

Catalyst
Tuesdays



Catalyst
8200 and
8200-uCPE
Deep Dive

Speakers: Shameel Ummer, Ramesh Kalimuthu

EN Routing Product Marketing

Date: February 16, 2021

Introducing

Catalyst 8000

Edge Platforms Family

Agenda

- 1 Catalyst 8000 Introduction
- 2 Key Building Blocks
- 3 Catalyst 8200
- 4 Catalyst 8200-uCPE
- 5 Promotion Offers and Summary

It's a Multicloud World



Technology transformations

Top digital business initiatives in the cloud age



SASE/Multicloud

Cloud migration will continue to accelerate the adoption of SD-WAN

- Markets & Markets Research



Predictable Scale

75%

believe SaaS/Cloud are important to WAN choice

[IDC Report](#)



5G/IOT

By 2022, 5G Infra in Branch expected to grow to \$1.9 billion

- IDC Report



Reducing Risk

43%

of teams identified embedded network security as priority

[Cisco Global Networking Report](#)



Edge Computing

37% of enterprise customers plan to implement SD-Branch in some way in next 5 years

- IDC Report



Increasing Agility

50%

of all workloads run outside of enterprise DC by 2021

[Cisco Global Networking Report](#)

Moving toward Virtualization


SD-Branch as a solution to top technology challenges



SD-WAN Adoption

56% of enterprises have at least begun PoCs with SD-WAN ; will increase to 86% by 2022

- Omdia



Flexibility with NFV

50% of customers value elastic scale and ease of delivering new features/versions quickly.

- IDC Report



More Edge Computing

"...need a hardware platform for on-premises workloads that can host as many of these enterprise (edge computing) use cases as possible

- Omdia




SD-Branch

58%

of branch network and security functions will be virtualized in 5 years


- IDC Report



SP-Led Motion

"SPs are leveraging NFV to optimize networks, improve service delivery times, increase ARPU, & reduce CAPEX/OPEX"

- [MarketsandMarkets Research](#)



General Purpose Platforms

130%

Expected CAGR in uCPE market from \$27.4M in 2020 to \$1.78B in 2024, for SD-Branch and edge computing use cases

- Omdia

Powered by secure cloud scale SD-WAN

Cisco's flexible architecture for Intent-based Networking

Any Deployment



On-premise | Cloud | Multi-tenant
Automation | Network Insights | Machine Learning | AI
Open | Programmable | Scalable

