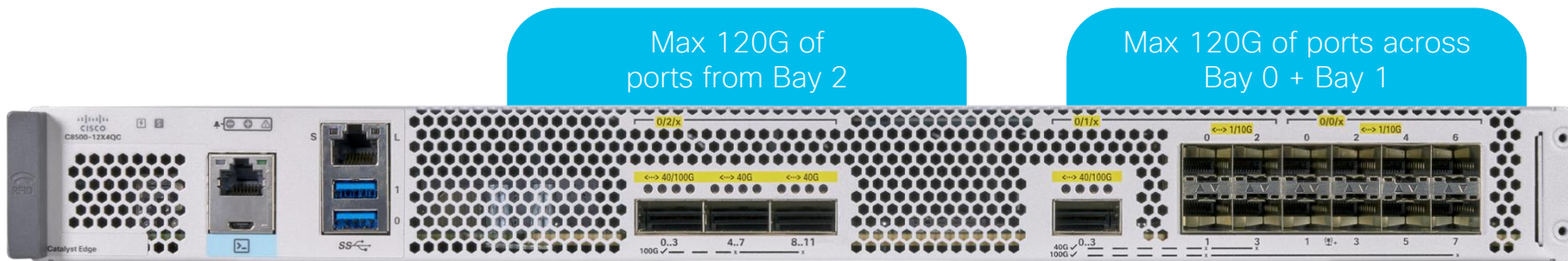
3rd Generation QFP,  
Hardware Accelerated Services

User Centric Design,  
RFID, Label Tray, FRUs



# C8500-12X4QC Port Connectivity

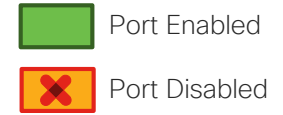
## Purpose-built 100GE, 40GE Port SD-WAN 1RU Platform



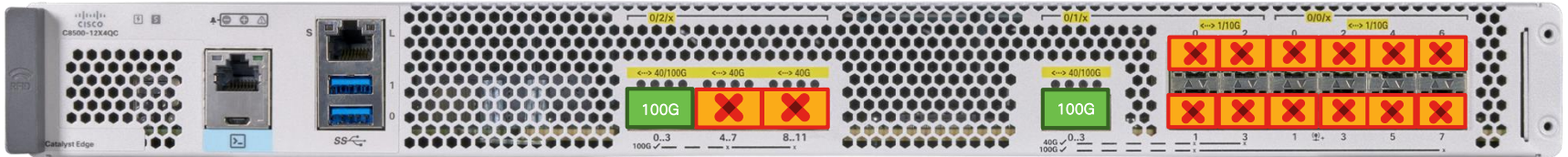
Option	Port Speed	Maximum Port Configuration
1	100G	2x100G
2	100/40G	1x100G + 3x40G
3	40/10G	4x40G + 8x10G
4	100/40/10G	1x100G + 1x40G + 8x10G
5	10G	12x10G
6	1G	12x1G

# 100GE, 40GE Connectivity Options (i)

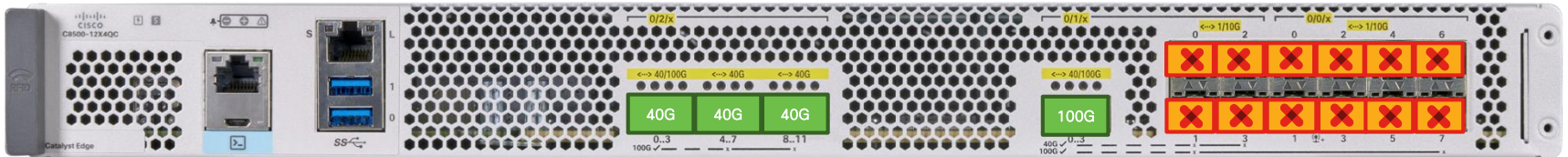
## C8500-12X4QC



Option 1 2 x 100G



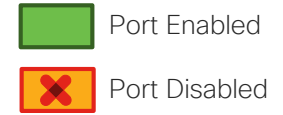
Option 2 1 x 100G + 3 x 40G Ports



Note: For port speed change on any bay; there is an expected 1 sec traffic disruption due to backplane reset

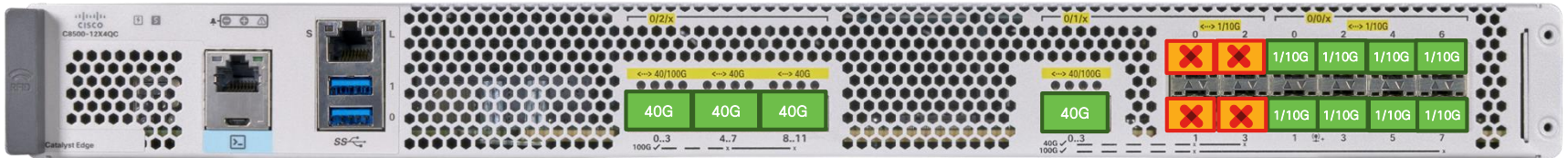
# 100GE, 40GE Connectivity Options (ii)

## C8500-12x4QC



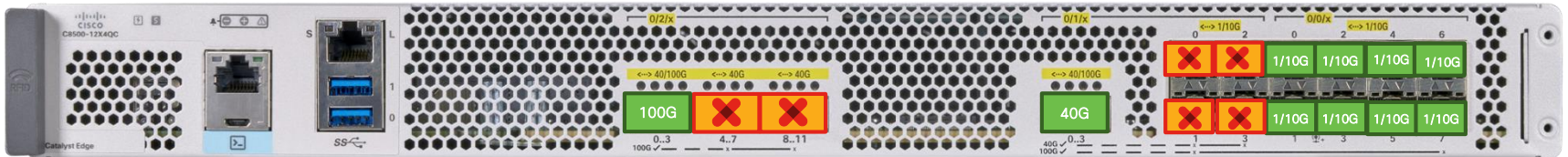
### Option 3

4 x 40G + 8 x 10G



### Option 4

1 x 100G + 1 x 40G + 8 x 10G




Note: For port speed change on any bay; there is an expected 1 sec traffic disruption due to backplane reset



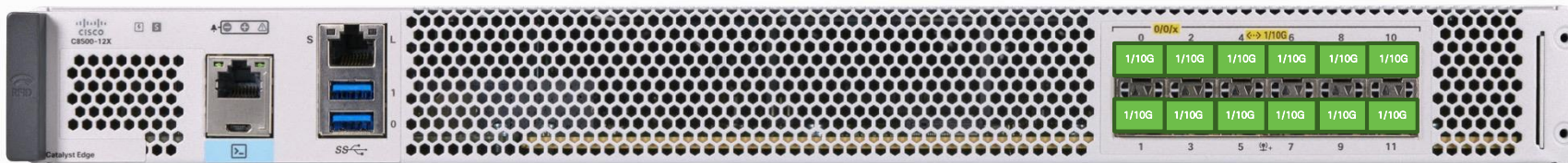
# High Density 10GE, 1GE Connectivity Options

