

Cisco Community Community Live event

New Additions to the Catalyst 8000 Family

Shameel Ummer & Ramesh Kalimuthu

Technical Marketing Engineer

News & Upcoming events

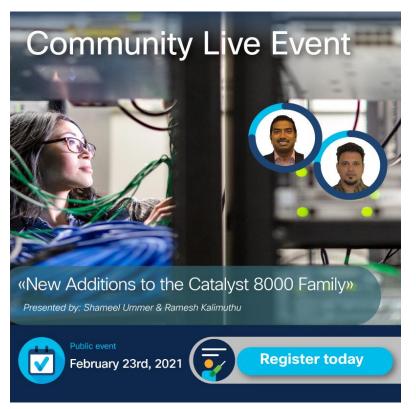


Upcoming Community Live Event

ASK ME ANYTHING

Till March 5th, 2021 With Shameel Ummer & Ramesh Kalimuthu

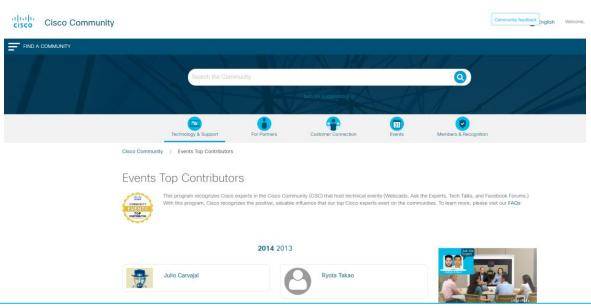
Participate: http://bit.ly/cl0223-AMA8k



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Cisco Community Experts





Thank You For Joining Us Today!



Download Today's Presentation http://bit.ly/cl-slides8k

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

Community Live Event – C8200 and C8200-uCPE technical deep dive

Shameel Ummer, Ramesh Kalimuthu IBNG - Technical Marketing February 2021

Agenda

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

Polling Question #1

What is Catalyst 8000 Edge Platforms Family?

- Switching Platforms
- Routing Platforms
- Wireless Controller Platforms
- Datacenter Platforms

It's a Multicloud World



Technology transformations Top digital business initiatives in the cloud age

75%



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

- Markets & Markets Research



5G/IOT

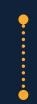
By 2022, 5G Infra in Branch expected to grow to \$1.9 billion

- IDC Report

43%



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





believe SaaS/Cloud are important to WAN choice **IDC** Report





of teams identified embedded network security as priority



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



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

- Omdia



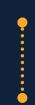
50% of customers value elastic scale and ease of delivering new features/versions quickly.

- IDC Report



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

- Omdia





virtualized in 5 years

of branch network and security functions will be

- IDC Report

58%





SP-Led Motion

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

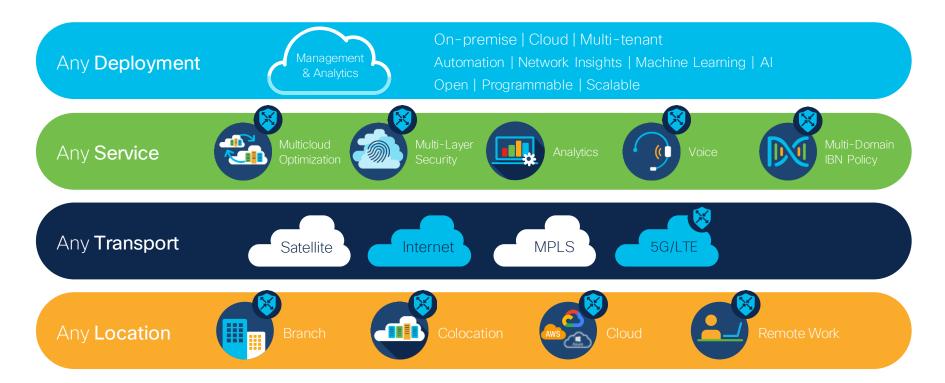


130%

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

- Omdia

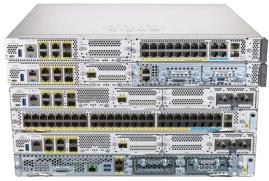
Powered by secure cloud scale SD-WAN Cisco's flexible architecture for Intent-based Networking