Any Service



Multicloud
Optimization



Multi-Layer
Security



Analytics



Voice



Multi-Domain
IBN Policy

Any Transport



Satellite



Internet



MPLS



5G/LTE

Any Location



Branch



Colocation



Cloud



Remote Work

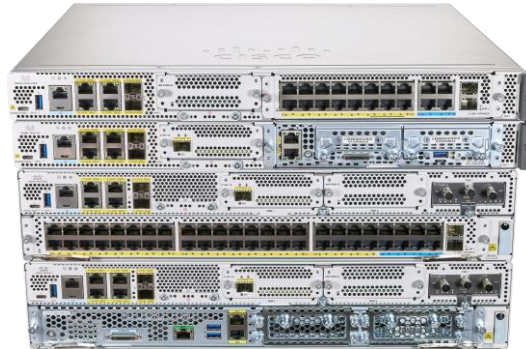
Catalyst 8000V



SRIOV
Hypervisor/Cloud



Catalyst 8500 Series



Catalyst 8300 Series



Catalyst 8200 Series

Catalyst 8000 Edge Platforms Family

Built for New Age of Intent Based WAN

Cisco Catalyst 8000 Edge Platforms Family

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

Catalyst 8500 Series
Edge Platforms



ASR 1K Fixed

Aggregation

Catalyst 8300/8200
Series Edge Platforms



ISR 4400/4300

Modular Access

Catalyst 8000V Edge
Software
Catalyst 8200 Edge uCPE



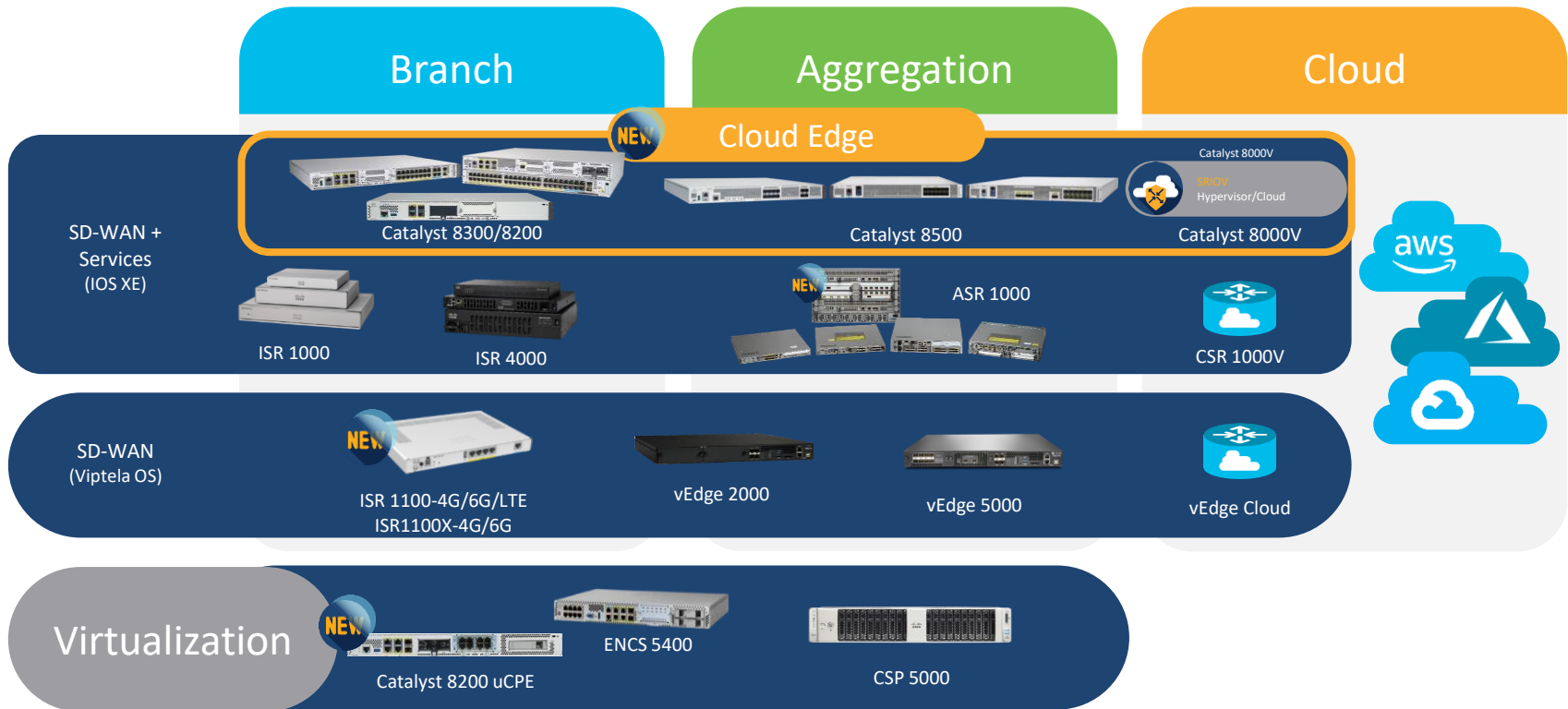
CSR 1000V/ENCS 5100

Cloud/Virtual

Delivering SASE for your Multicloud WAN Edge needs

Cisco offers the broadest portfolio for WAN transformation

Resilient Infrastructure to deliver IT agility



Single Offer with common DNA Subscription

Systems

SRIOV
Hypervisor/Cloud



Catalyst 8000 Edge
Platform Family



DNA Subscription



Cisco DNA Premier



Cisco DNA Advantage

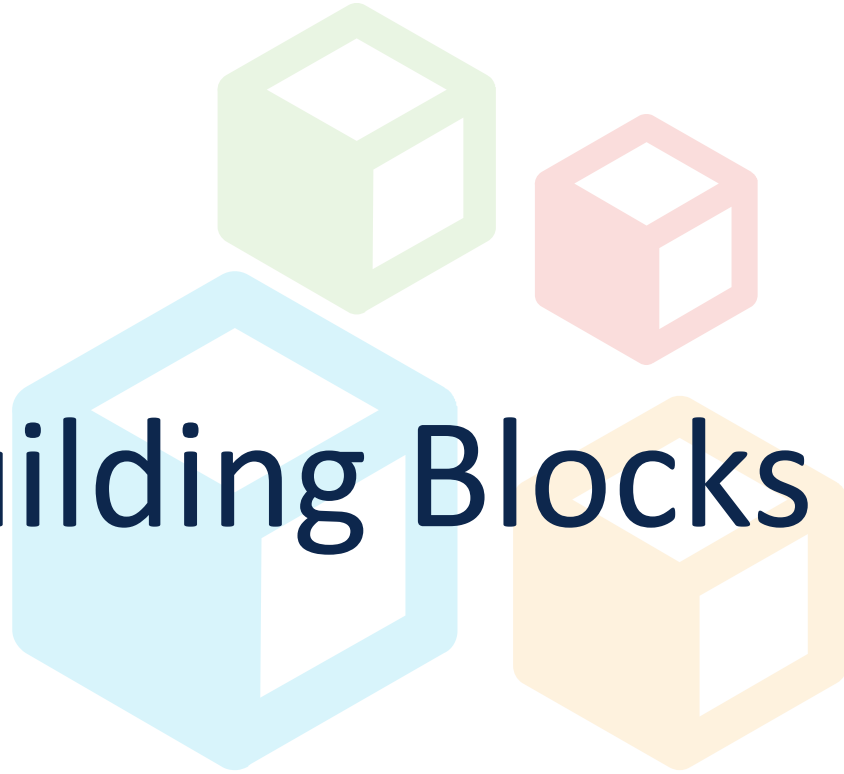


Cisco DNA Essentials

C8500 supports DNA-Advantage licensing only

Performance, Flexibility & Investment Protection

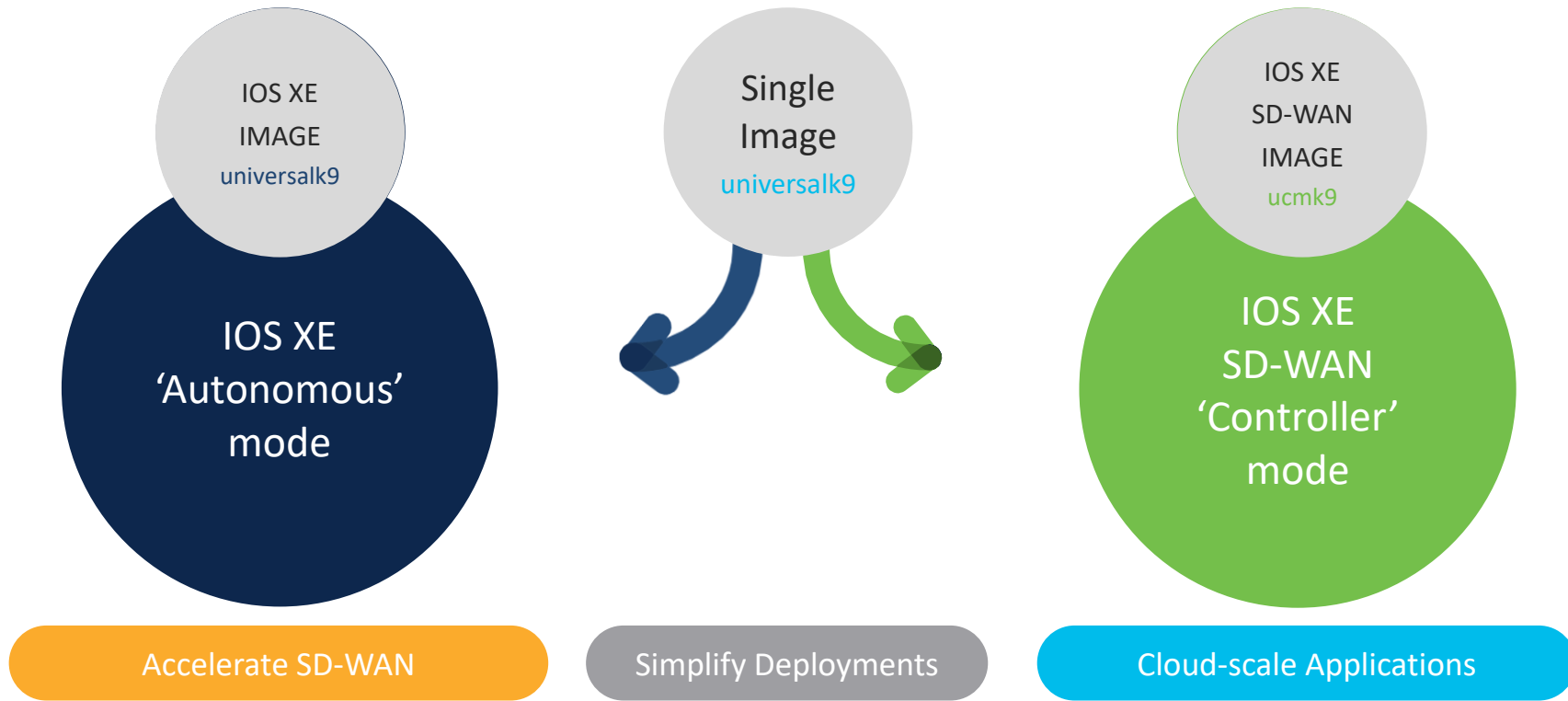
Key Building Blocks





Open and Extensible IOS XE

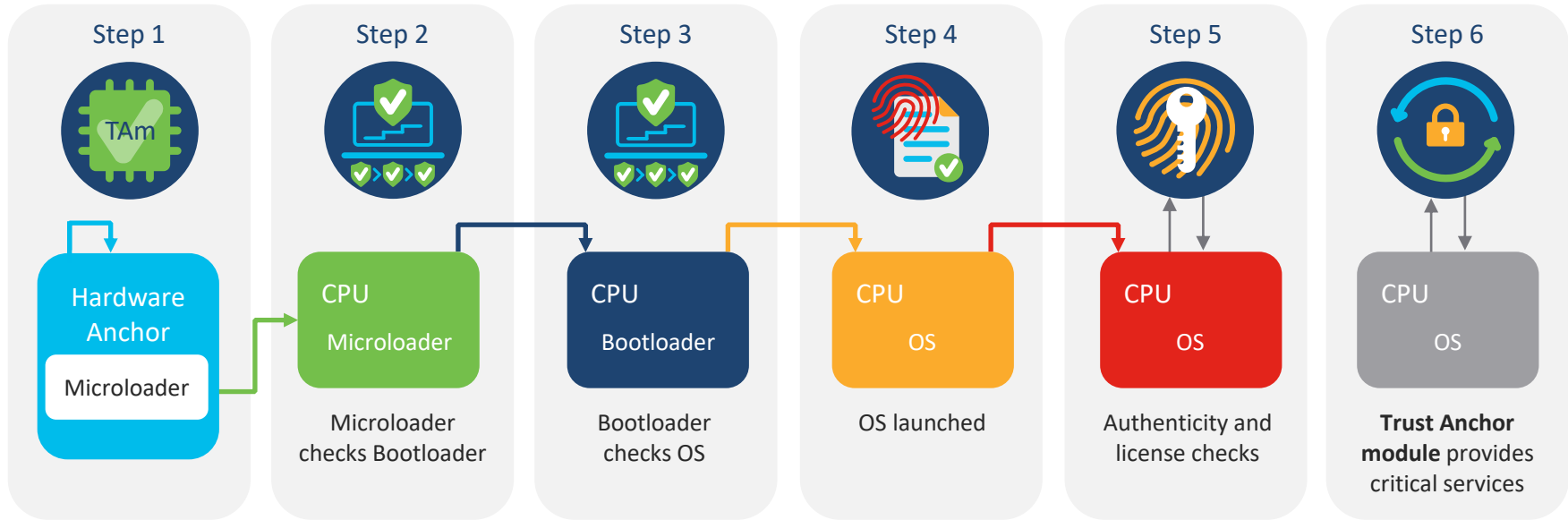
Easy Operations with Single Image



Open, API, Model Driven & Secure Operating Systems



Secure Platform with Trustworthy Solutions



First instructions run on CPU stored in tamper-resistant hardware

Confidentiality

Integrity

Authenticity



Catalyst 8200

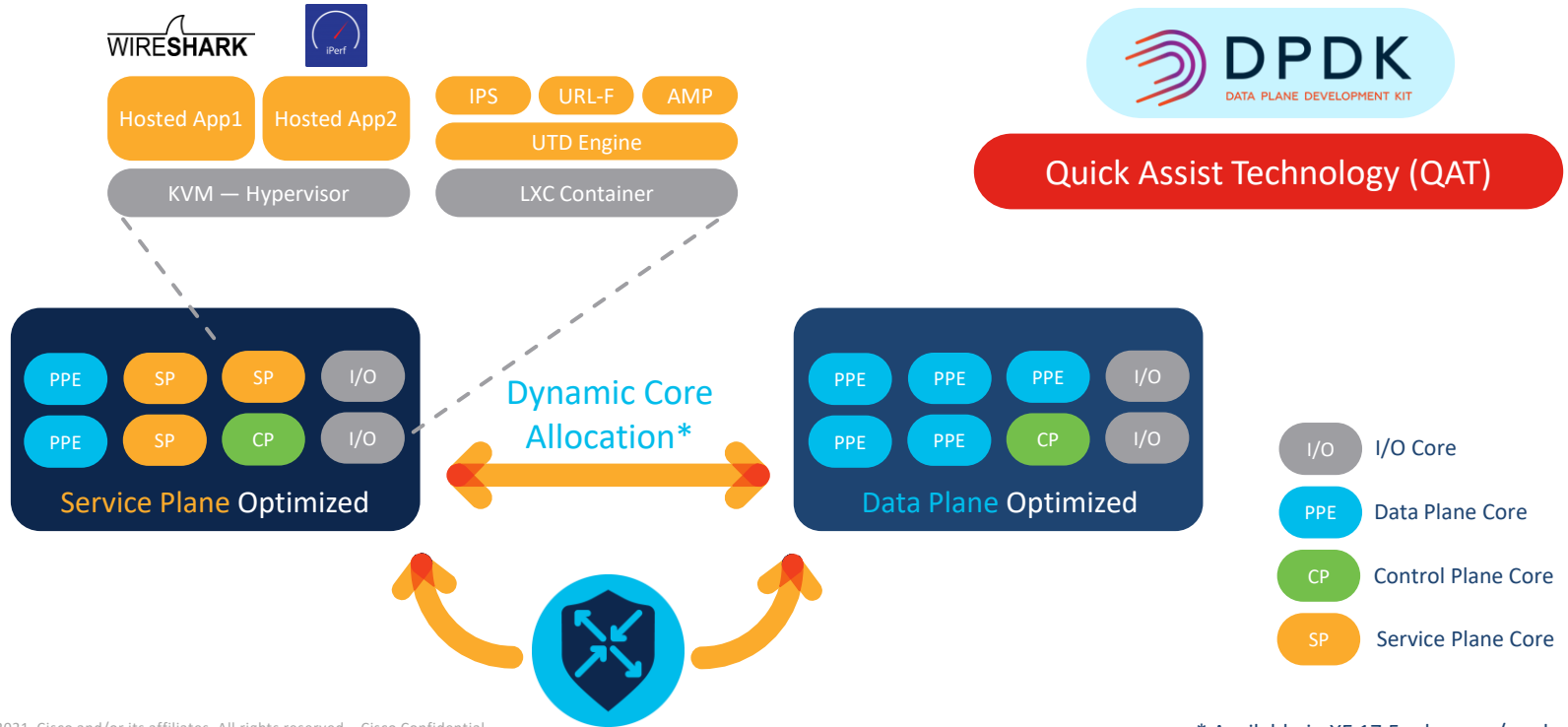
Evolution of ISR4300

x86 Multi-core SoC Architecture

Key Datapath Innovations

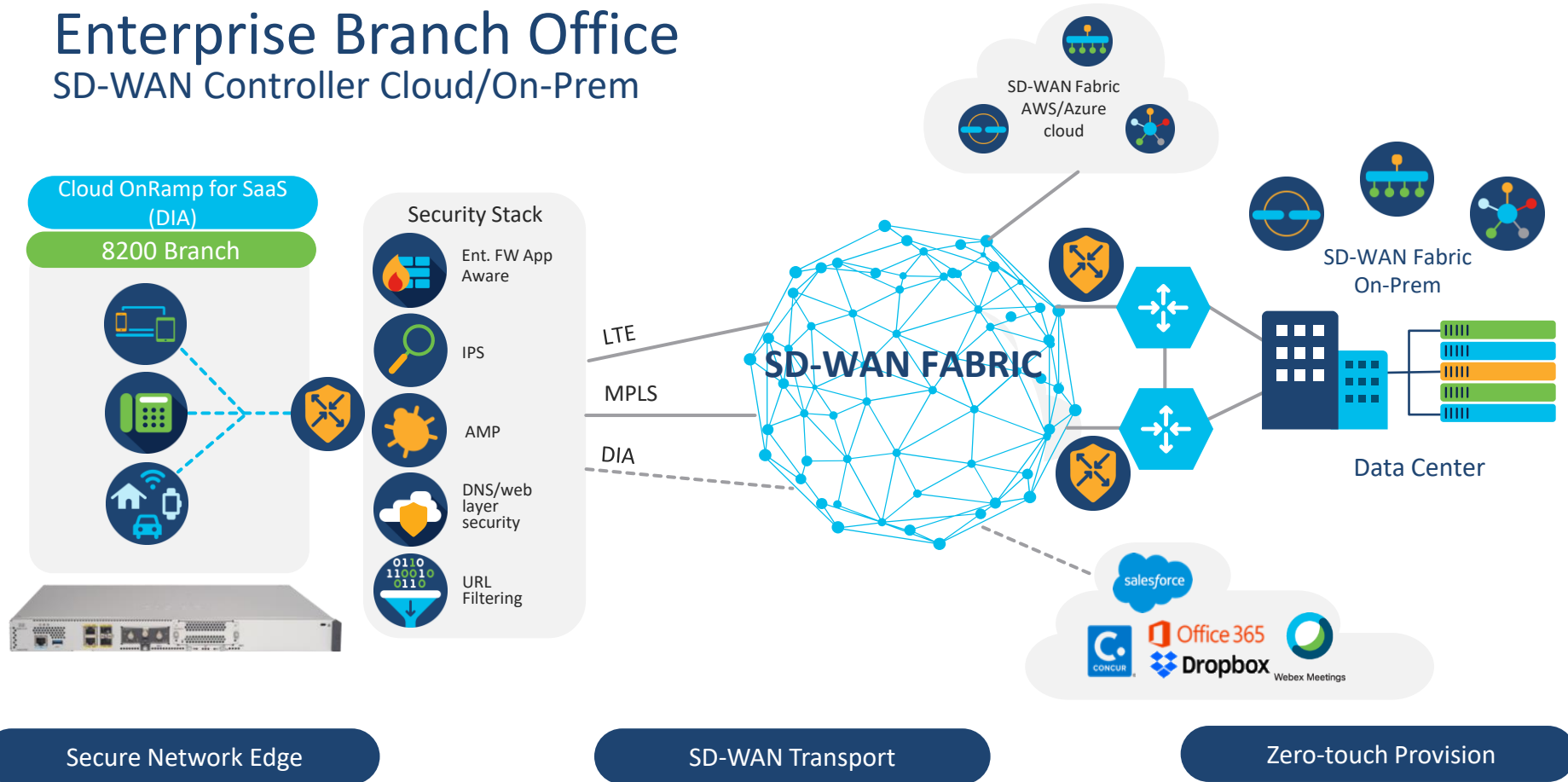


X86 Multi-core CPU



Enterprise Branch Office

SD-WAN Controller Cloud/On-Prem