## C8500-12X and C8500-12x4QC

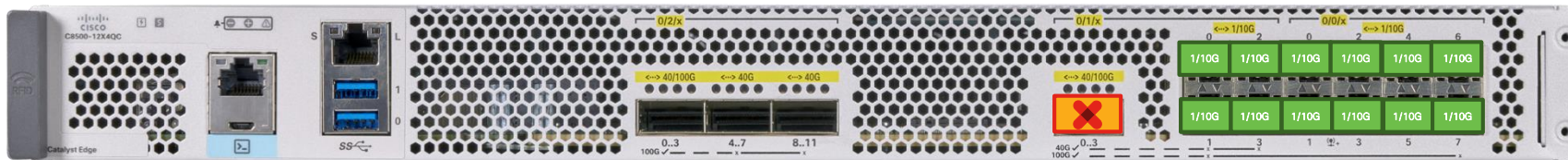
 Port Enabled

 Port Disabled

Option 5,6 C8500-12X: 12 x 1/10GE



Option 5,6 C8500-12X4QC: 12 x 1/10GE



# ASR1002-HX vs C8500-12X4QC

## Product Comparison

Up to 18Gbps SD-WAN, 6000 tunnels

Up to 100Gbps CEF, 25Gbps Crypto

8M NAT/PAT, 12M CGN Sessions

4GB DP Memory, 232K Queues

Ports: 8x 1G, 8x 10G, One EPA Slot

16GB to 32GB upgradable DRAM

QFP 2.0, 124 Cores, extra Crypto HW

Up to 33Gbps SD-WAN, 8000 tunnels

Up to 200Gbps CEF, 46Gbps Crypto

16M NAT/PAT, 32M CGN Sessions

32GB DP Memory, 256K Queues

Ports: 12x 1/10G, 2x 40/100G, 2x 40G

16GB to 64GB upgradable DRAM

QFP 3.0, 224 Cores, Inbuilt Crypto & L2



*All perf numbers are aggregate IMIX for Crypto throughput*

# ASR1001-HX vs C8500-12X

## Product Comparison

Up to 11.5Gbps SD-WAN, 6000 tunnels

Up to 60Gbps CEF, 16Gbps Crypto

2M NAT/PAT, 4M CGN Sessions

1GB DP Memory, 116K Queues

Ports: 8x 1G, 4x 10G, 4x 1/10G

16GB to 32GB upgradable DRAM

QFP 2.0, 124 Cores, extra. Crypto HW

Up to 23Gbps SD-WAN, 8000 tunnels

Up to 120Gbps CEF, 30Gbps Crypto

12M NAT/PAT, 24M CGN Sessions

32GB DP Memory, 256K Queues

Ports: 12x 1/10G

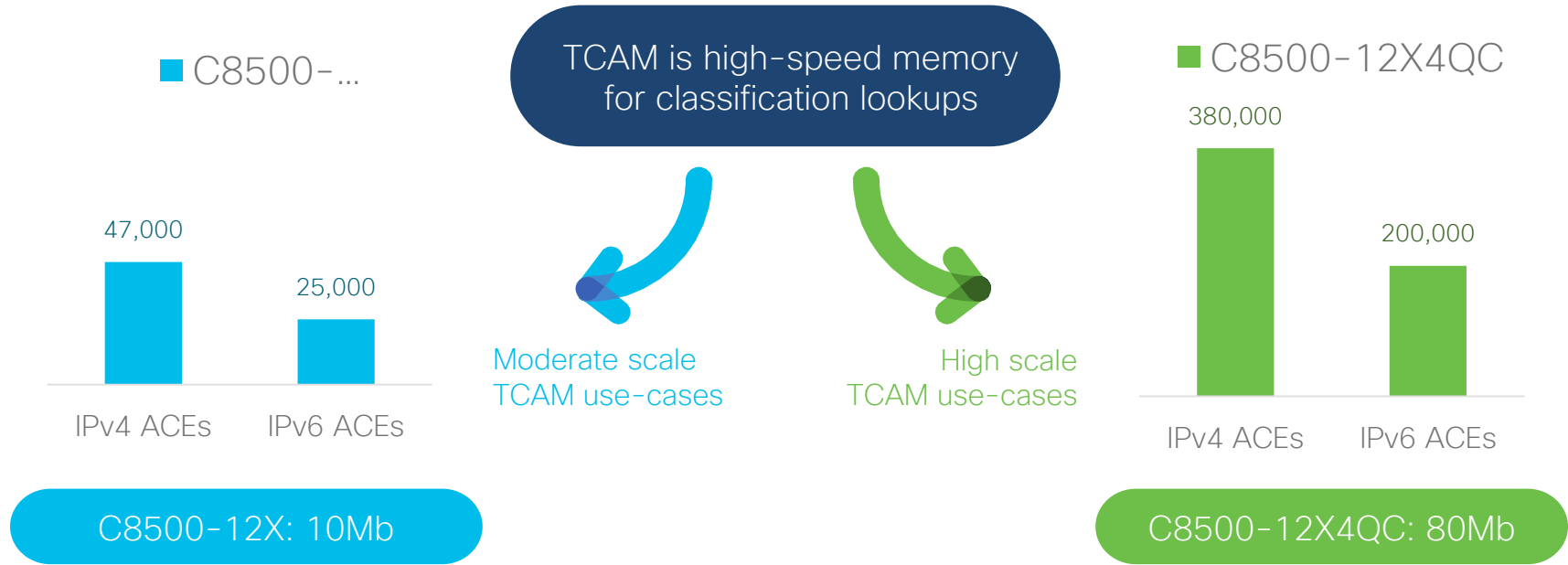
16GB to 64GB upgradable DRAM

QFP 3.0, 224 Cores, Inbuilt Crypto & L2



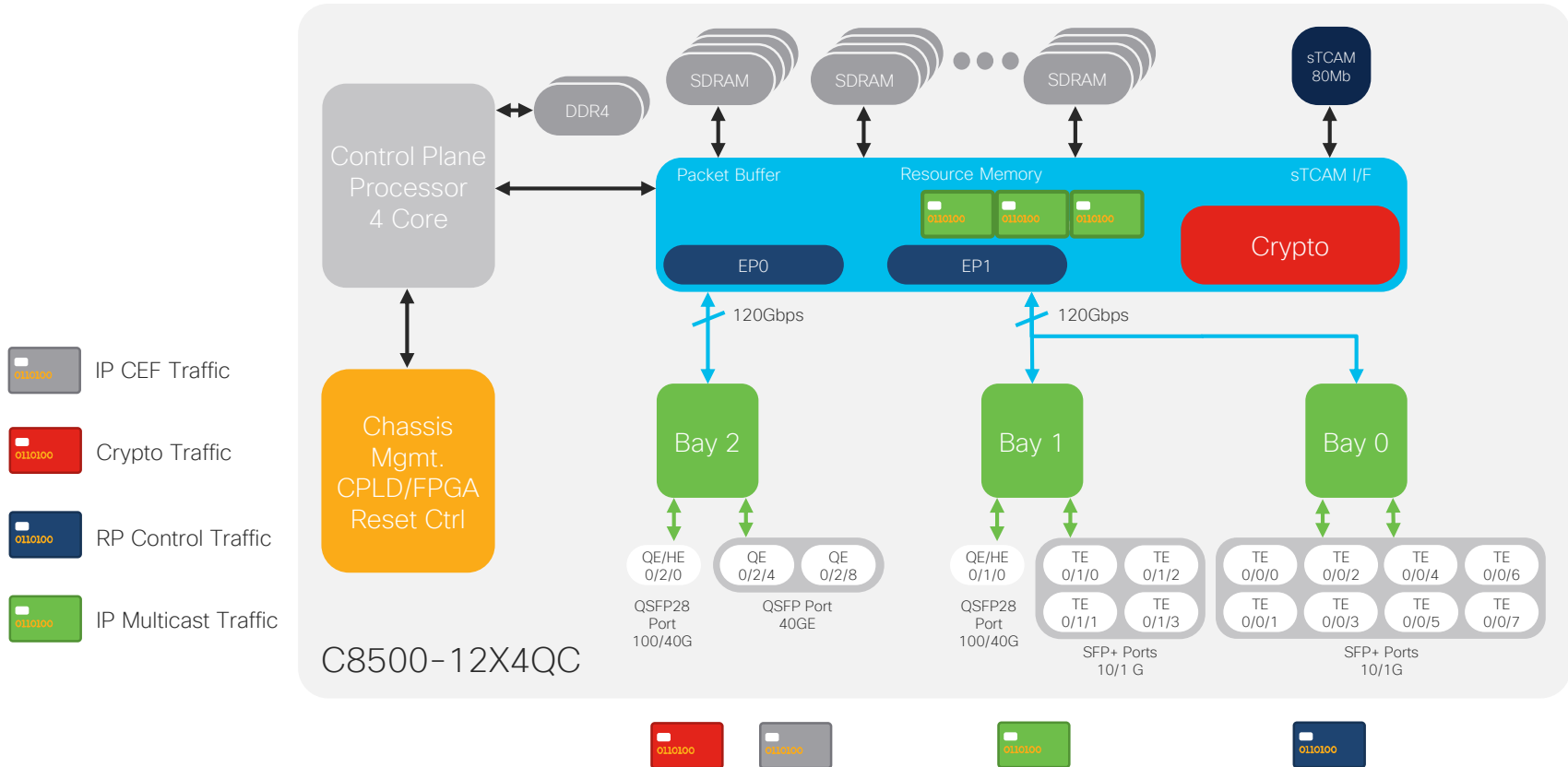
*All perf numbers are aggregate IMIX for Crypto throughput*