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

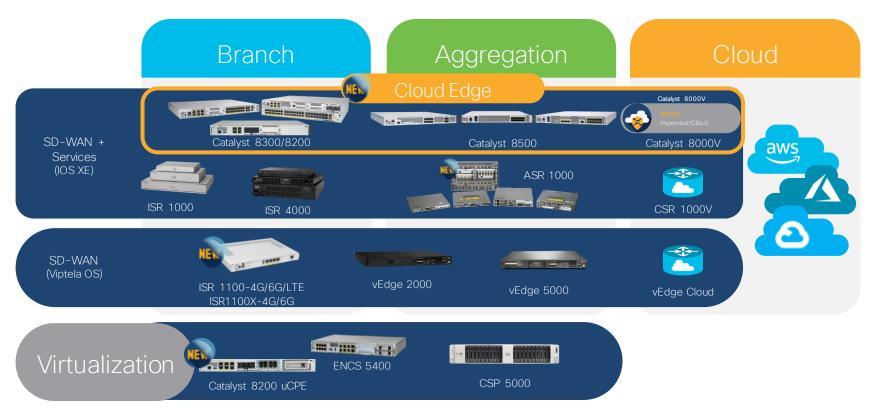






Delivering SASE for your Multicloud WAN Edge needs

Cisco offers the broadest portfolio for WAN transformation Resilient Infrastructure to deliver IT agility

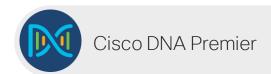


Single Offer with common DNA Subscription





DNA Subscription









C8500 supports DNA-Advantage licensing only

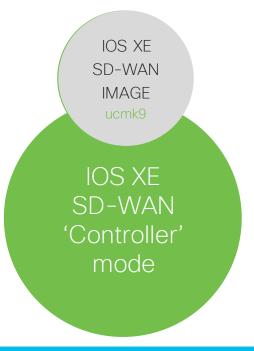
Key Building Blocks

Easy Operations with Single Image









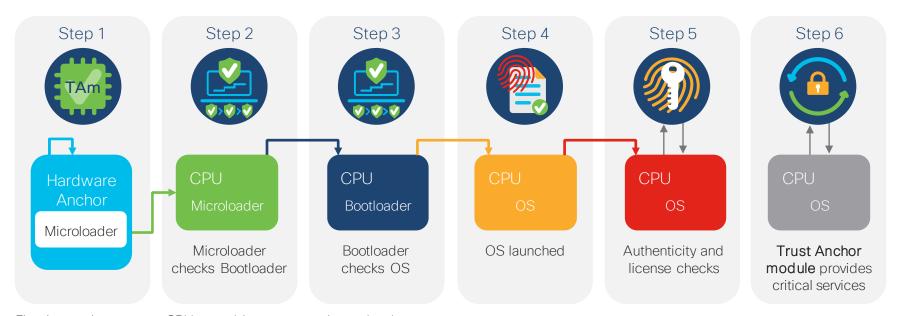
Accelerate SD-WAN

Simplify Deployments

Cloud-scale Applications



Secure Platform with Trustworthy Solutions



First instructions run on CPU stored in tamper-resistant hardware

Confidentiality Integrity Authenticity

Polling Question #2

How many of you have ISR 4331 deployed at your branch locations ?