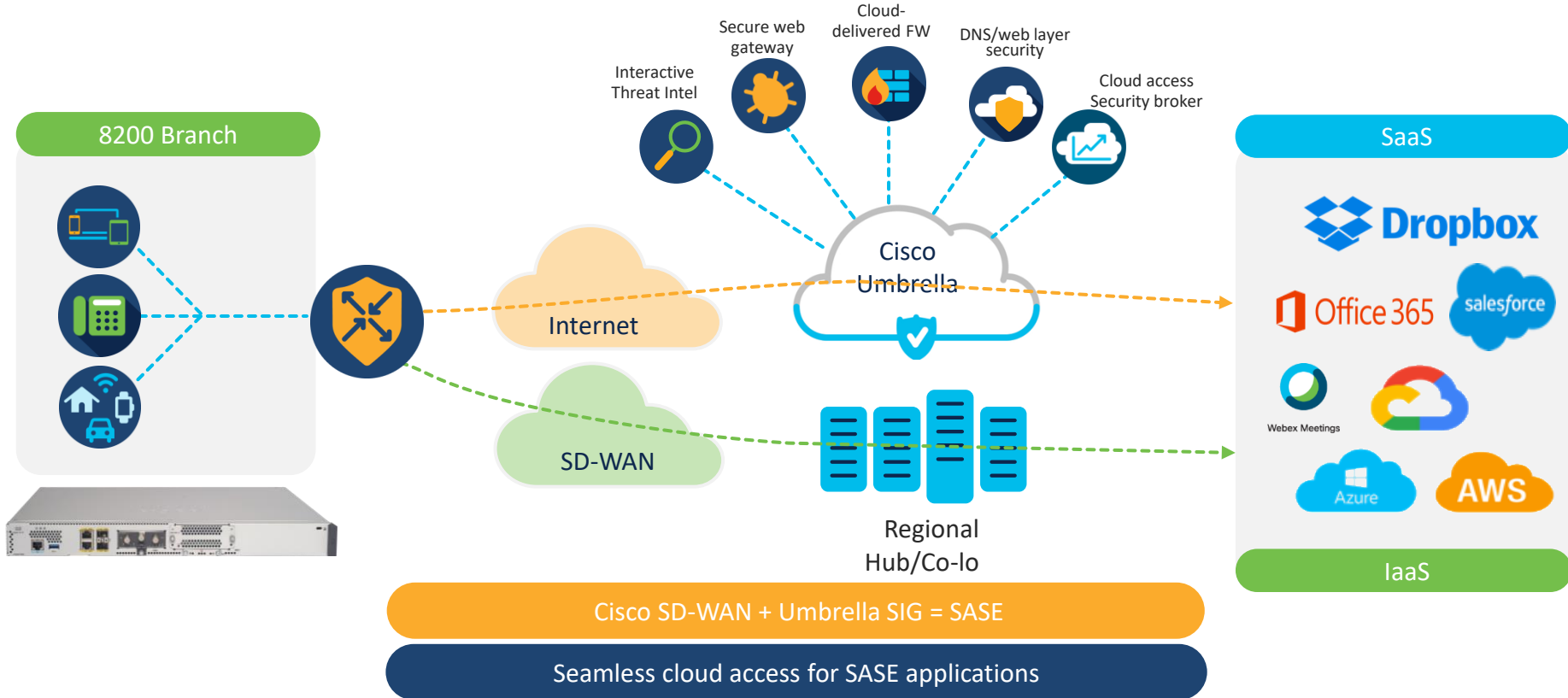


Secure Network Edge

SD-WAN Transport

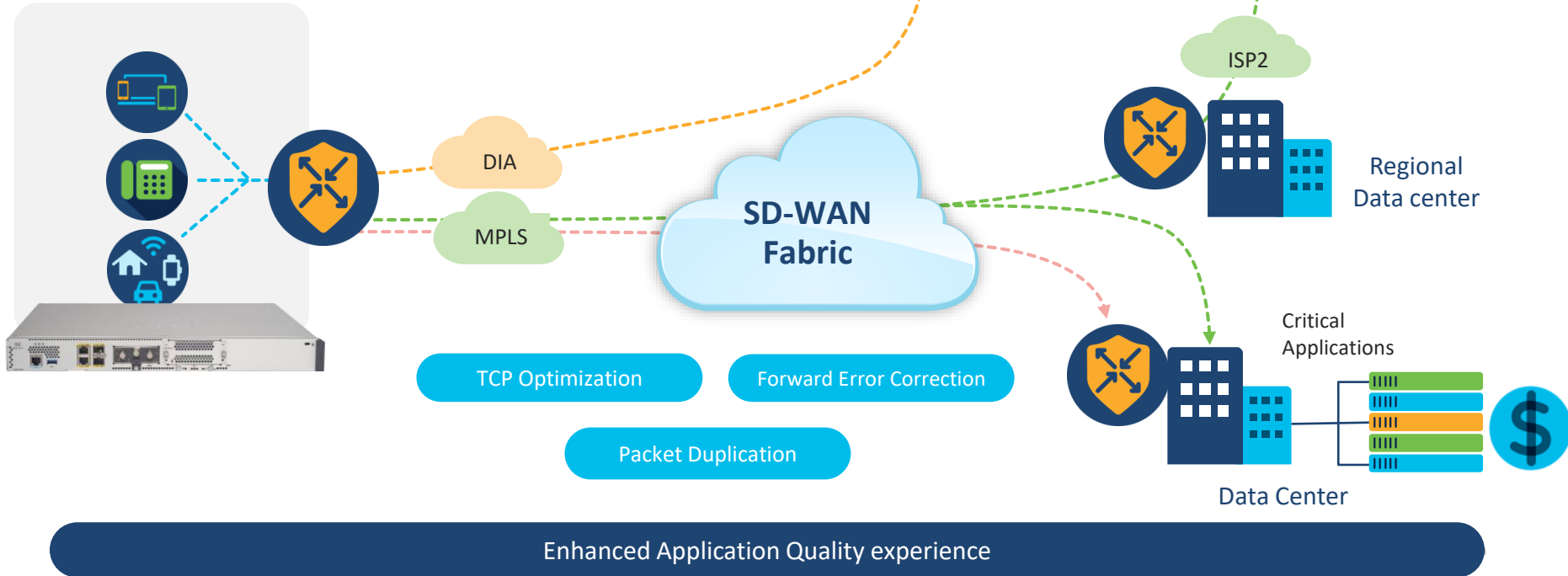
Zero-touch Provision

SASE Cloud Adoption with SD-WAN



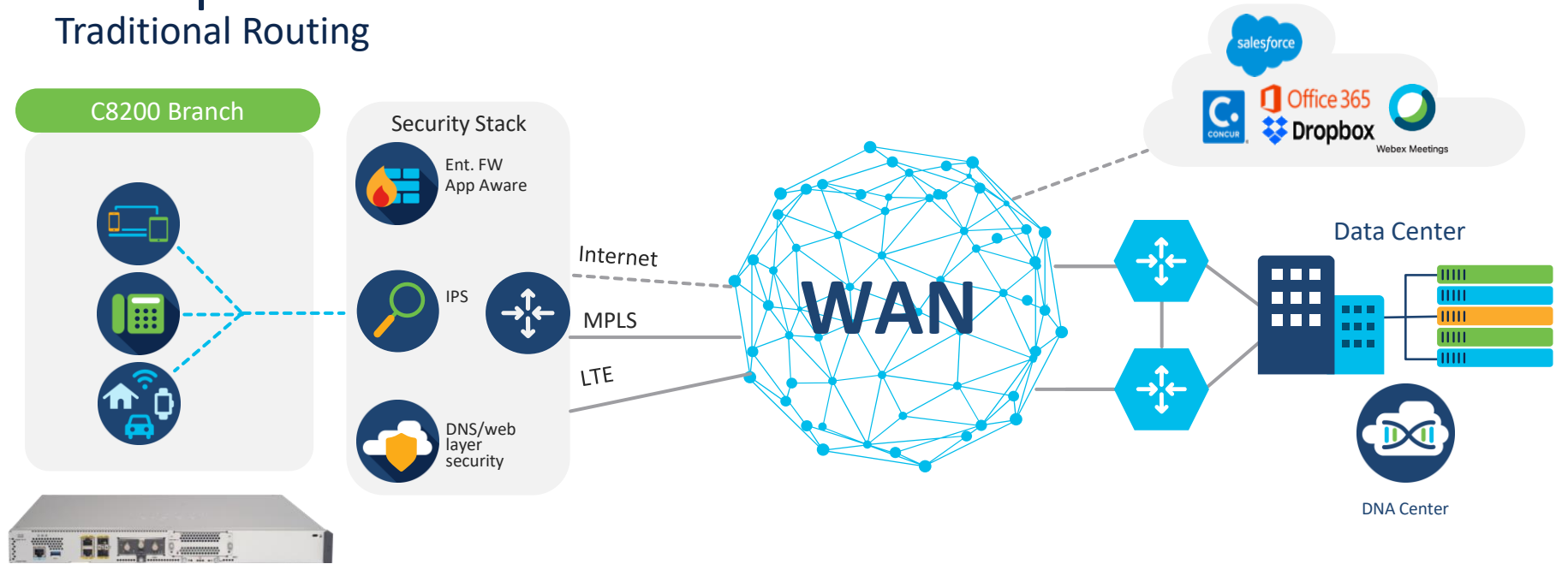
AppQoE with SD-WAN

C8200 Branch



Enterprise Branch Office

Traditional Routing

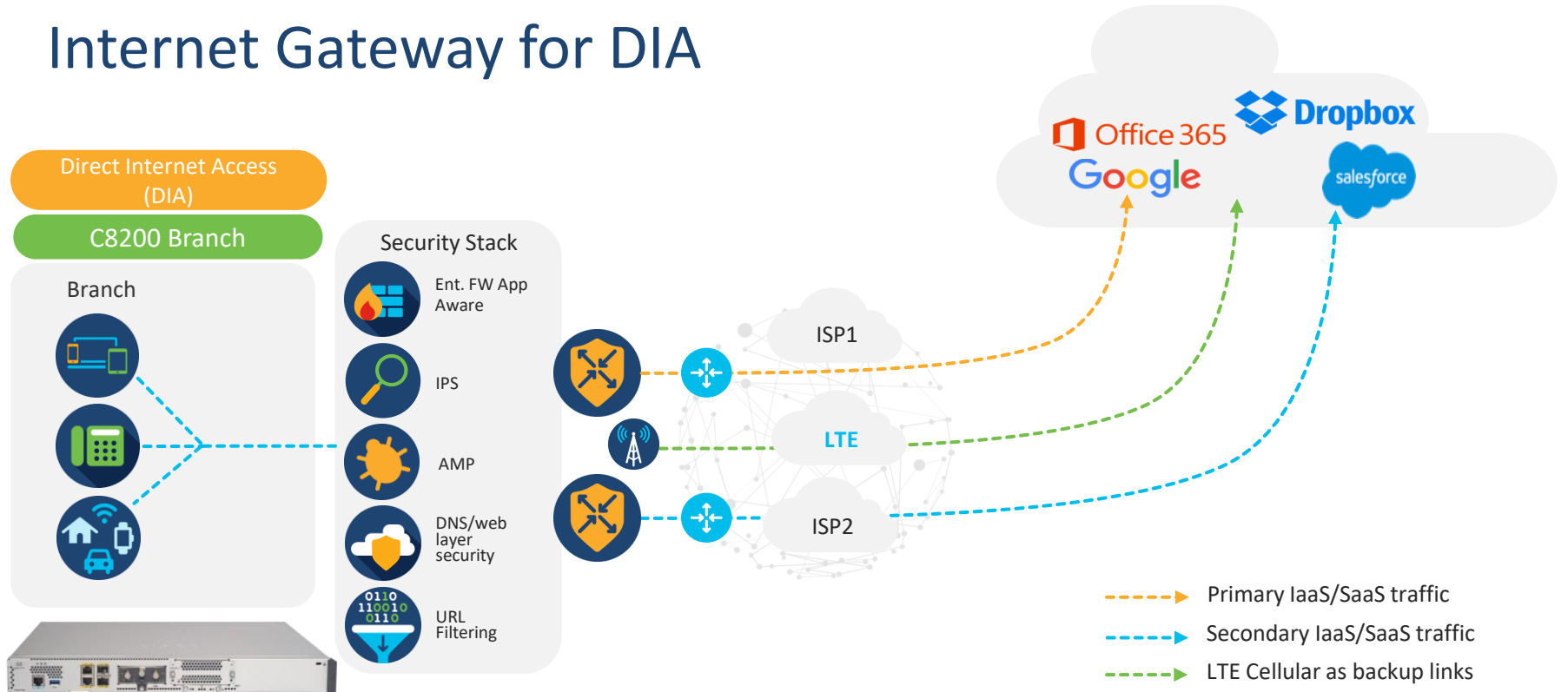


Secure Network Edge

Traditional Transport

Zero-touch Provision

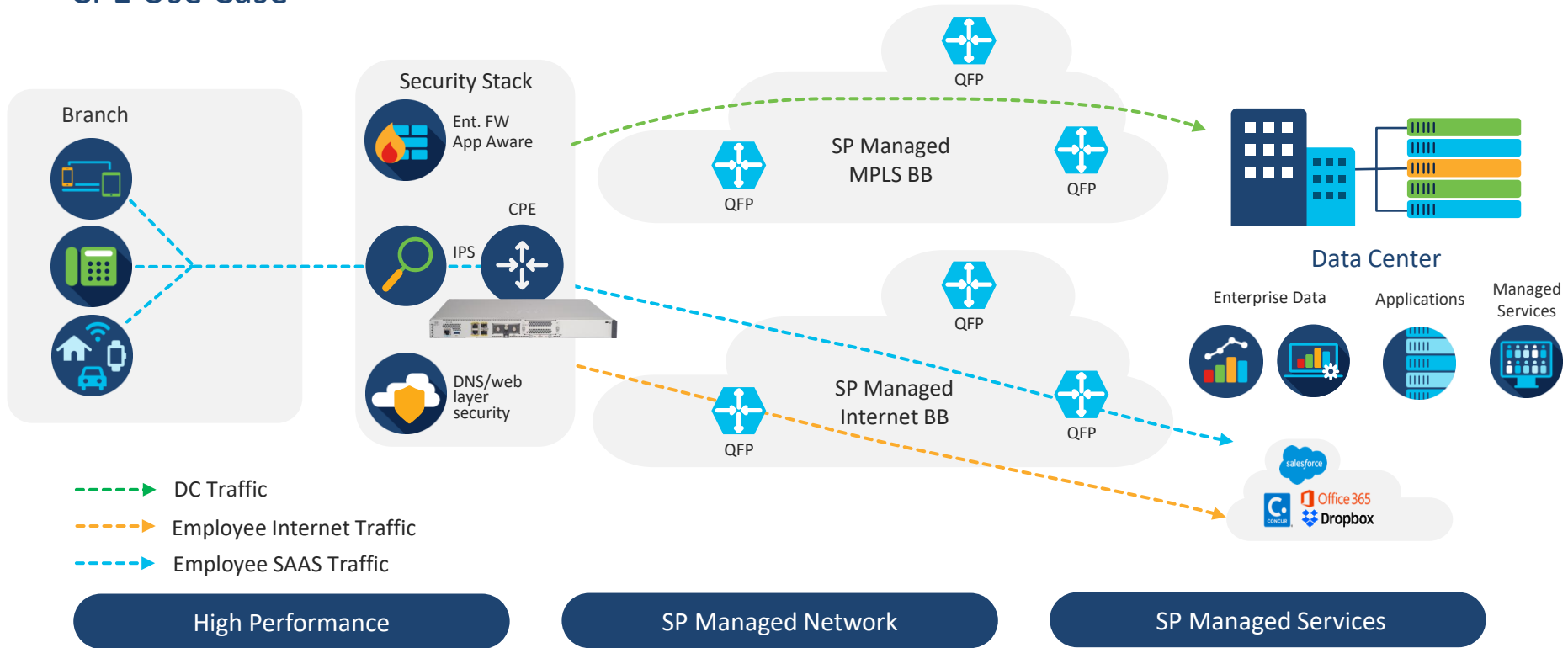
Internet Gateway for DIA



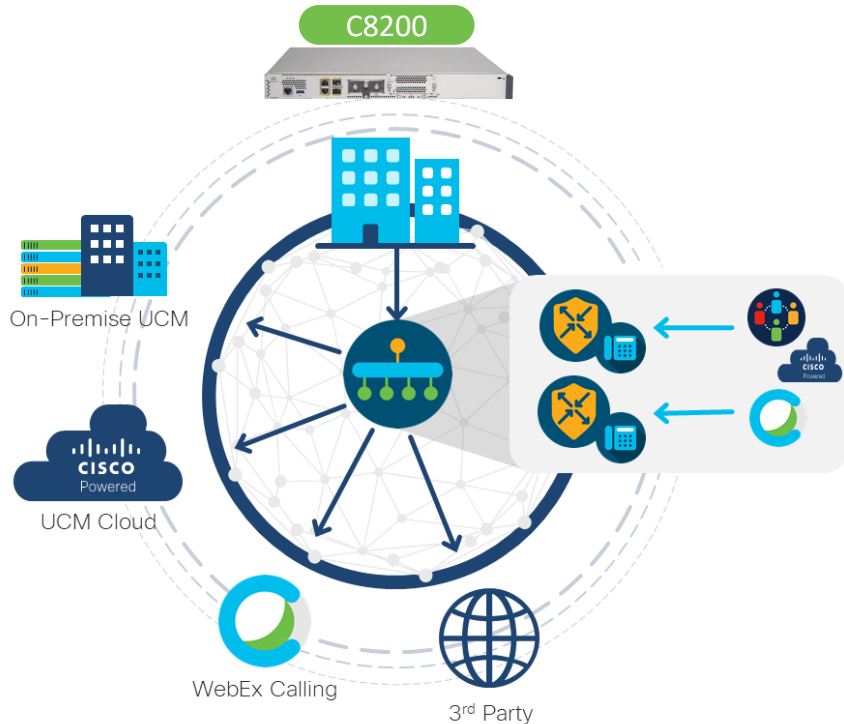
High speed internet access at the service edge

Managed Service Providers

CPE Use Case



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 8200 Series Edge Platforms

Multi Gig SD-WAN branch with Accelerated Services



2x Data plane Performance



2x Services Performance



Gigabit+ Cellular, 5G Ready



SD-WAN Voice Integration

SoC Architecture for
Dynamic Core allocations



Hardware
Accelerated Services



Up to 2500 SD-WAN
IPsec Tunnels



High Speed Cloud Access



Cisco Catalyst 8200 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

Container based Apps



Performance & Scale

Up to 2x IPsec and CEF Performance
Core Availability for 2x Services Performance
Up to 2x higher IPSEC tunnel Scale

Multi-layer Security

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

Connectivity

Higher
WAN Port
density

Default 8G
DRAM

< 12"
Depth

Pluggable
NVMe
Storage

5G Ready

Manageability

vManage

DNA Center

Open APIs

Analytics

YES
Modularity

Cisco Catalyst 8300, 8200 Series Edge Platforms

The leading SD-WAN high performance branch router with rich services

Performance and Rich Services

C8300-2N2S-4T2X
(10G WAN Ports)



(2 RU, Up to 12 Gbps CEF
Up to 5 Gbps IPsec)

C8300-1N1S-4T2X
(10G WAN Ports)



(1 RU, Up to 12 Gbps CEF
Up to 5 Gbps IPsec)

C8300-2N2S-6T
(1G WAN Ports)



(2 RU, Up to 10 Gbps CEF
Up to 2 Gbps IPsec)

C8300-1N1S-6T
(1G WAN Ports)



(1 RU, Up to 10 Gbps CEF
Up to 2 Gbps IPsec)

C8200-1N-4T
(1G WAN Ports)



(1 RU, Up to 3.8 Gbps CEF