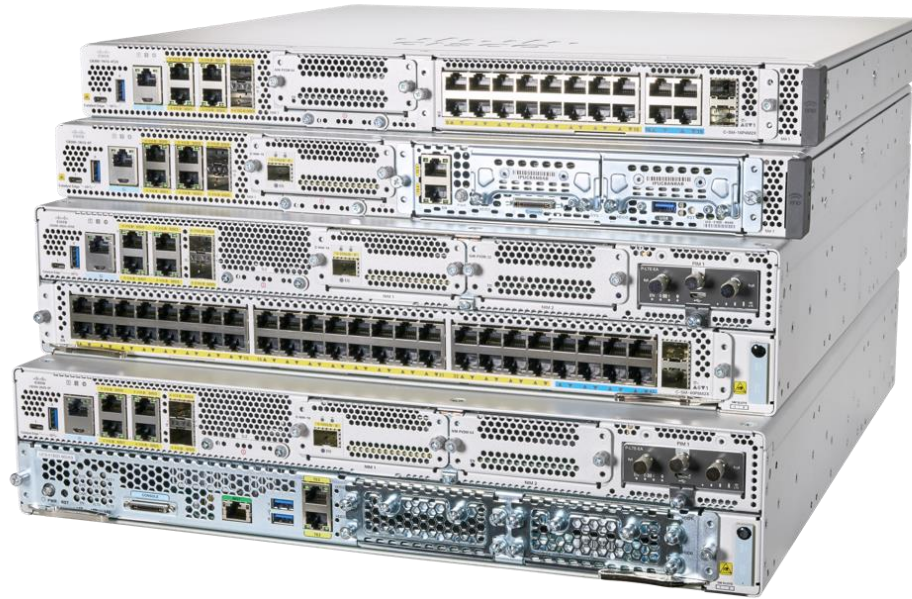
# Catalyst 8500 TCAM Capacity



Select C8500-12X4QC for high TCAM scale use-cases

# Catalyst 8500 and Life of a Packet





# Catalyst 8300

New Age Branch



# Cisco Catalyst 8300 Series Edge Platforms

## Multi Gig SD-WAN branch with Accelerated Services



**5x** Data plane Performance



**4x** Services Performance



**Gigabit+** Cellular, 5G Ready



**SD-WAN** Voice Integration

SoC Architecture for  
Dynamic Core allocations\*



Hardware  
Accelerated Services



Up to 6000 SD-WAN  
IPsec Tunnels

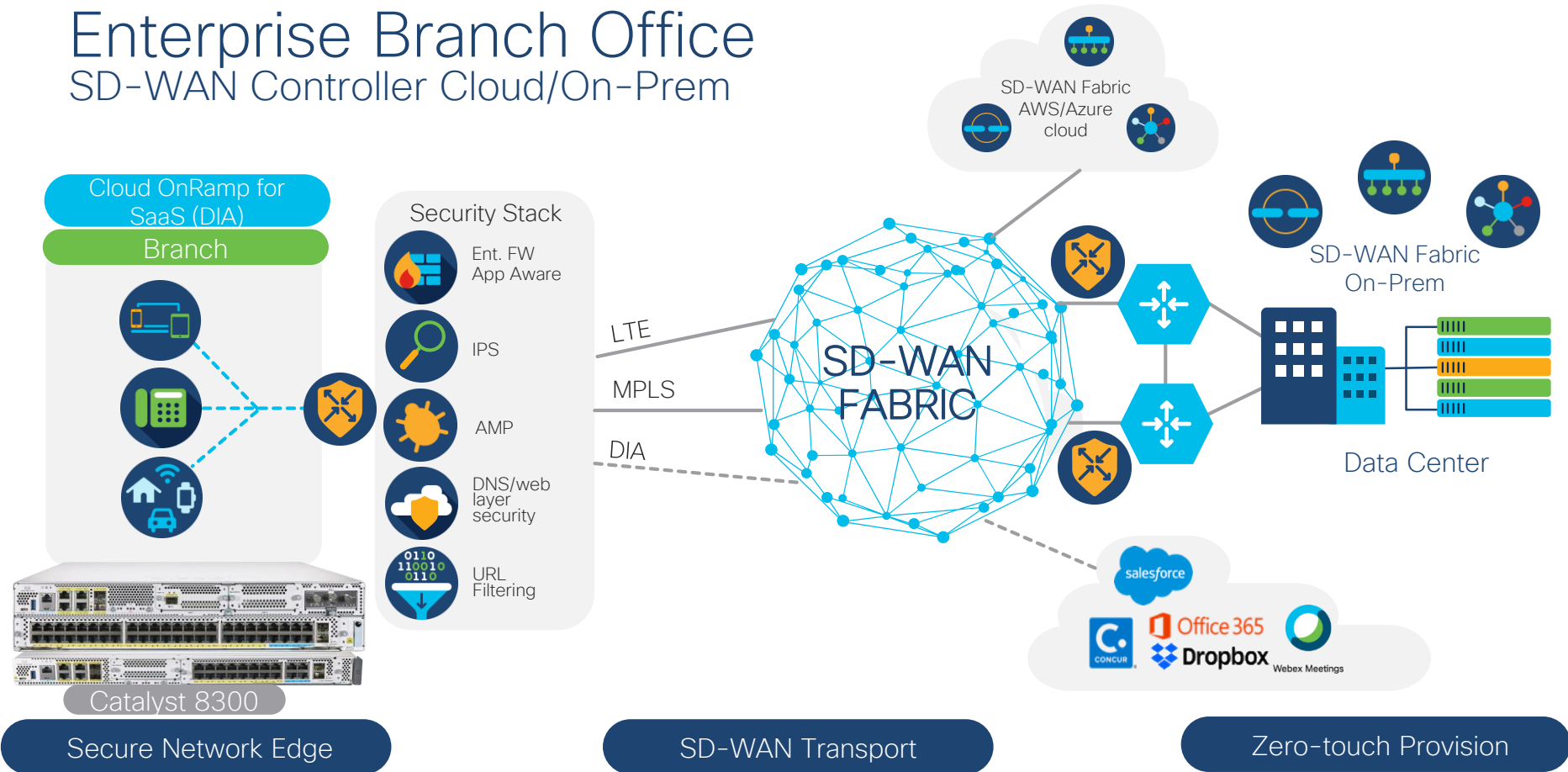


High Speed Cloud Access  
With 10/1G Ports



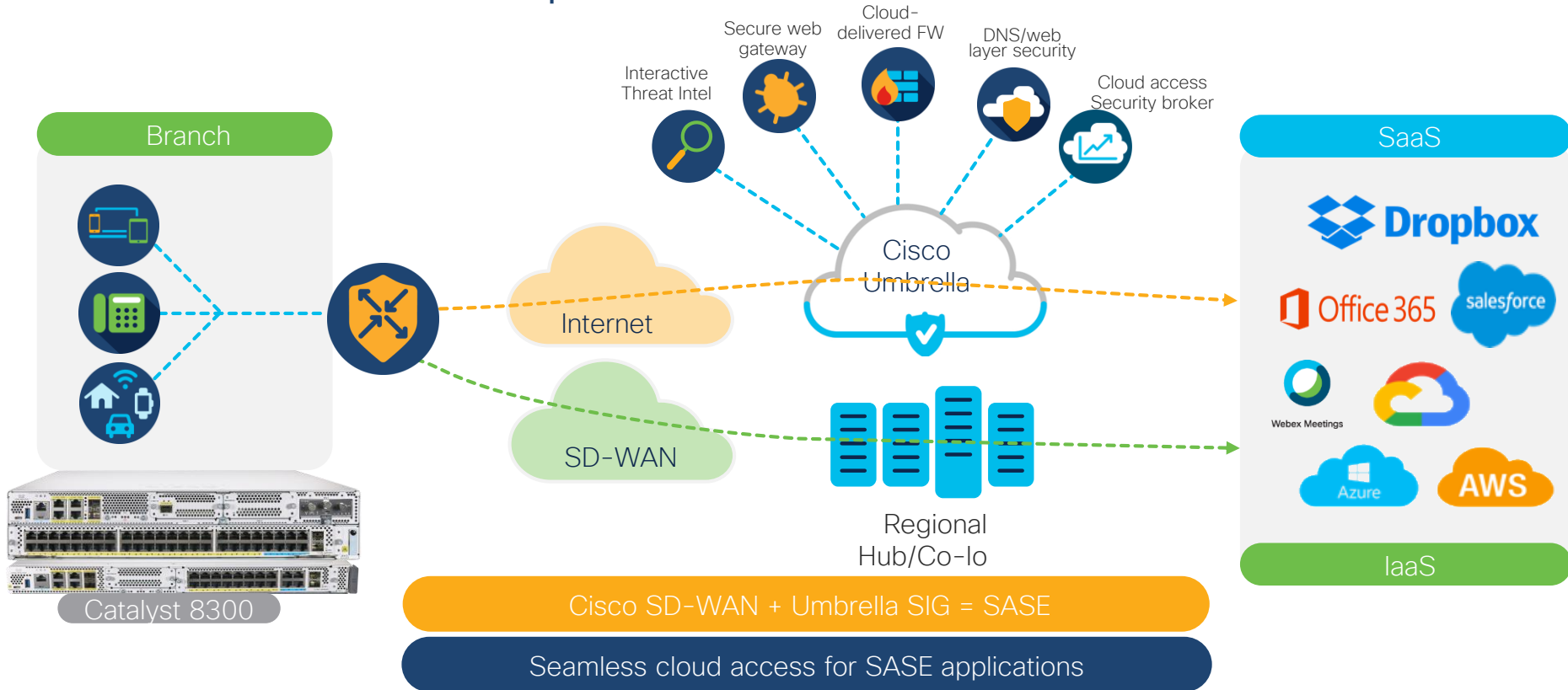
# Enterprise Branch Office

## SD-WAN Controller Cloud/On-Prem





# SASE Cloud Adoption with SD-WAN



# Enterprise Branch Office

## Traditional Routing

### Branch



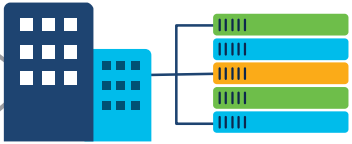