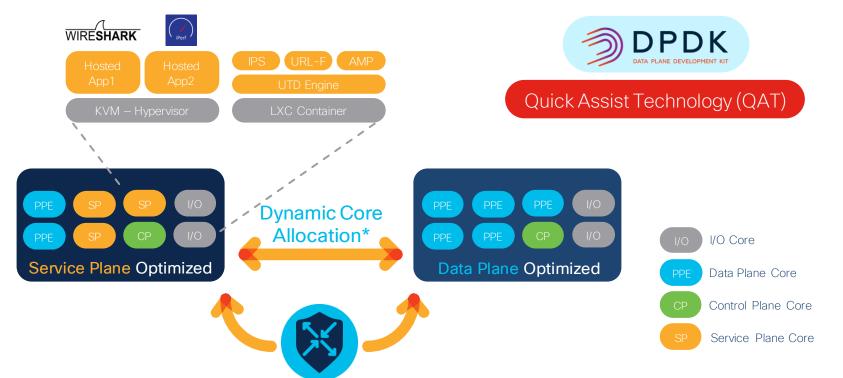
- 1-20
- 21-40
- 41-60
- >60

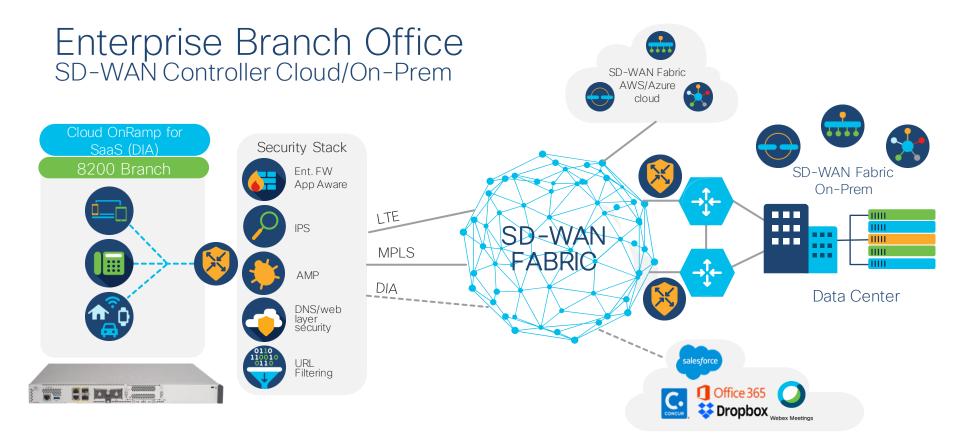


Catalyst 8200 Evolution of ISR4300

x86 Multi-core SoC Architecture Key Datapath Innovations





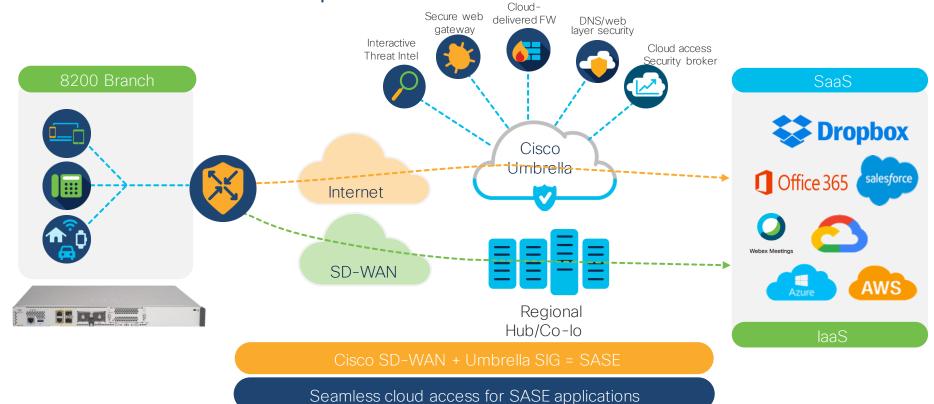


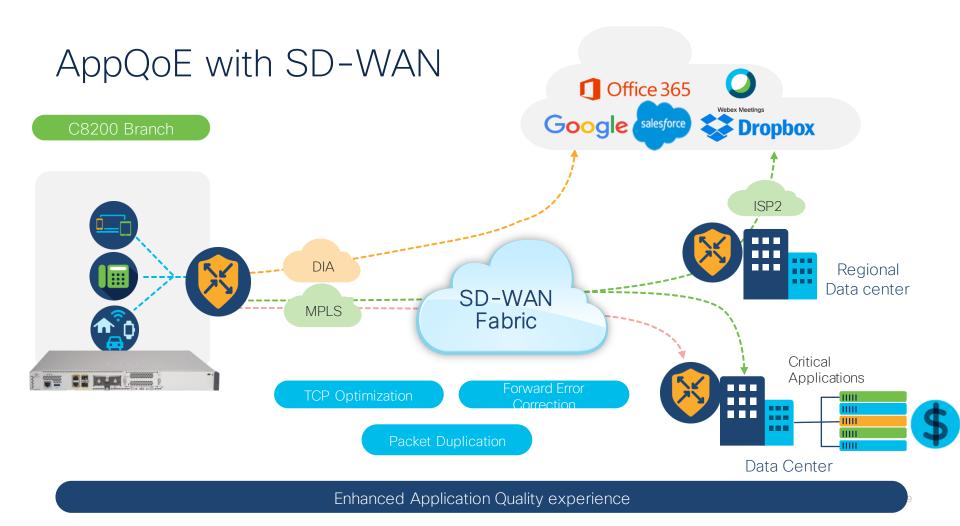
Secure Network Edge

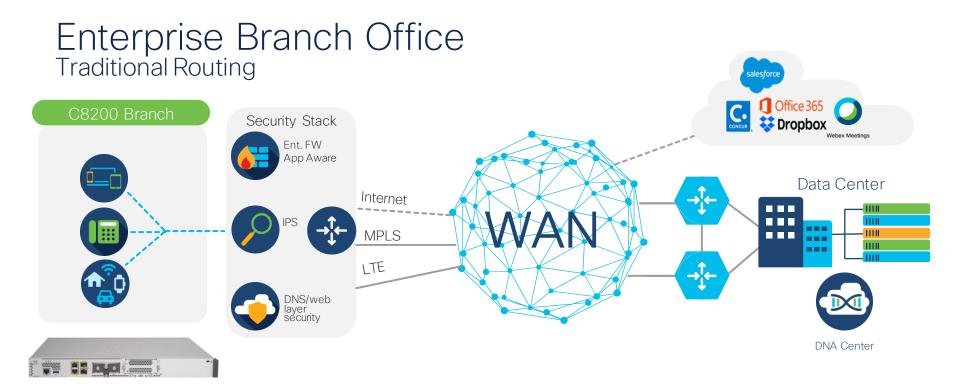
SD-WAN Transport

Zero-touch Provision

SASE Cloud Adoption with SD-WAN



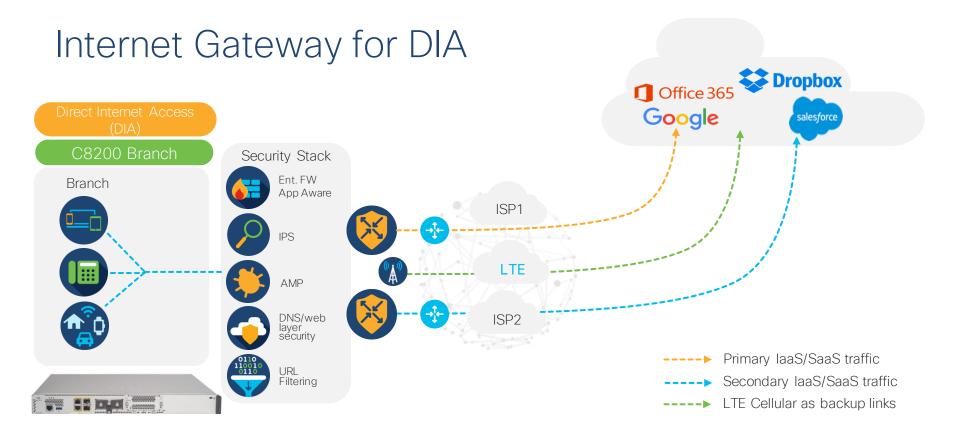




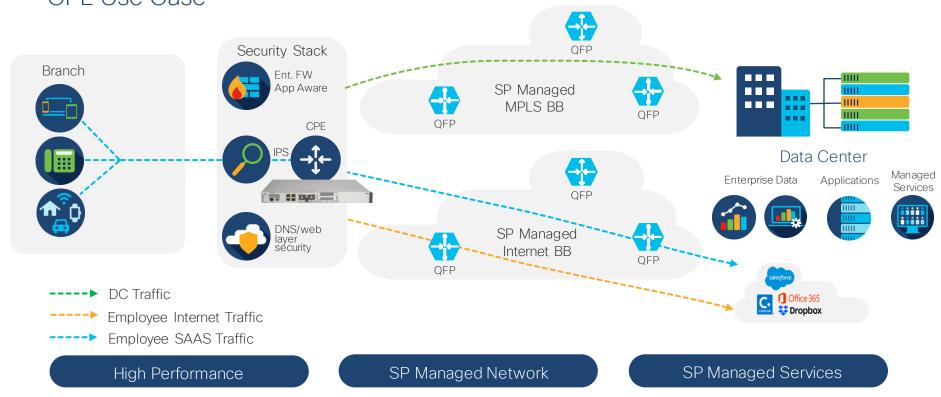
Secure Network Edge

Traditional Transport

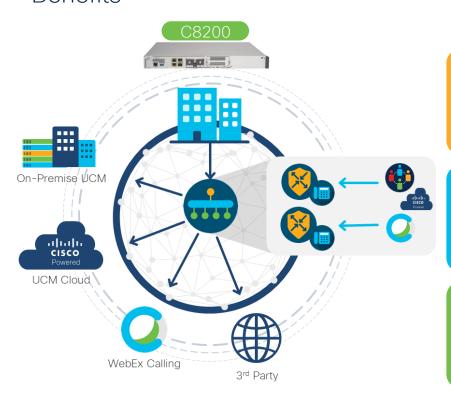
Zero-touch Provision



Managed Service Providers CPE Use Case



Cisco SD-WAN Unified Communications, Voice Integration



Telephony Integration

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

Reduced Op Ex and Cap Ex

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