Up to 1 Gbps IPsec)

Cisco IMIX traffic (352 Bytes Average packet size)
CEF: Autonomous mode Routing
IPsec: Autonomous & Controller/SDWAN mode

Flexible SoC Architecture with Multiple Cores

Cisco Catalyst 8200 Series Edge Platforms

Introducing 1G in Access with higher port density

C8200-1N-4T

1G WAN Ports 'T'
& 1G IPsec



2 RJ45
2 SFP

NVMe
Storage

Voice/
Cellular

User Centric Design
(RFID, QR label)



C8200-1N-4T Front View

1 NIM and 1 PIM

Status/physical security

Status LED

FAN LED

Power LED

Data Interfaces (FPGE)

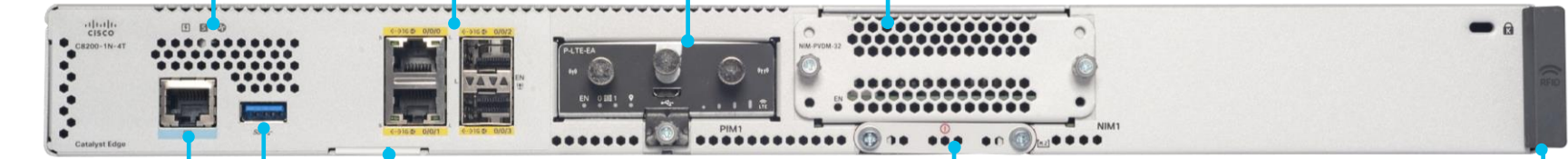
2 RJ45 GE WAN

2 SFP GE WAN

Network Modules

PIM slot

NIM slot



Management

RJ45 Console

USB Type A

Inventory

QR Label

Storage

NVMe M.2 (16/32/600G)

Inventory

RFID

C8200-1N-4T Rear View

1 NIM and 1 PIM

Power supply

AC Power Supply

Power ON/OFF switch



PoE connector

External PoE Adaptor

FAN

2 Internal FANs

Label Tray



QR Label Tray

Label Tray is a **Plastic strip** that can be pulled out

Label Tray contains:

Product ID

PID version ID

CLEI

TAN

Serial Number



Label tray contains a **QR code** with above information encoded in it:

Device Family, Base PID

Device MAC

Vendor

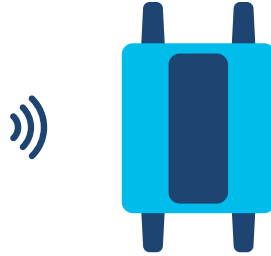
Serial Number

HW Version

Radio Frequency Identification (RFID)



RFID



Front Facing **Passive UHF RFID**



Ultra High Frequency (**UHF**) Specs

860 to 960 MHz

1 to 4 meter Distance

Supply Chain Applications



UHF Benefits:

Good read range

Low cost

Industry adopted standard

C8200 Connectivity Richness

Next-gen modules and backward compatibility



Slot type

Pluggable Interface
Module (PIM)

Network Interface
Module (NIM)

Module type

LTE

LAN, WAN, LTE, VOICE, DSL,
ASYNC

50+ varieties
of
Modules and
Interfaces

Catalyst 8200 Supported Modules



LAN

NIM-ES2-4
NIM-ES2-8
NIM-ES2-8-P

Async

NIM-16A*
NIM-24A*

WAN

NIM-1T
NIM-2T*
NIM-4T*
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
CG418-E*
CG522-EE

5G

(1H, CY21 : Roadmap)