**Security Stack**

- Ent. FW App Aware
- IPS
- DNS/web layer security

Internet  
MPLS  
LTE



### Data Center



DNA Center



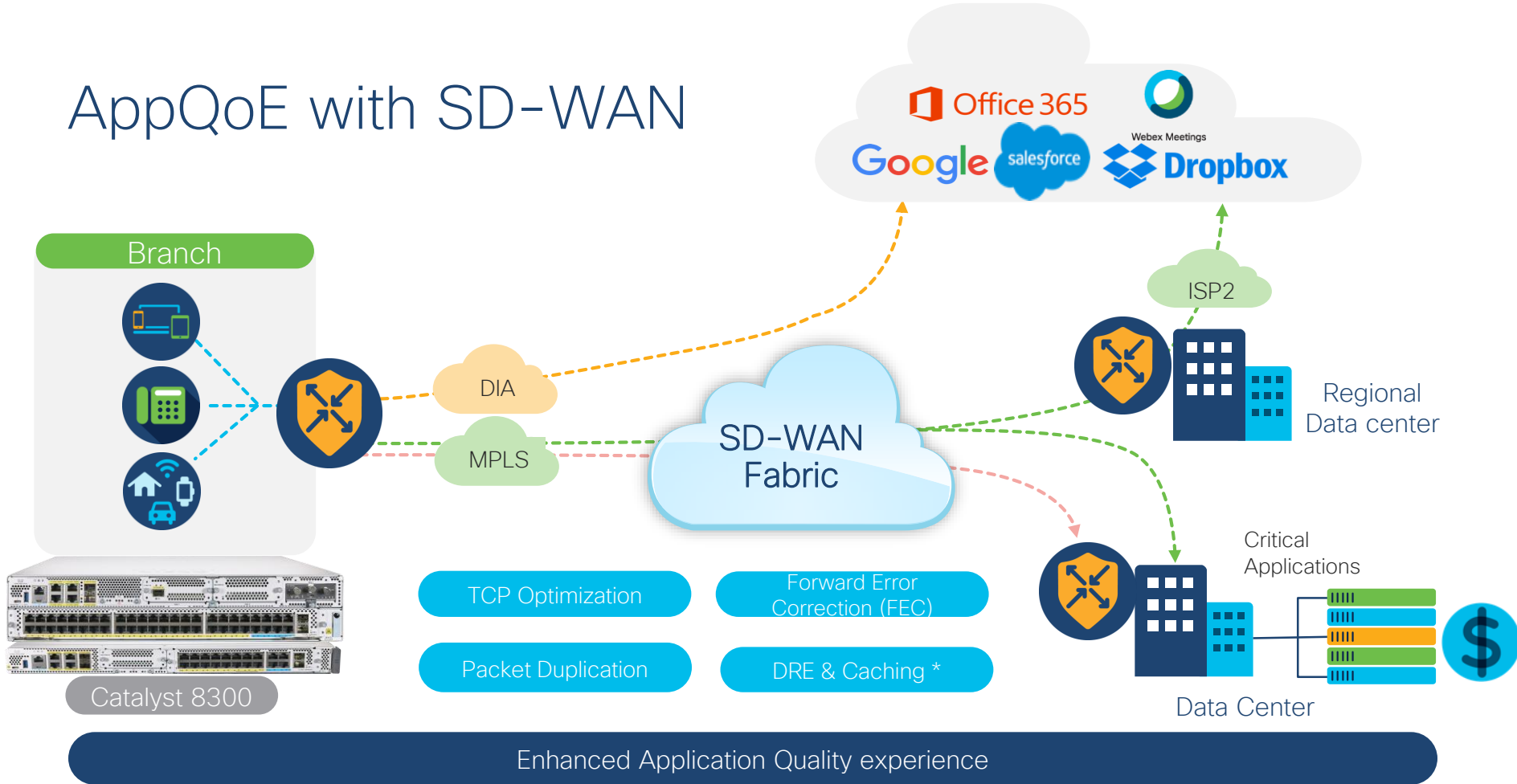
Catalyst 8300

### Secure Network Edge

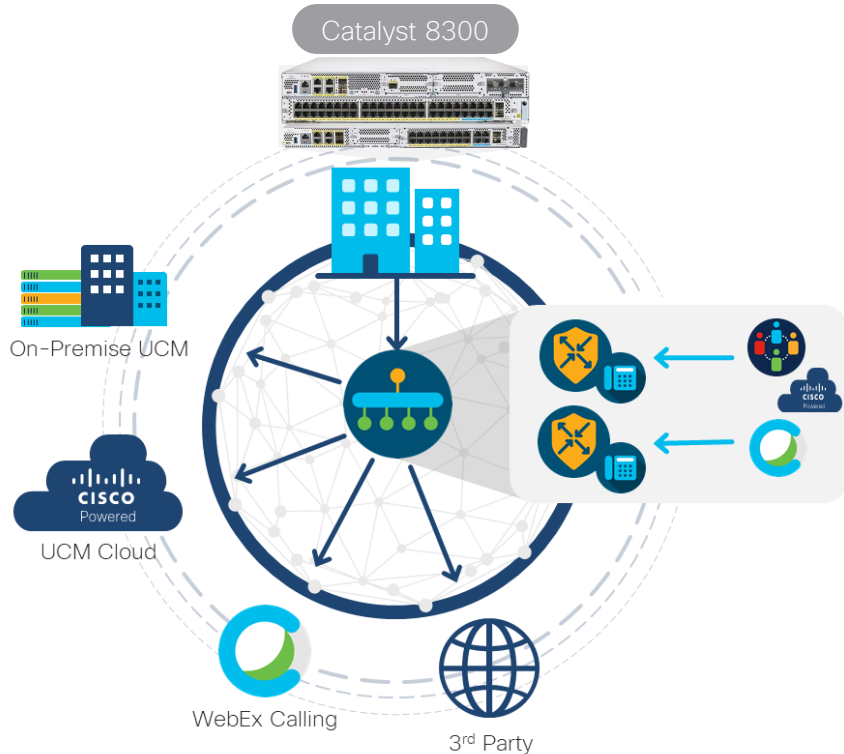
### Traditional Transport

### Zero-touch Provision

# AppQoE with SD-WAN



# Cisco SD-WAN Unified Communications, Voice Integration Benefits



## Telephony Integration

Only vendor to natively integrate analog/digital IP directly into the CPE

## Reduced OpEx and CapEx

Cisco SD-WAN now supports UC and SD-WAN within a single CPE

## Reduced Complexity

vManage can orchestrate scalable/consistent UC configuration across the entire enterprise via templates

## Telephony survivability

Prevent internal and external phone outages using SRST enabling branch router to assume role of call control PBX.