Cisco Catalyst 8200 Series Edge Platforms Foundation for the Secure Cloud Scale SD-WAN branch





Connectivity

Higher WAN Port density

Default 8G DRAM < 12" Depth Pluggable NVMe Storage

5G Ready

Manageability

vManage

DNA Center

Open APIs

Analytics

Cisco Catalyst 8300, 8200 Series Edge Platforms The leading SD-WAN high performance branch router with rich services

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

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

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



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

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



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

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



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



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

Cisco IMIX traffic (352 Bytes Average packet

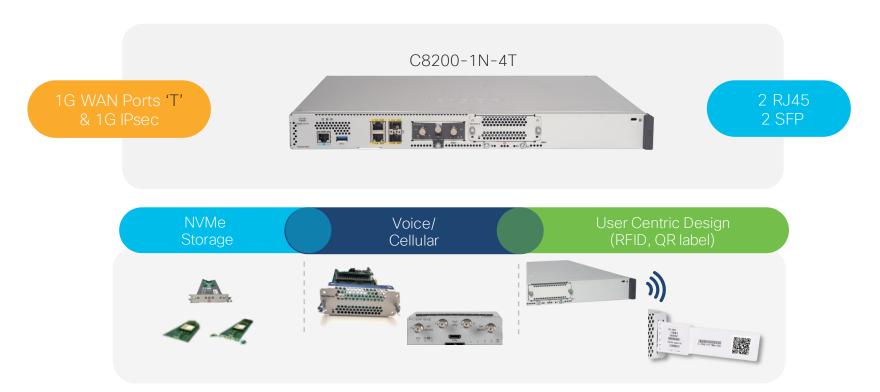
size)