P-5GS6-GL

Voice

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

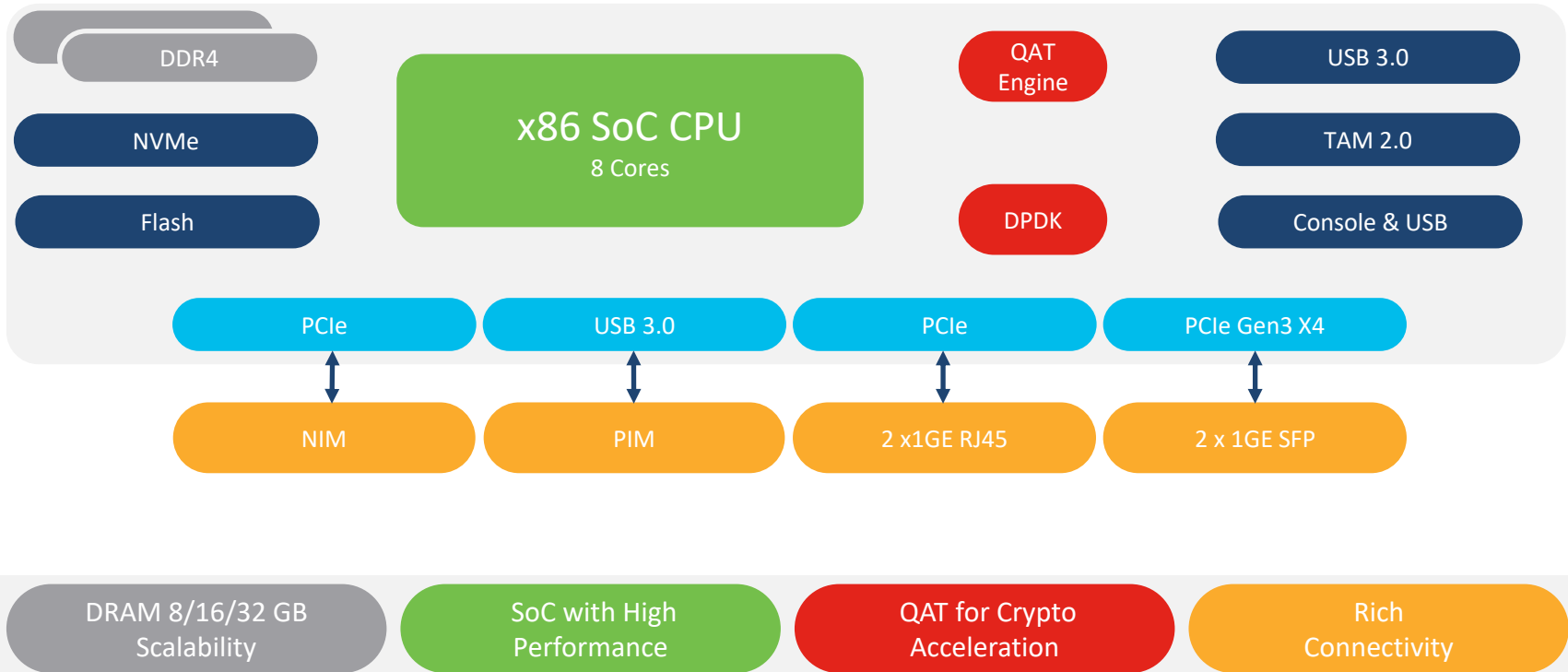
DSL

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

Storage

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

C8200-1N-4T Block Diagram



Cisco C8200 Series Edge Platforms

Features & Technology

* In Roadmap
** SD-WAN support in Roadmap
*** SD-WAN support only T1/E1/PRI
**** SD-WAN support only SIP SRST



Adv Security

Umbrella	Trustworthy
AMP	Framework
Threatgrid	Firewall App-aware
Trustsec	Crypto VPN
uRPF	Snort IPS/IDS
SSHv2	CoPP



Collaboration

CUBE**	DSP Farm
Digital voice***	SRST****
Analog Voice	CME*



Routing & Multicast

Overlay Management Protocol (OMP)
IPv4/v6 routing protocols,
Multicast routing
PIM-SM/MLD
Policy-based routing (PBR)
First-Hop redundancy



Wireless WAN

4G/LTE
5G*(PIM)
Catalyst Cellular Gateway



Integrated Switching

NIM Modules
Higher port-density
Higher port speed
Integrated Layer 2 security



Application Services

PfR	NBARv2
SD-Access	SD-WAN
QoS	AppQoE
HQoS	vAnalytics

WAAS is not supported in this platform

Service richness on C8200, Feature parity with ISR4300

ISR 4331 vs C8200-1N-4T

At a glance

Up to 1000 SD-WAN & 2000 Traditional IPsec Tunnels

Up to 485Mbps SD-WAN IPsec

Up to 1.8Gbps CEF, 445Mbps Crypto

200Mbps IPS/IDS + URL-Filtering

4GB to 16GB upgradable DRAM

Default WAN Ports: 3 Ports

Split CP/DP, 4C+4C

Up to 2500 SD-WAN & 4000 Traditional IPsec Tunnels

Up to 1Gbps SD-WAN IPsec

Up to 3.8Gbps CEF, 1Gbps Crypto

400Mbps IPS/IDS + URL-Filtering

8GB to 32GB upgradable DRAM

Default WAN Ports: 4 Ports

X86 SoC, 8C Cores, HW Crypto



All perf numbers are aggregate IMIX throughput (352B)

Virtualization Offers Flexibility, Simplicity, Savings



Router



Firewall



Wan Opt



Load Balancer

Physical Branch



VNFs



Hypervisor

Server

Virtual Branch

Why Virtualization?

- Flexibility
- Less Devices, More VNFs
- Quick Rollout Time
- Service Agility
- Efficient Resource Utilization
- OpEx Savings

Cisco's Virtualization is available for both Traditional Routing as well as SD-WAN routing

Cisco's virtualization portfolio

Network services on any platform: branch and headend

Bundled solutions:



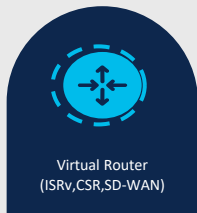
Cloud on-Ramp family of solutions

SAE solution

vManage

MSX

Centralized Orchestration and Management



Consistent, trusted network services across all the platforms
Virtual Network Functions (VNFs)

Network Functions Virtualization Infrastructure Software (NFVIS)
or CSP-OS

Hardware and software independence
Virtualization layer (Hypervisor)



Small/Lean Branch



Enterprise Branch



Colocation Data Center

Freedom of choice
Hardware platform

C8200 Edge uCPE Platform Use-Cases

Enterprise WAN Edge

Traditional & SD-WAN
Security Compliance

DDI Services and Network Analysis

DHCP, DNS, IPAM
Thousandeyes

Deployment Use-Case



Catalyst 8200 Edge
uCPE

Managed Service Providers

Managed CPE
Wireless WAN
SLA Monitoring and Management

Secure Access Services Edge (SASE)

Cloud onramp for IaaS & SaaS
Umbrella SIG Integration
Multi-layer security

Purpose built edge platforms centered around cloud, services & SD-WAN

Flexible and Converged vBranch Solution

SD-WAN Migrations

Hardware consolidation and
Branch Virtualization

Security/Compliance

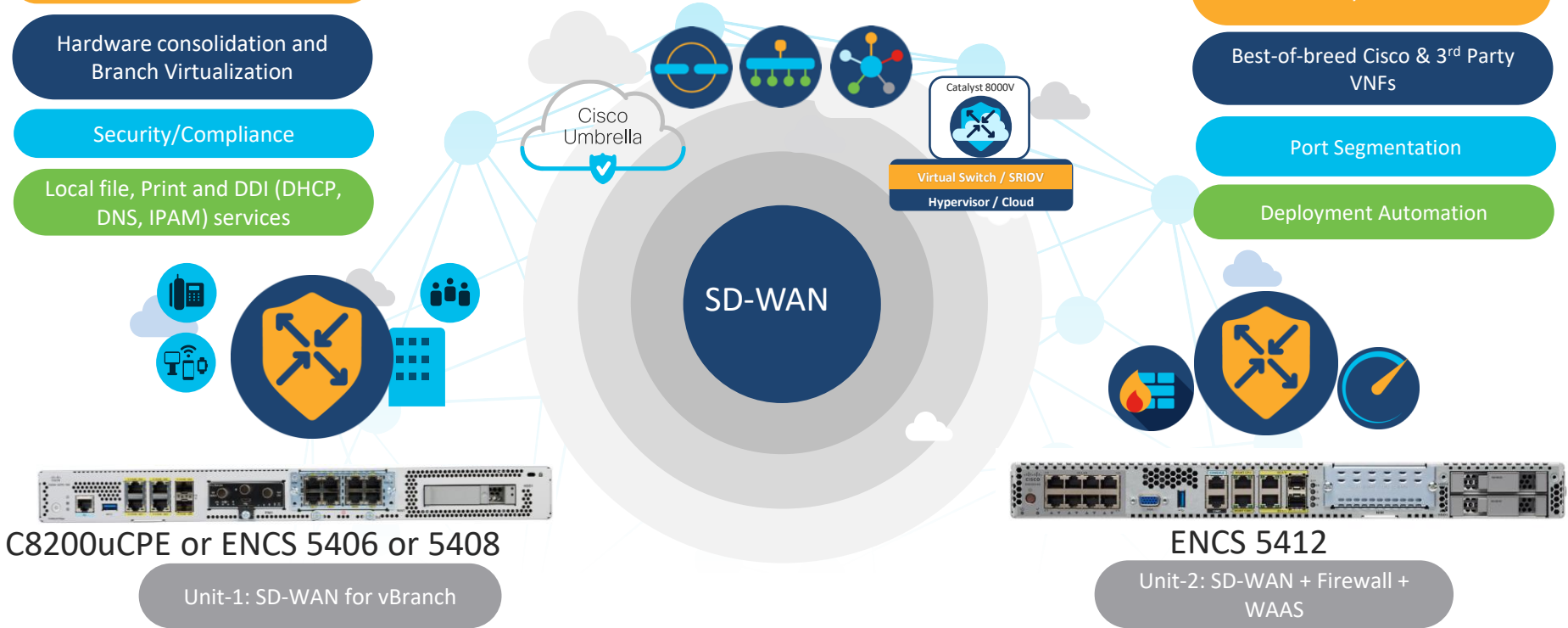
Local file, Print and DDI (DHCP,
DNS, IPAM) services

WAN diversity: LTE, DSL, T1/E1

Best-of-breed Cisco & 3rd Party
VNFs

Port Segmentation

Deployment Automation



Cisco Catalyst 8200 Series Edge uCPE

Designed for Software-Defined Small and Lean Branches



More Cores for services



5G Ready



Diverse Orchestration Support



Added Storage for applications



01

Multiple VNFs on a single platform

02

Higher WAN port density with 5G readiness

03

Support for business applications

04

Easy, zero-touch provisioning

Cisco Catalyst 8200 Edge uCPE Platform

Platform Evolution for SP NFV Deployment



Rich Service Chain

SDWAN Routing, Security, WLC VNFs



Performance Elasticity

Up to 500Mbps IPSec and 2 Gig CEF Performance with QAT
Optimized datapath with OVS-DPDK and SRIOV

Edge Compute

AI/ML, Monitoring with ThousandEyes
IOT applications

Comprehensive Security

Trustworthy Solution
Secure Overlay for NFVIS Out of Band Management
SASE

System



Connectivity

- Higher WAN Port density
- 8 Cores
- Pluggable NVMe storage
- Pluggable LTE
- 5G Ready

Manageability

vManage	MSX
Open APIs	Analytics

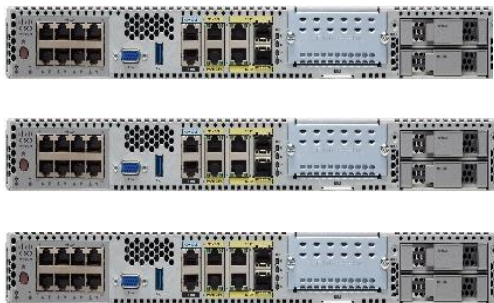
Cisco's Virtualization Portfolio

Small/Lean SD-Branch



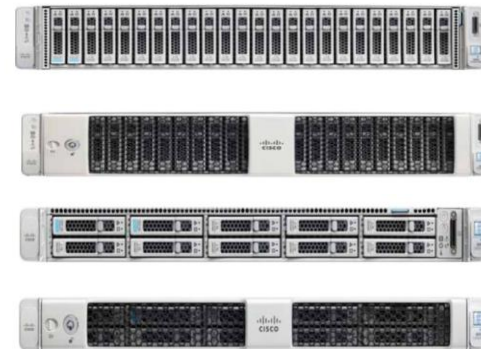
Catalyst 8200 Series Edge uCPE
8 cores

Enterprise Virtualization



ENCS 5400 Series
6 to 12 cores

DC, Hub and Colocation



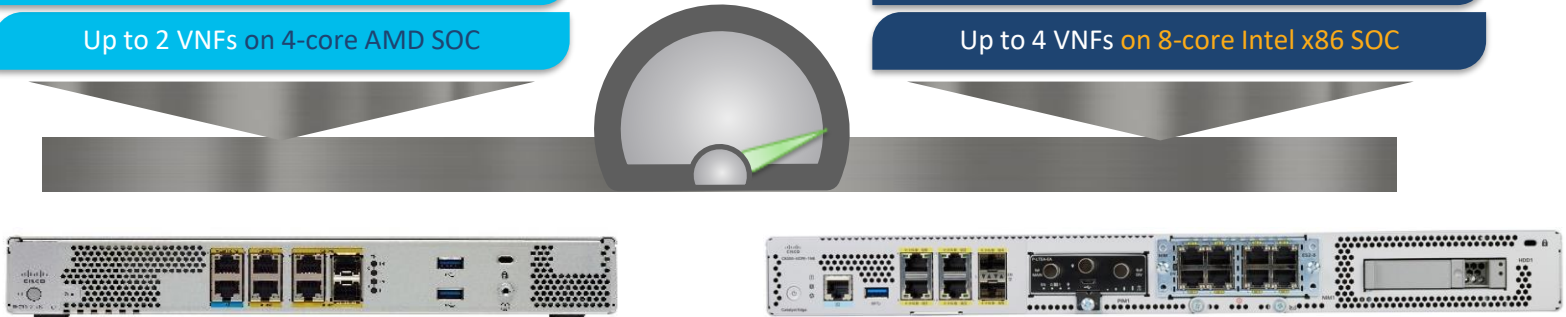
CSP 5200 & 5400 Series
16 to 56 cores

ENCS 5104 vs Catalyst 8200 uCPE

Product Comparison

- HDD: None
- M.2: Up to 400G SATA
- Up to 32G DRAM
- Ports: 2 x 1G CU + 2 x 1G SFP
- Slots: None
- Up to 2 VNFs on 4-core AMD SOC