## Middle-mile Optimization

Only vendor actively partnering with colocation and SDCI Partners for optimization with cloud applications (WebEx, UCM Cloud and more)

# Cisco Catalyst 8300 Series Edge Platforms

Foundation for the Secure Cloud Scale SD-WAN branch

## Integrated Rich Services

Voice Survivability, Forward Error Correction & Packet Duplication, TCP Optimization

## Edge Intelligence

Compute  
Container based Apps



## Scale

Up to 5x IPsec and IP CEF Performance  
Core Availability for 3-4x Services Performance

## Multi-layer Security

SSL Acceleration  
Application Firewall  
IPS/IDS, URL Filtering  
AMP, Threat Grid  
Umbrella SIG

## Connectivity

Higher WAN Port density

Default 8G DRAM

10G w/ MACsec

Pluggable NVMe Storage

5G Ready

## Manageability

vManage

DNA Center

Open APIs

Analytics



YES  
Modularity

# Cisco Catalyst 8300 Series Edge Platforms

Introducing 10G in Access with higher port density

10G WAN Ports 'X'  
& 5G IPsec

C8300-2N2S-4T2X (12C)



C8300-1N1S-4T2X (8C)



4 RJ45  
2 SFP+

1G WAN Ports 'T'  
& 2G IPsec

C8300-2N2S-6T (8C)



C8300-1N1S-6T (8C)



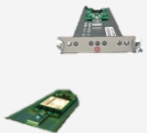
4 RJ45  
2 SFP

M.2 USB/  
NVMe Storage

UADP-based switch  
modules/10G WAN module

User Centric Design  
(RFID, QR label, FRUs)

Higher-efficiency AC  
and DC power supplies



# ISR 4451 vs C8300-2N2S-xxxx

## Product Comparison

Up to 4000 IPsec Tunnels

Up to 1.4Gbps SD-WAN IPsec

Up to 3.8Gbps CEF, 2Gbps Crypto

240Mbps IPS/IDS + URL-Filtering

4GB to 16GB upgradable DRAM

Ports/Slots: 4P , 2NIM/2SM

Split CP/DP, 4C+6C

Up to 6000 IPsec Tunnels

Up to 5Gbps SD-WAN IPsec

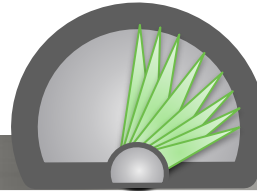
Up to 20Gbps CEF, 7Gbps Crypto

900Mbps IPS/IDS + URL-Filtering

8GB to 32GB upgradable DRAM

Ports/Slots: 4P+2xGE/TE, 2NIM/2SM/1PIM

X86 SoC, 12C/8C Cores, HW Crypto



*All perf numbers are aggregate IMIX for Crypto throughput*

# ISR 4431 vs C8300-1N1S-xxxx

## Product Comparison

Up to 3500 IPsec Tunnels

Up to 750Mbps SD-WAN IPsec

Up to 3.4Gbps CEF, 1Gbps Crypto

150Mbps IPS/IDS + URL-Filtering

4GB to 16GB upgradable DRAM

Ports/Slots: 4P , 2NIM/2SM

Split CP/DP, 4C+6C

Up to 6000 IPsec Tunnels

Up to 4.7Gbps SD-WAN IPsec

Up to 15Gbps CEF, 5.4Gbps Crypto

600Mbps IPS/IDS + URL-Filtering

8GB to 32GB upgradable DRAM

Ports/Slots: 4P+2xGE/TE, 1NIM/1SM/1PIM

X86 SoC, 8C Cores, HW Crypto



*All perf numbers are aggregate IMIX for Crypto throughput*



# Backward Module Compatibility

ISR 4400 Modules\*

New Modules

UCS-E M3  
SM Modules

Compute

SD-WAN Perf. MACsec

Ethernet WAN

L3 1x10G  
WAN Module



4P/8P/8P PoE  
NIM Modules

Ethernet LAN

L2 1G/2.5mG/10G  
Switch Modules



CAT4/6  
NIM Modules

LTE/5G

5G\*\*/CAT18 LTE  
PIM



FXS/FXO/BRI/T1E1  
SM-NIM Modules

Voice

Voice DSP Modules for  
IP Services



Serial/Async/DSL

Legacy WAN

Voice

\*ISR 4K Modules Not Supported: UCS-E M1/M2, Ethernet SM, Ethernet WAN, SM-NIM Carrier  
\*\*5G Roadmap

# Polling Question #3

**What are the different module types you are using in your ISR4000 branch?**

- Ethernet WAN modules
- Ethernet Switch modules
- Cellular WAN module
- Voice modules

# Catalyst 8300 Supported Modules

FYI



## LAN

NIM-ES2-8  
NIM-ES2-8-P  
C-SM-40G8M2X  
C-SM-16G4M2X

## Async

NIM-16A  
NIM-24A  
SM-X-64A

## WAN

C-NIM-1X  
NIM-1T  
NIM-2T  
NIM-4T  
SM-X-1T3/E3\*  
NIM-2BRI-S/T\*  
NIM-4BRI-S/T\*

WAN + Voice:  
NIM-1MFT-T1/E1  
NIM-2MFT-T1/E1  
NIM-4MFT-T1/E1  
NIM-8MFT-T1/E1  
NIM-1CE1T1-PRI\*  
NIM-2CE1T1-PRI\*  
NIM-8CE1T1-PRI\*

## LTE

NIM-LTEA-EA  
NIM-LTEA-LA  
P-LTE-VZ  
P-LTE-NA  
P-LTE-US  
P-LTE-JN  
P-LTE-GB  
P-LTE-IN  
P-LTE-AU  
P-LTEA-EA  
P-LTEA-LA  
P-LTEAA-EA  
P-LTEAP18-GL  
CAT18 CGW\*

## 5G

(1H, CY21 : Roadmap)

5G sub-6GHz CGW  
5G sub-6GHz PIM

## Voice

SM-X-PVDM-3000  
SM-X-PVDM-2000  
SM-X-PVDM-1000  
SM-X-PVDM-500  
SM-X-24FXS/4FXO  
SM-X-16FXS/2FXO  
SM-X-8FXS/12FXO  
SM-X-72FXS

NIM-2FXSP  
NIM-4FXSP  
NIM-2FXS/4FXOP  
NIM-2FXO  
NIM-4FXO  
NIM-4E/M\*  
NIM-2BRI-NT/TE\*  
NIM-4BRI-NT/TE\*  
NIM-PVDM-32  
NIM-PVDM-64  
NIM-PVDM-128  
NIM-PVDM-256