CEF: Autonomous mode Routing

IPsec: Autonomous & Controller/SDWAN mode

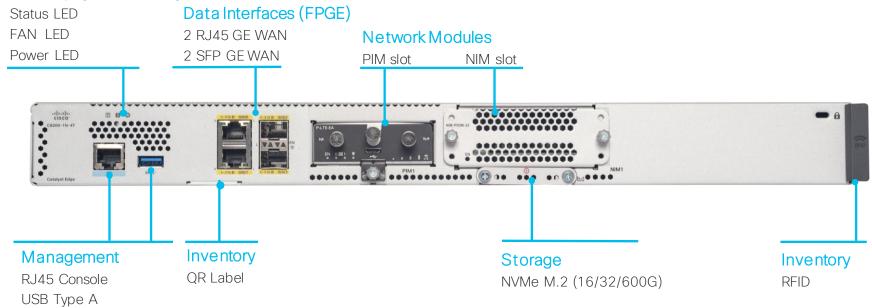
Flexible SoC Architecture with Multiple Cores

Cisco Catalyst 8200 Series Edge Platforms Introducing 1G in Access with higher port density

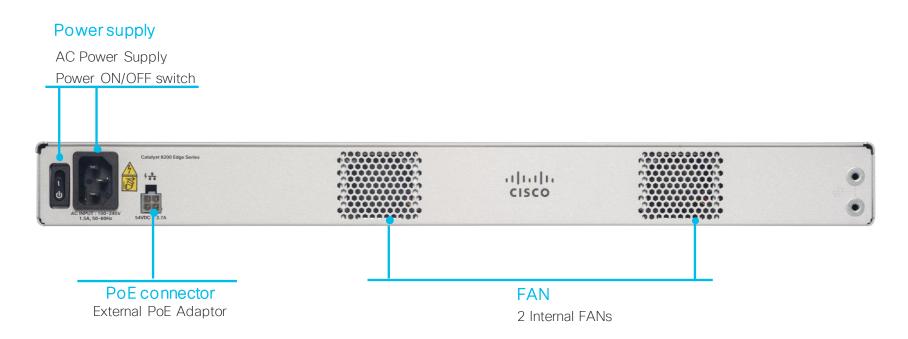


C8200-1N-4T Front View

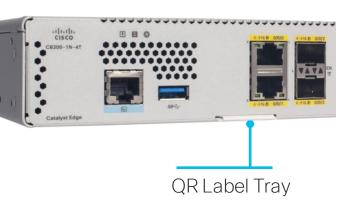
Status/physical security



C8200-1N-4T Rear View



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

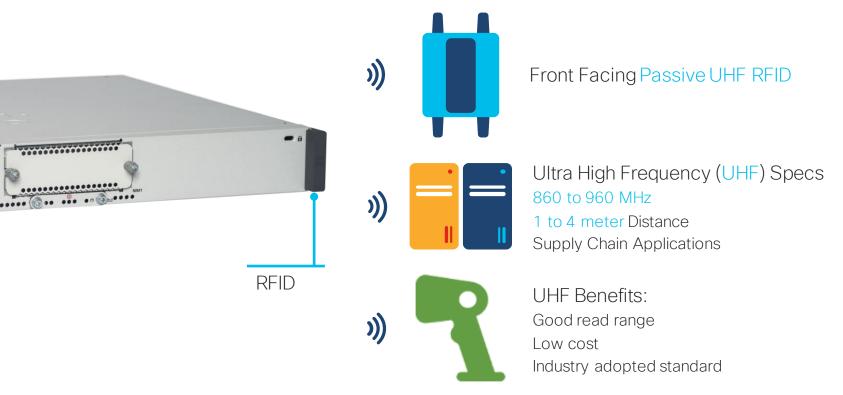
Device MAC

Vendor

Serial Number

HW Version

Radio Frequency Identification (RFID)

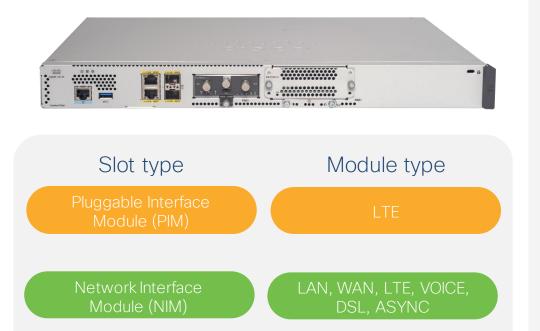


Polling Question #3

What are the different module types you are using in your ISR4300 branch?