- HDD: Up to 4TB
- M.2: Up to 32G USB & up to 2TB NVMe
- Up to 64G DRAM
- Ports: 4 x 1G CU + 2 x 1G SFP
- Slots: 1 NIM + 1 PIM
- Up to 4 VNFs on 8-core Intel x86 SOC



Cisco Catalyst 8200 Edge uCPE

System Status

- Status LED
- FAN LED
- Power LED

USB Storage

- USB 3.0

LTE WAN PIM Slot

- CAT 4/6/18 PIM

Network Modules

- NIM slot

Physical Security

- Kensington lock



Management Interface

- RJ 45 Console

Data Interfaces (FPGE)

- 4 RJ45 GE WAN
- 2 SFP WAN

Storage

- USB M.2 (32GB)
- NVMe SSD M.2 (600GB, 2TB)

Storage

- SATA/SSD(2TB/4TB)

C8200-uCPE-1N8 Rear View

1 NIM and 1 PIM

AC Power Supply



External POE Adaptor

FANs

Catalyst 8200 Edge uCPE Supported Modules



LAN

NIM-ES2-4
NIM-ES2-8
NIM-ES2-8-P

LTE

NIM-LTE-EA
NIM-LTE-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

DSL

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

WAN

NIM-1CE1T1-PRI
NIM-2CE1T1-PRI
NIM-8CE1T1-PRI
NIM-1GE-CU-SFP
NIM-2GE-CU-SFP

Storage

SSD-M2NVME-600G

E100S-SSD-480G
E100S-SSD-960G
E100S-SSD-4T

E100S-HDD-SATA1T
E100S-HDD-SATA2T

E100S-HDD-SAS900G
E100S-SED12T
E100S-HDD-SAS18TE

C8200 Edge uCPE Storage Options



Storage Options

32 GB M.2 USB

600 GB, 2 TB M.2 NVMe SSD

960GB,4TB SSD or 1,2 TB SATA

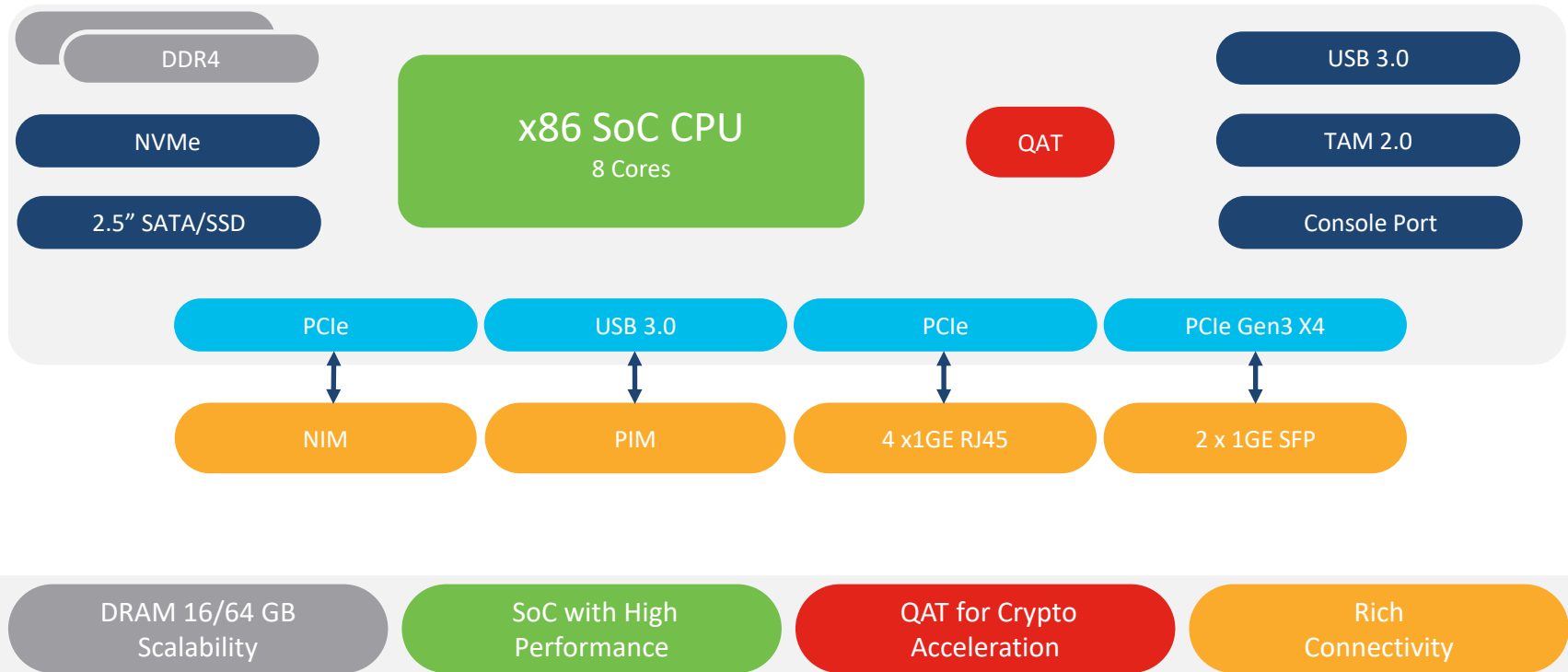
Use Case

NFVIS + SDWAN

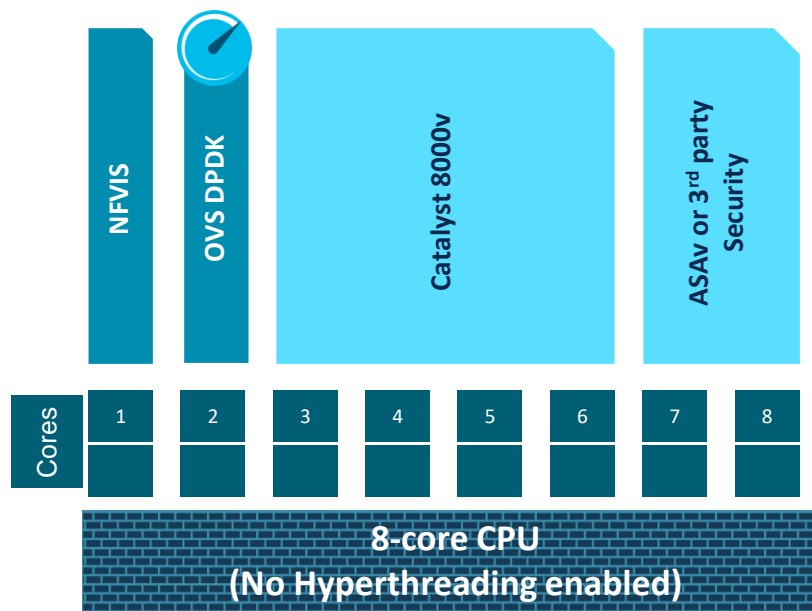
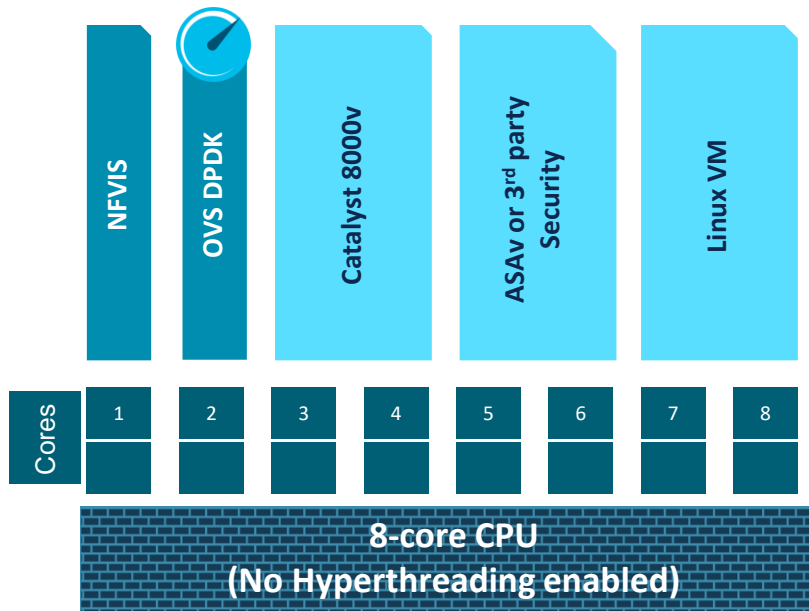
NFVIS + SDWAN, Security VNF Storage