## DSL

NIM-VAB-A  
NIM-VA-B  
NIM-VAB-M  
NIM-4SHDSL-EA

## ADAPTOR

C-SM-NIM-ADPT

## Storage

SSD-M2NVME-600G  
M2USB-16G  
M2USB-32G

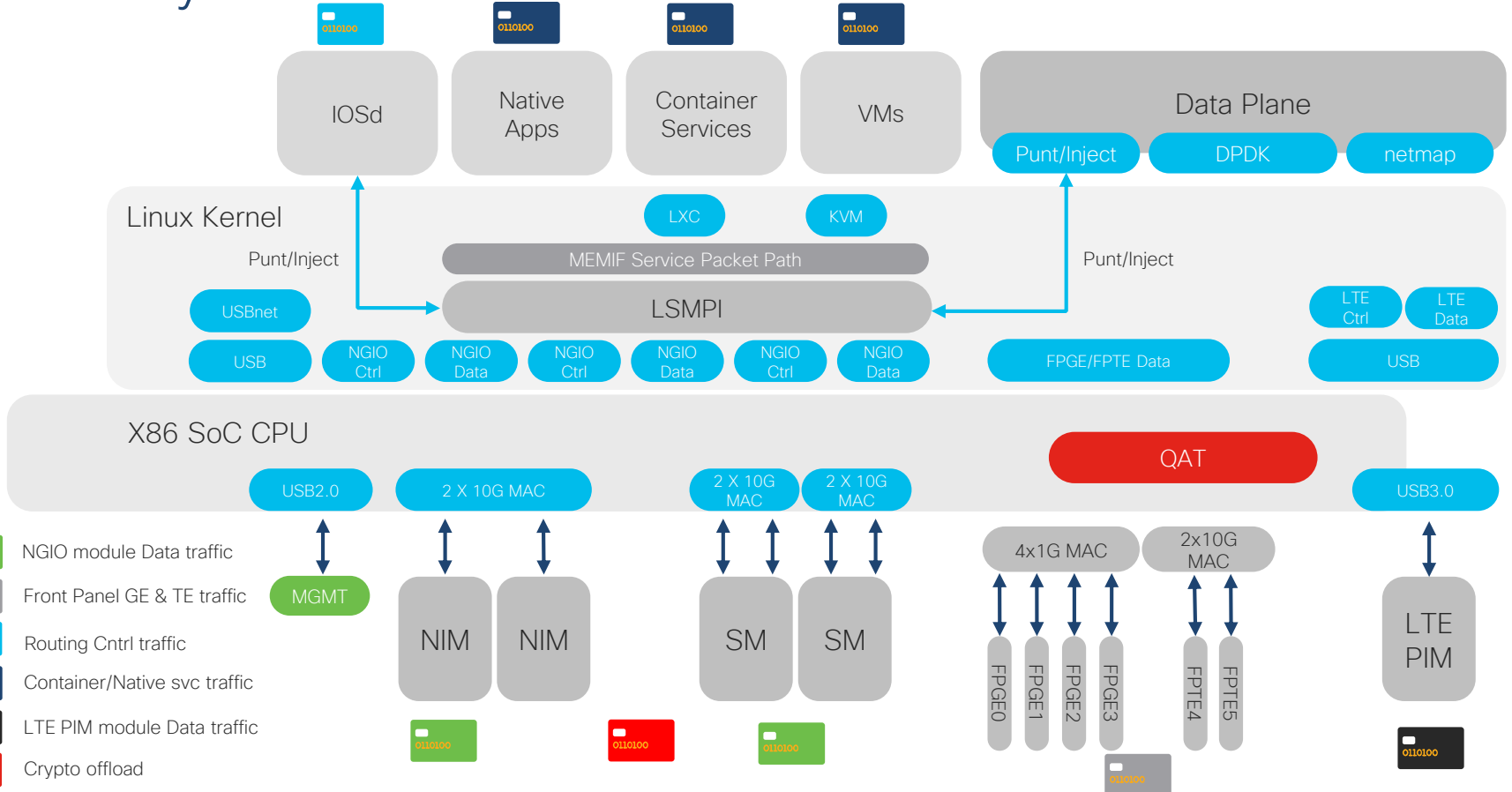
## UCS-E

UCS-E160S-M3/K9  
UCS-E1120D-M3/k9  
UCS-E180D-M3/K9

\* IOS XE is supported, SD-WAN support in 17.4

Blue color: new modules

# Catalyst 8300 and Life of a Packet



# Cisco Catalyst Cellular Gateway

Flexibility & Simplicity Redefined for Multigigabit Wireless WAN

## Giga-Bit Class Cellular

LTE/CAT18 Speeds  
Dual SIM

## SD-WAN Ready

Automation, Assurance  
API Support

## Secure by Design

Trustworthy Solutions  
Failure Recovery

## Operational Resiliency

Out-of-band management  
IP Passthrough using Single PDN



High-speed Failover or  
Primary Cellular WAN

Precision Placement for  
Better Coverage

PoE or External  
Power Source

Catalyst 8000V

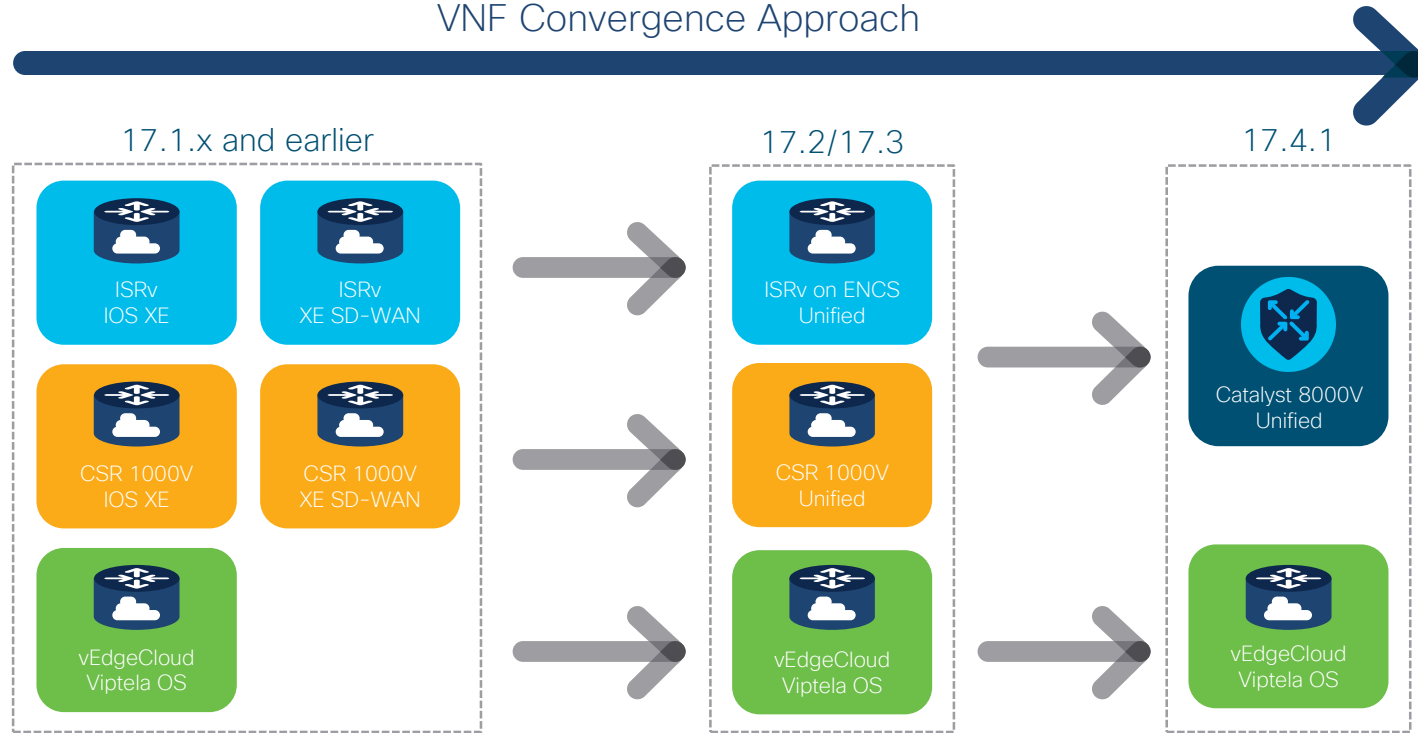


# Catalyst 8000V

Future of Cloud

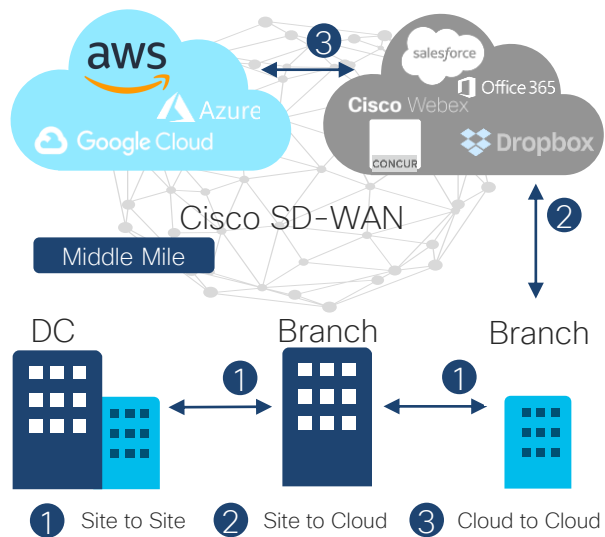
# Virtual Router Convergence

## VNF Convergence Approach



# Cisco Catalyst 8000V Edge Software

## Consistent branch to cloud experience



### Cloud Scale Features

- Automated Self-service
- Normalized for Multicloud
- Service Level Observability
- Optimal SaaS Experience
- PAYG offered through marketplace
- Ecosystem partnerships for middle mile automation

### Enhanced Virtual Platform

- Single virtualized image for all site deployments
- Secure object storage
- Crypto offload at virtualized branch
- Optimized image for 16 vCPU consumption
- ENCS NIM support

Catalyst 8000V – Built to interconnect cloud solutions



# Cisco Catalyst 8000V Edge Software

## Enterprise-class Networking and Security with Flexibility of a x86 Based VNF

### Multiservices Support

Feature-rich IOS XE and XE SD-WAN software  
Supported features such as NAT, Firewall, NBAR  
QoS, etc.  
Runs on any x86 VM platform

### Cloud Integration

Extends connectivity, visibility, security into public  
and private clouds  
Auto-scaling capability  
Integration with Azure vWAN and AWS TGW  
Supports wide variety of cloud instances



### Performance Elasticity

CPU Hypervisors: 1 - 8 vCPU  