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

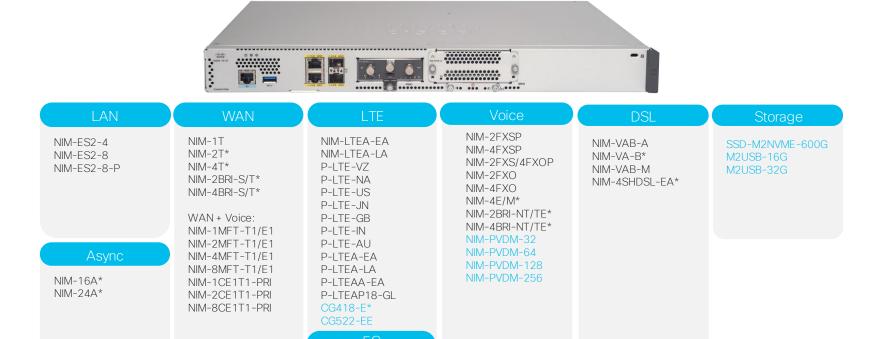
C8200 Connectivity Richness Next-gen modules and backward compatibility



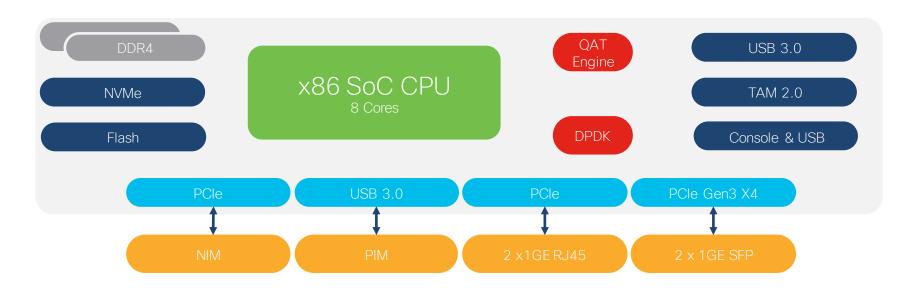
50+ varieties Modules and Interfaces

Catalyst 8200 Supported Modules

P-5GS6-GL



C8200-1N-4T Block Diagram



DRAM 8/16/32 GB
SoC with High
Scalability
SoC with High
Acceleration
Rich
Connectivity

Cisco C8200 Series Edge Platforms

Features & Technology



Adv Security

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



Wireless WAN

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



Collaboration

CUBE**
Digital voice***
Analog Voice

DSP Farm SRST**** CME*



Integrated Switching

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

* In Roadmap

** SD-WAN support in Roadmap

*** SD-WAN support only T1/E1/PRI

**** SD-WAN support only SIP SRST



Routing & Multicast

Overlay Management Protocol (OMP)

IPv4/v6 routing protocols,

Multicast routing

PIM-SM/MLD

Policy-based routing (PBR)

First-Hop redundancy



Application Services

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

WAAS is not supported in this platform

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 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)

Polling Question #4

How many of you have ENCS 5100 virtualized platform deployed at your branch locations?

- 1-20
- 21-40
- 41-60
- >60





Catalyst 8200 uCPE/8000V

Evolution of ENCS 5100

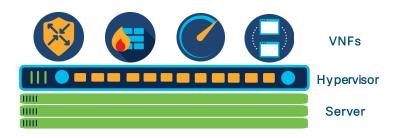
Virtualization Offers Flexibility, Simplicity, Savings











Physical Branch

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



Centralized Orchestration and Management











Consistent, trusted network services across all the platforms

Virtual Network Functions (VNFs)

Network Functions Virtualization Infrastructure Software (NFVIS)



Small/Lean Branch



Enterprise Branch



Colocation
Data Center

Hardware and software independence

Virtualization layer (Hypervisor)

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 Thousandeves

Deployment Use-Case



Catalyst 8200 Edge uCPE

Managed Service Providers

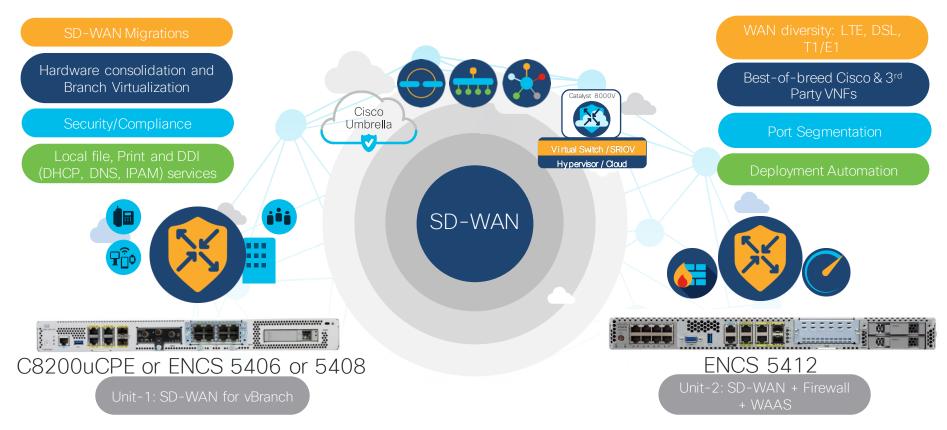
Managed CPE
Wireless WAN
SLA Monitoring and Managem