Device local VNF snapshots
WAN Optimization, Linux, Windows

C8200-uCPE-1N8 Block Diagram

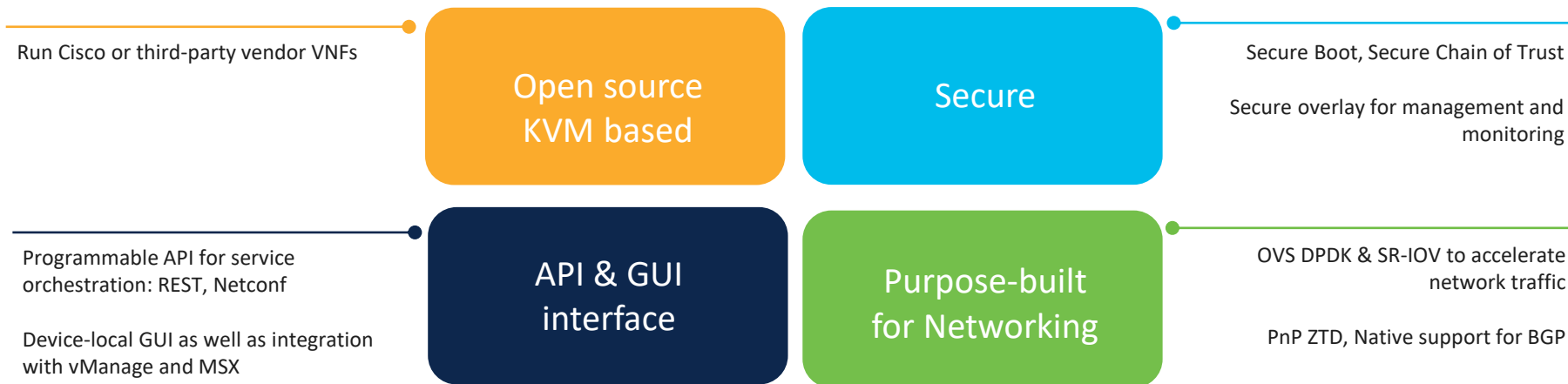


C8200 Edge uCPE Platform CPU allocation



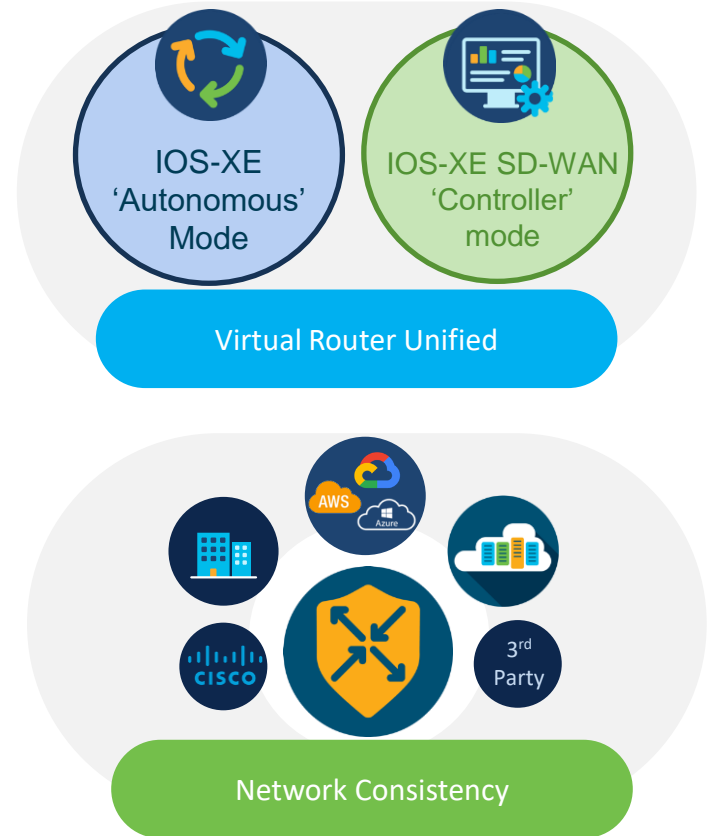
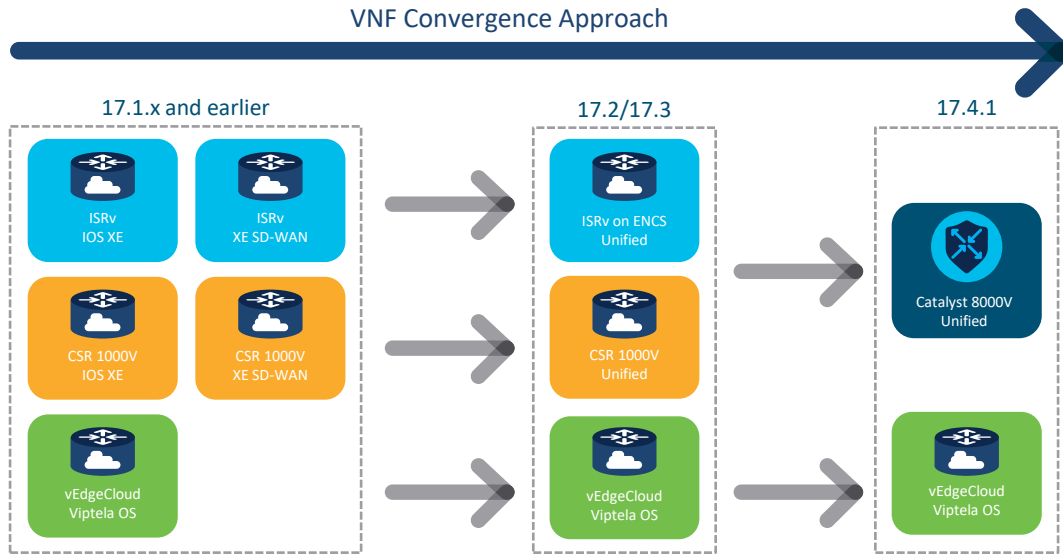
Cisco Network Function Virtualization Infrastructure Software (NFVIS)

Purpose built hypervisor designed specifically for hosting VNFs



Catalyst 8000v

Virtual Router Convergence



Open ecosystem for 3rd party VNFs

Customers can call Cisco support for certified 3rd party VNFs

Open source
KVM based

Run 3rd-party VNFs, regardless of certification

3rd party vendors can submit for certification



Certified

AVI
Networks*



CITRIX
NetScaler

FORTINET®



Check Point
SOFTWARE TECHNOLOGIES LTD

riverbed

InfoVista®

55

ACCEDIAN
NETWORKS

SD-Branch Orchestration with vManage

vManage Enhancements for SD-Branch

Challenges

Which VNFs ?

Skills?

Need to refresh thousands of branches

How do I monitor and manage?

Throughput?

Settings? DPDK, SR-IOV, VirtIO

Solution

Validated designs

Single pane for overlay and underlay

Certified by Cisco – no guess work

Centralized image repository

Deploy in minutes

Centrally monitor and analyze

Limitations

ENCS, C8200uCPE Platforms are supported. CSP5K in future release

NFVIS VNF Snapshots, NFVIS Skip level upgrade.

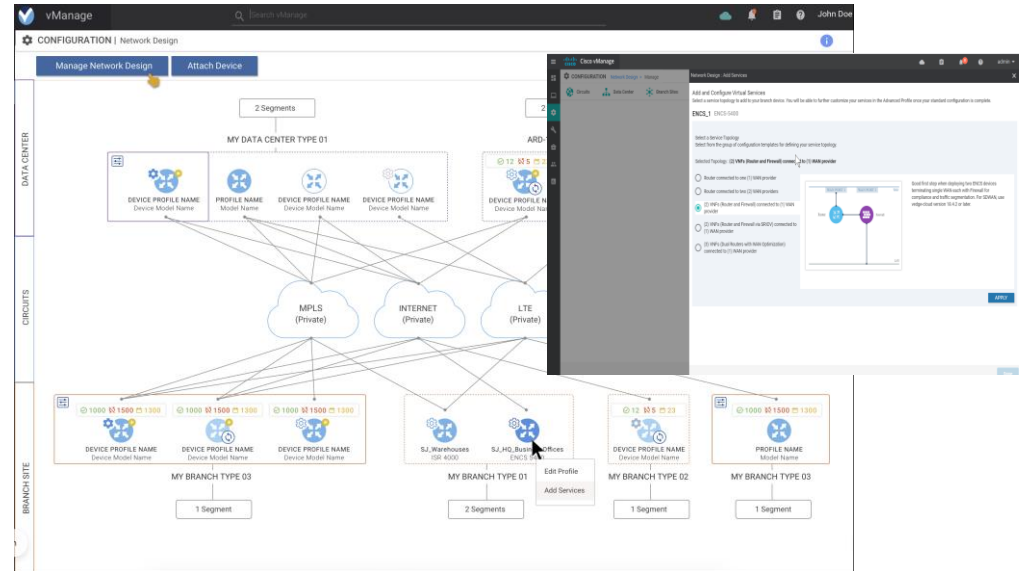
Single pane management for NFVIS platform and SD-WAN

vManage for SD-Branch



Single pane of glass operations

- Unified life-cycle management of device and SD-WAN
- Monitoring, assurance and troubleshooting
- Centralized image repository and VNF packaging tools
 - Cisco and 3rd party VNFs