Cloud Providers: 1- 16 vCPUs  
Memory Scale: 4 - 16Gb

### Multi-layer Security

Secure object storage  
High Throughput IPsec  
IPS/IDS, URL Filtering, AMP/TG

### Catalyst 8000V



SRIOV  
Hypervisor/Cloud

Up to 10  
Gbps  
IPsec  
in cloud

ENCS NIM  
support

TGW and  
vWAN  
integration

\*Roadmap

DPDK IO

SD-WAN  
in AWS,  
Azure,  
and GCP

## Highlights

## Manageability

vManage

DNA Center\*

Open APIs

Analytics

# Catalyst 8000V continues to build on CSR 1000V

Catalyst 8000V		CSR 1000V
✓	Secure Object Store	✗
✓	ENCS NIM Support	✗
✓	SD-WAN on Google Cloud	✗
✓	Azure Virtual WAN Integration	✗
DNA Licensing	Licensing	Classic + DNA licensing



Summary



# Cisco Catalyst 8000 Edge Platforms Family

## High Performance SD-WAN Headend, Intelligent Branch and Agile Cloud Edge



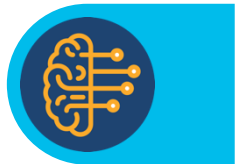
### Ready for the Agile Cloud Journey

High Speed Cloud Access  
Multi-Cloud Application Optimization  
Compact, Powerful 1RU Platforms



### Ready for 5G, Edge Compute

3<sup>rd</sup> Generation QFP In-Line Crypto  
SASE driven Feature Innovations  
Improved Services Performance



### 5G Ready Edge Intelligence

High End Aggregation 100/40/10/1GE  
Port flexibility  
Multi-Domain Intent Based Networking



### Equipped with User Centric Design

Operational Ease for better Tracing  
Radio Frequency ID, Label Tray  
Field Replaceable FAN Tray

1<sup>st</sup> 100/40GE Port  
1RU SD-WAN  
Platform



3<sup>rd</sup> Gen QFP, HW  
Accelerated  
Services



High Performance



### Catalyst 8000V

SRIOV  
Hypervisor/Cloud



10GE WAN, Rich  
connectivity

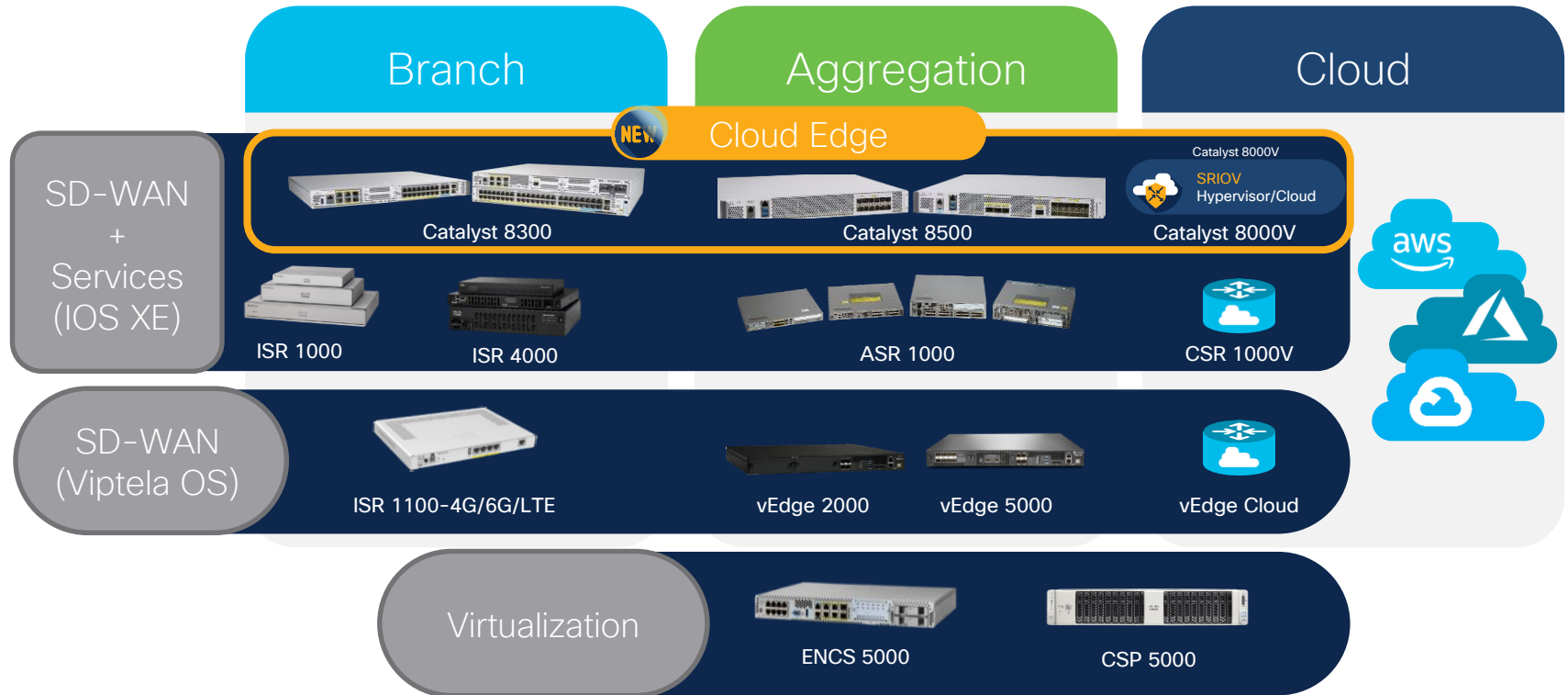


Cloud Security and  
on-prem Security



Automation &  
Telemetry

# The Broadest Set of SD-WAN Platforms



# References

# Catalyst 8500 Series Edge Platforms

- Datasheet:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-8500-series-edge-platforms/datasheet-c78-744089.html>
- Frequently Asked Questions:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-8500-series-edge-platforms/q-and-a-c67-744086.html>
- Ordering Guide:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-8500-series-edge-platforms/guide-c07-744092.html>