Secure Access Services Edge (SASE)

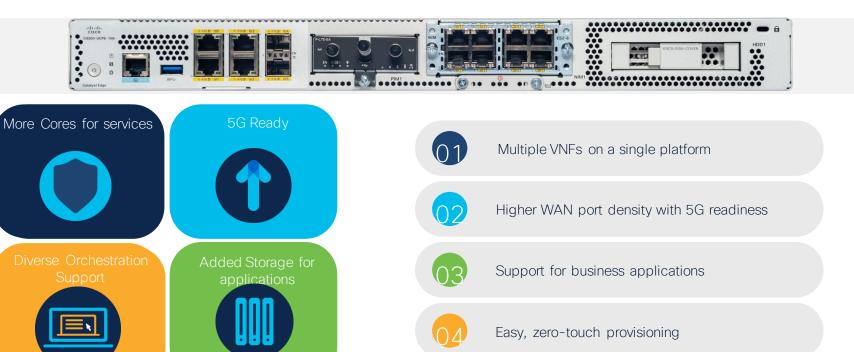
Cloud onramp for laaS & SaaS Umbrella SIG Integration Multi-layer security

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

Flexible and Converged vBranch Solution



Cisco Catalyst 8200 Series Edge uCPE Designed for Software-Defined Small and Lean Branches



Cisco Catalyst 8200 Edge uCPE Platform Platform Evolution for SP NFV Deployment





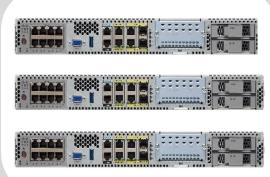


Cisco's Virtualization Portfolio

Small/Lean SD-Branch

Enterprise Virtualization

DC, Hub and Colocation



ENCS 5400 Series 6 to 12 cores

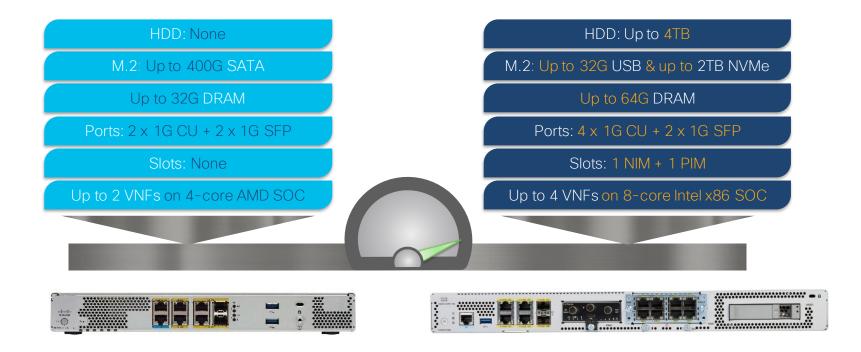


Catalyst 8200 Series Edge uCPE 8 cores

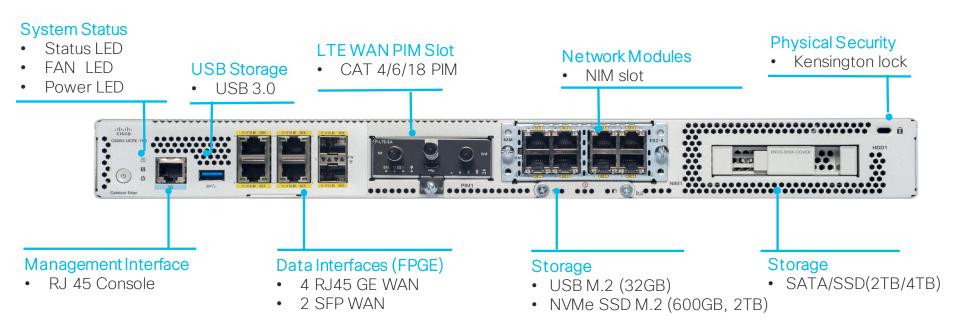


CSP 5200 & 5400 Series 16 to 56 cores

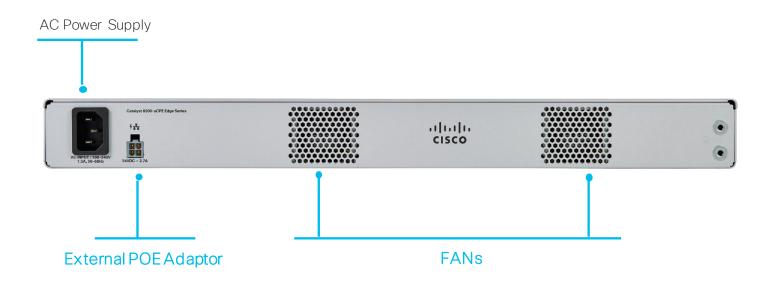
ENCS 5104 vs Catalyst 8200 uCPE Product Comparison