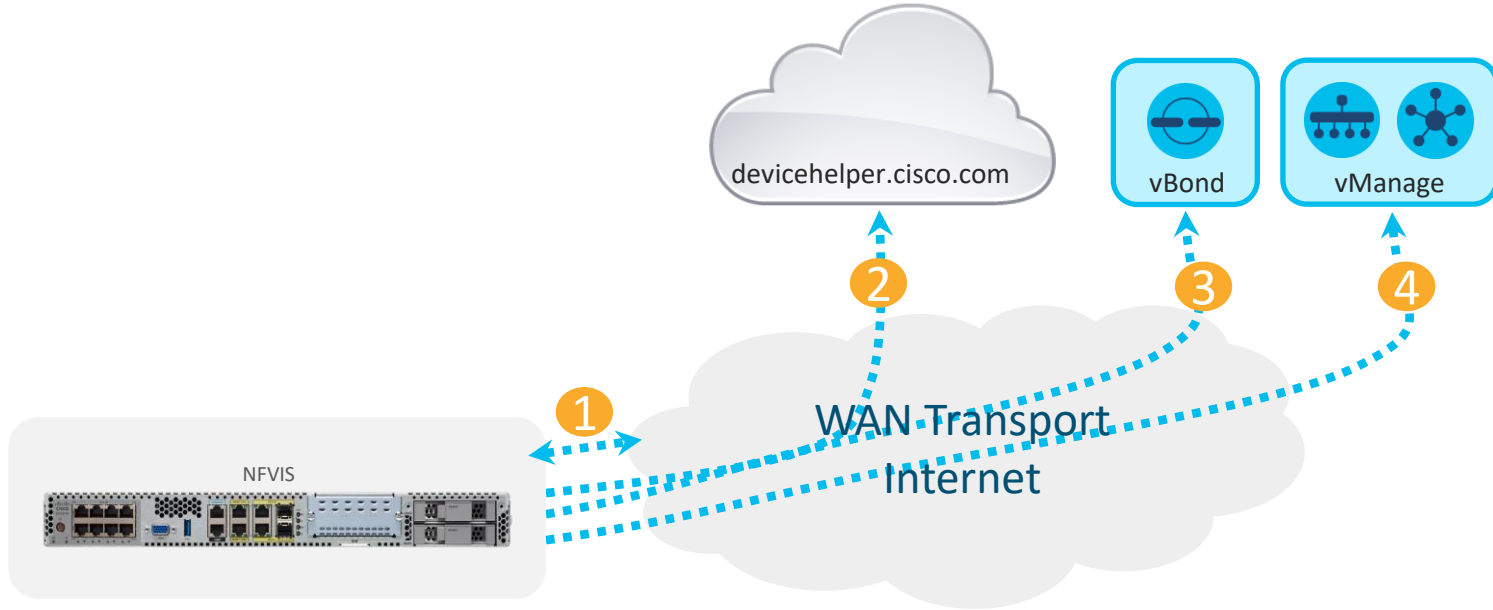
Automated service chaining

Zero-touch provisioning

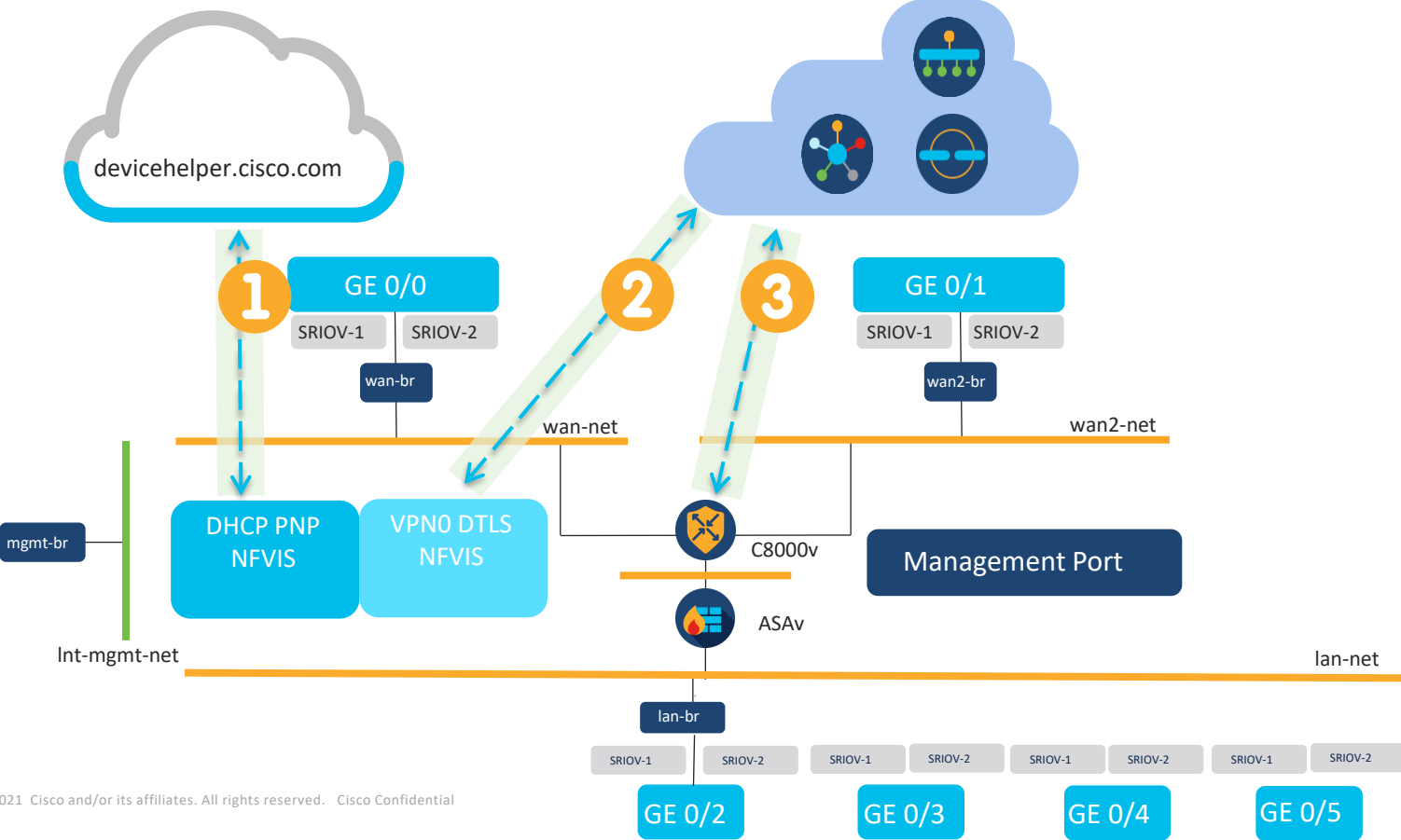
Cloud delivered orchestrator

Validated network design templates

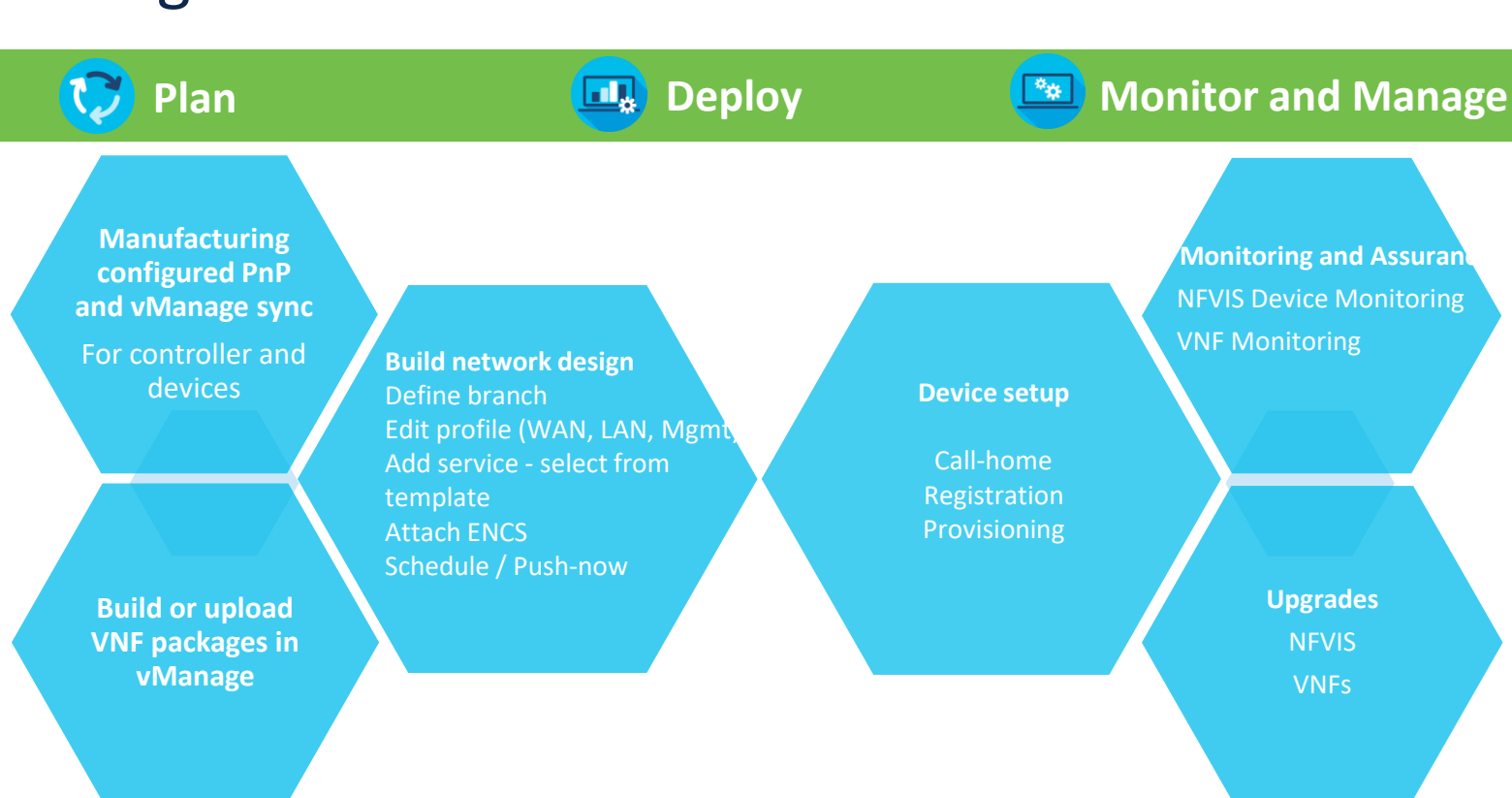
uCPE Onboarding steps



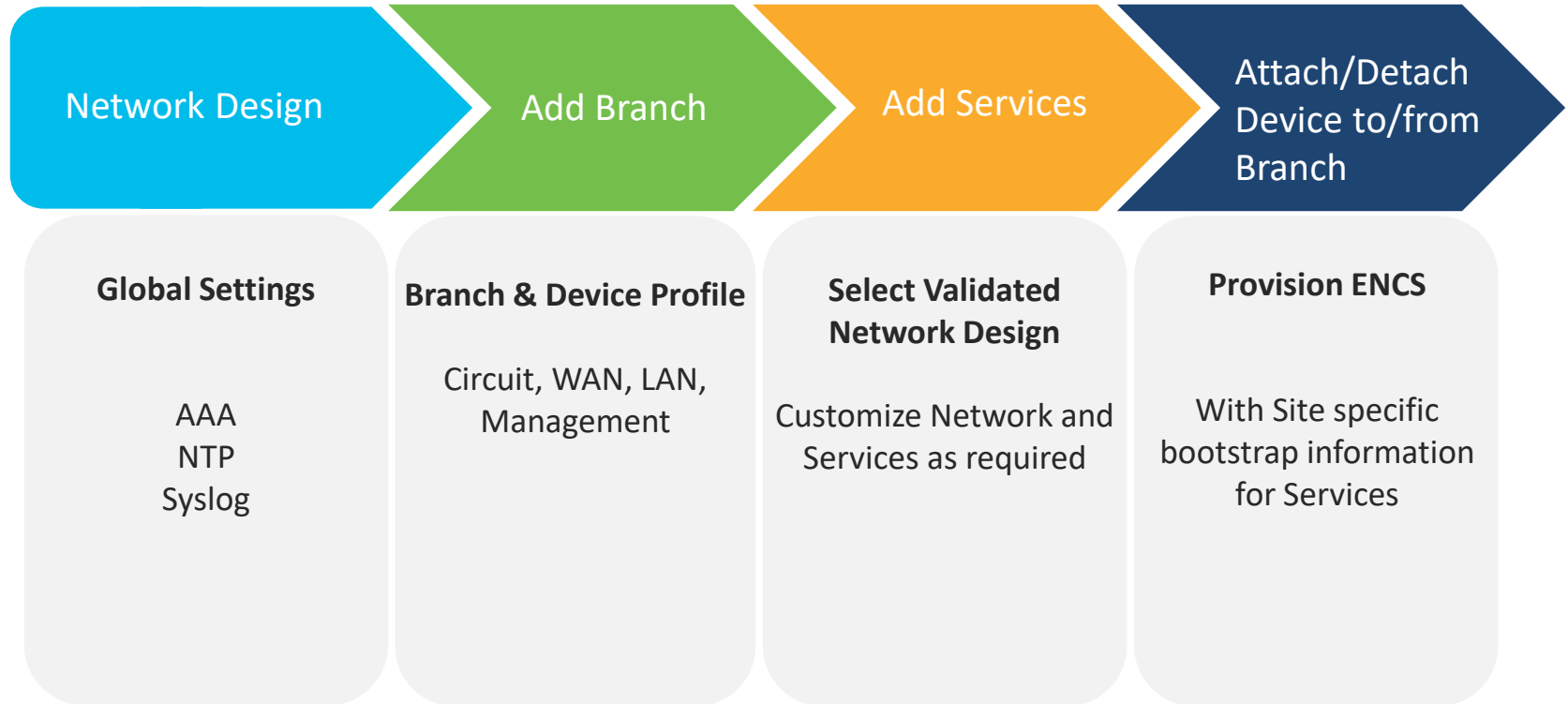
SD-Branch Automation Workflow



vManage SD-Branch workflow



Network Design Procedure in vManage



Promotion Offers and Summary

Q3FY21 Promotion Offers

**LIMITED
TIME OFFER**

ISR G2 (2900/3900)



End of PSIRT Support : Dec '20
LDoS in next 18-24 months



Catalyst 8200/8300



SD-WAN | Voice Survivability | Interface Richness

C8300

Up to 28% on HW models
(Minimum 3Y DNA Tier1 Licenses)



FREE Switch Module



22P Port UADP Based Switch Module

OR

FREE PIM Module



4G/Cat18 Based Gigabit Cellular Module

C8200

Up to 38% on HW models
(Minimum 3Y DNA Tier0 Licenses)



FREE PIM Module



4G/Cat18 Based Gigabit Cellular Module

Offer applicable for Ala-Carte, EA, MSLA across all regions

Up to
38%
Off

Promo PIDS	Promo List Price
C8300-2N2S-4T2X-PM	\$19,000 \$16,720
C8300-2N2S-6T-PM	\$15,000 \$13,200
C8300-1N1S-4T2X-PM	\$15,000 \$10,800
C8300-1N1S-6T-PM	\$11,000 \$7,920
C8200-1N-4T-PM	\$5,000 \$3,100

Key Compares with HW & SW

- ✓ 26% off C8300 (w/ Cisco DNA) compared to ISR4400 w/ SEC licenses
- ✓ 30% off C8300 (w/ Cisco DNA) compared to ISR4400 w/ AXV licenses
- ✓ C8200 (w/ Cisco DNA) priced at par compared to ISR4330 with performance licenses

Restrictions:

- Bundles on compliance checks – Need to be vetted by Sales Leads & PM, with migration opportunity

G2 to C8K Config Steps

Leverage LDoS for Install Base Migration

**LIMITED
TIME OFFER**

Step 1 - Choose C8300/8200 Bundle

Choose C8300 Bundle - Up to 28% discount



Choose C8200 Bundle - Up to 38% discount



Select Appropriate Platform Bundle

ISR 3900/ISR4400 to C8300 (C8300-DNA-PM21)
ISR 2900/ISR4300 to C8200 (C8200-DNA-PM21)

Step 2 - Add a module (if applicable)



OR



Switch Module¹

Cellular Module

¹ Offer 20P on Modules : Applicable for C8300

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Step 3 – Choose Cisco DNA

Minimum 3Y Cisco DNA



- C8300 Bundle :
Tier1/Tier2 Cisco DNA
- C8200 Bundle :
Tier0/Tier1 Cisco DNA

Step 4 – SmartNet



- *Device Management (SmartNet Portal)*
- *Advance Hardware Replacement*
- *TAC Support*
- *Software Updates*

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

3rd 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

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



3rd Gen QFP, HW
Accelerated Services

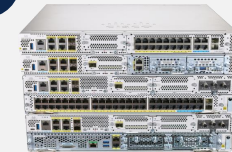


High Performance



Catalyst 8000V

SRIOV
Hypervisor/Cloud



10GE WAN, Rich
connectivity



Cloud Security and
on-prem Security



Automation &
Telemetry

Catch us on Catalyst Tuesdays!!!

- Weekly webinar series focused on just Catalyst products, features and solutions.
- Topics will rotate between Routing, Switching and Wireless including:
 - Product Deep Dives
 - Feature Deep Dives
 - Solution Deep Dives



- Sessions delivered by Subject Matter Experts with live Q&A.
- Convenient times for all regions.
- Part of the Cisco Customer Connection Program, connecting 30,000 Cisco customers and partners around the world.

- Register at:
<https://community.cisco.com/t5/customer->





The bridge to possible