# Catalyst 8300 Edge Platforms

- Datasheet:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-8300-series-edge-platforms/datasheet-c78-744088.html>
- Frequently Asked Questions:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-8300-series-edge-platforms/q-and-a-c67-744085.html>
- Ordering Guide:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-8300-series-edge-platforms/guide-c07-744100.html>



# Catalyst 8000V Edge Platforms

- Datasheet:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-8000v-edge-software/datasheet-c78-744101.html?oid=dstetr023051>
- Frequently Asked Questions:  
<https://www.cisco.com/c/en/us/products/routers/catalyst-8000v-edge-software/index.html>

# Catalyst Cellular Gateway

- Datasheet:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-cellular-gateways/data-sheet-c78-744210.html>
- Frequently Asked Questions:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-cellular-gateways/q-and-a-c67-744212.html>
- Ordering Guide:  
<https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-cellular-gateways/guide-c07-744211.html>

# Catalyst 8000 Blogs

- **blogs.cisco.com:** <https://blogs.cisco.com/networking/catalyst-8000-edge-platforms?dtid=osscdc000283>
- **Cisco Community:** <https://community.cisco.com/t5/networking-blogs/the-new-era-of-wan-an-asic-innovation-story/ba-p/4175243>

# Catalyst 8000 Blogs

- **sdxcntral:** <https://www.sdxcntral.com/articles/news/cisco-unifies-services-routers-under-catalyst-umbrella/2020/10/>
- **zdnet:** <https://www.zdnet.com/article/cisco-debuts-new-catalyst-family-of-wan-edge-platforms/>
- **Networkworld:** <https://www.networkworld.com/article/3586590/cisco-targets-wan-edge-with-new-router-family.html>
- **eweek:** <https://www.eweek.com/networking/cisco-systems-brings-some-muscle-to-sd-wan>
- **err-disable:** <https://err-disable.com/the-new-routers-are-here-cisco-catalyst-8000-series/>

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## YouTube

- Cisco Community
- <http://bit.ly/csc-youtube>



## App

- Cisco Technical Support



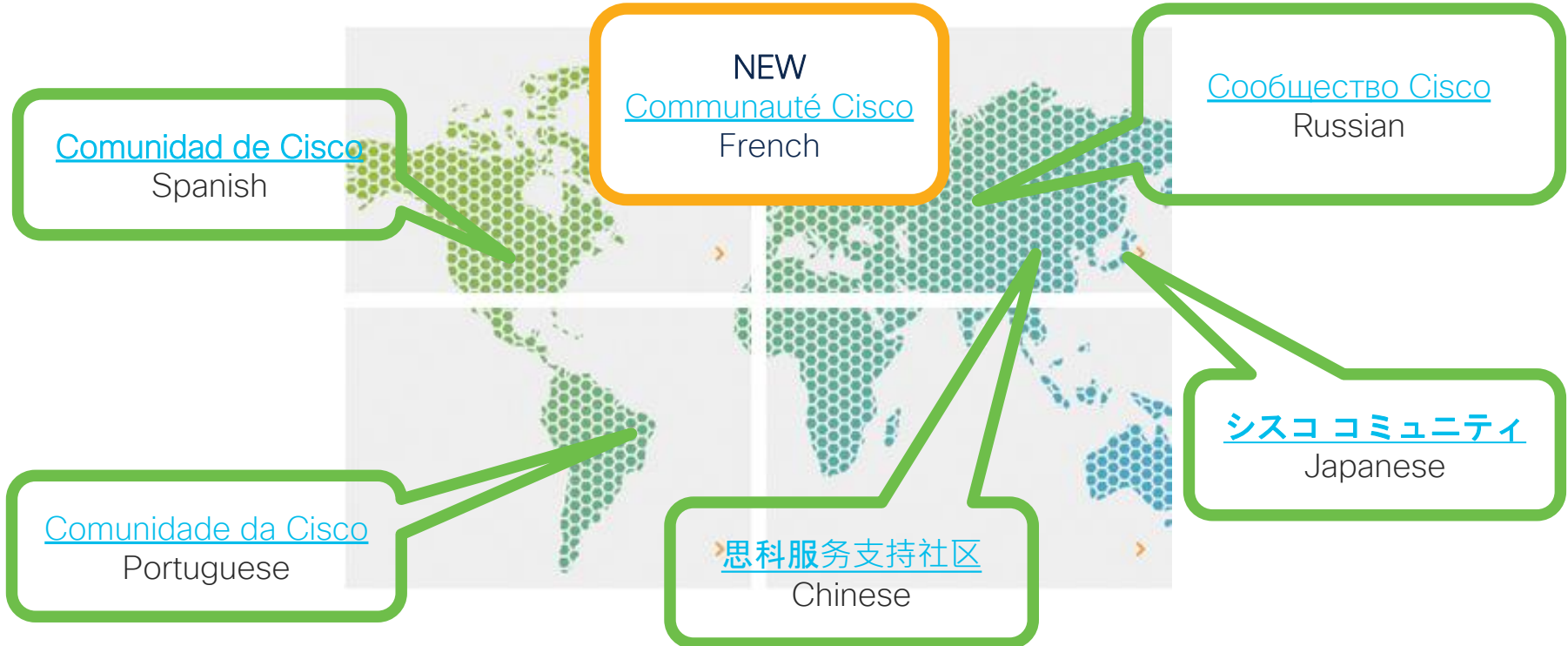
## LinkedIn

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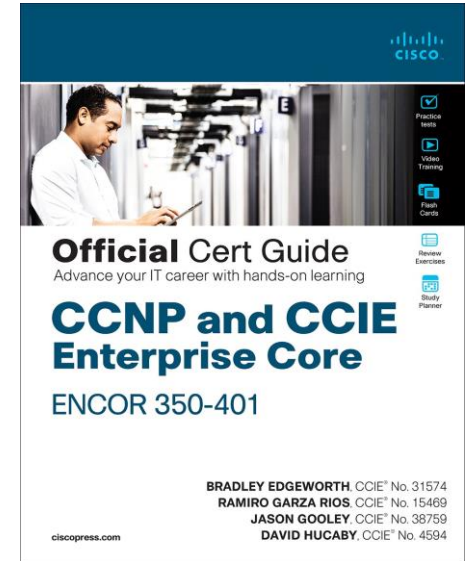
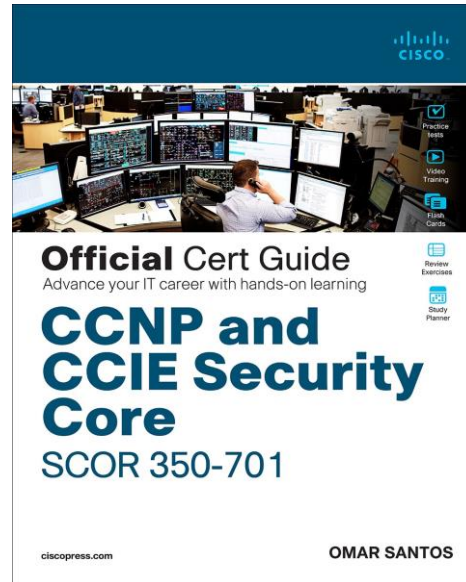
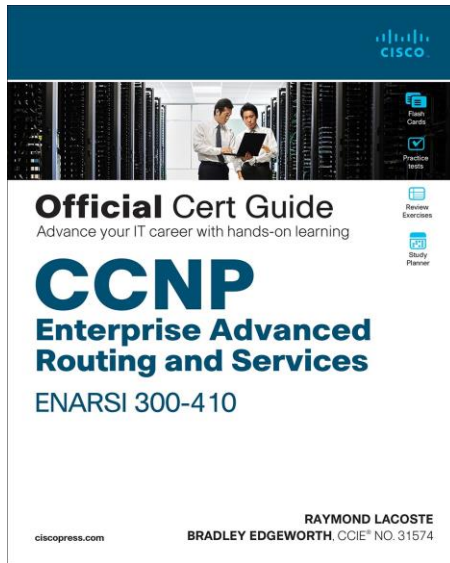
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