Cisco Catalyst 8200 Edge uCPE



C8200-uCPE-1N8 Rear View



Catalyst 8200 Edge uCPE Supported Modules



LAN

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

LTE

NIM-I TFA-FA

NIM-I TFA-I A

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-LTEA-EA
P-LTEAP18-GL
CAT18 CGW*

(1H, CY21 : Roadmap) 5G sub-6GHz CGW 5G sub-6GHz PIM

DS

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-M2NVMF-600G

E100S-SSD-480G E100S-SSD-960G F100S-SSD-4T

E100S-HDD-SATA1T E100S-HDD-SATA2T

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

C8200 Edge uCPE Storage Options









32 GB M.2 USB

600 GB, 2 TB M.2 NVMe SSD

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

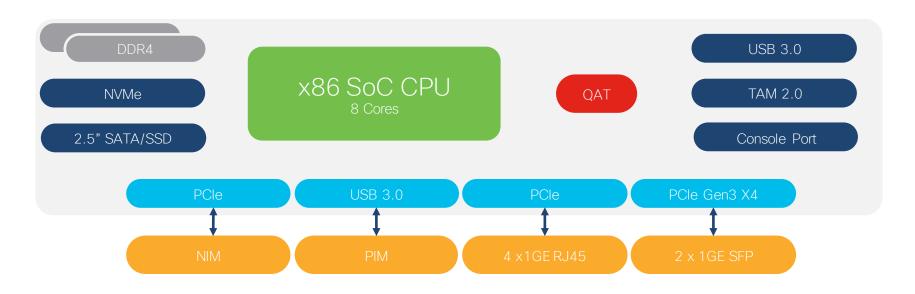
Use Case

NFVIS + SDWAN

NFVIS + SDWAN, Security VNF Storage

Device local VNF snapshots WAN Optimization, Linux, Windows

C8200-uCPE-1N8 Block Diagram

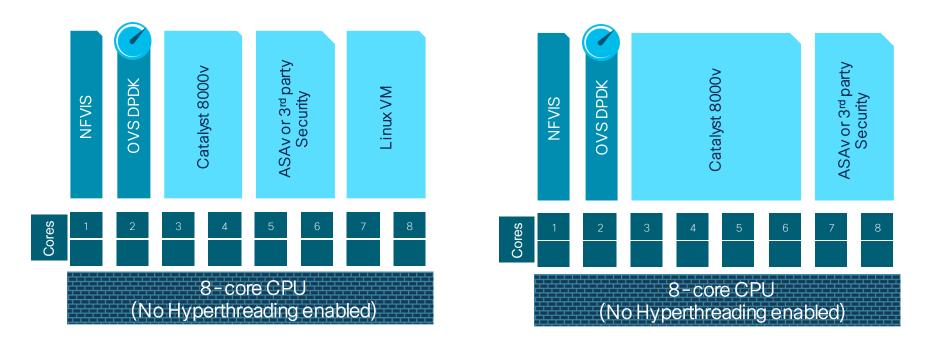


DRAM 16/64 GB Scalability SoC with High Performance

QAT for Crypto Acceleration

Rich Connectivity

C8200 Edge uCPE Platform CPU allocation

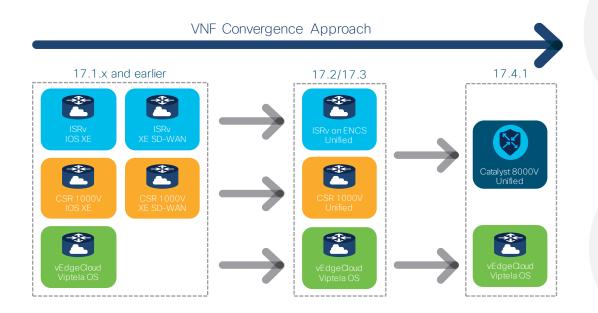


Cisco Network Function Virtualization Infrastructure Software (NFVIS)

Purpose built hypervisor designed specifically for hosting VNFs

Run Cisco or third-party vendor Secure Boot. Secure Chain of Trust **VNFs** Open source Secure Secure overlay for management and KVM based monitoring OVS DPDK & SR-IOV to accelerate Programmable API for service API & GUI Purpose-built orchestration: REST, Netconf network traffic interface for Networking PnP ZTD, Native support for BGP Device-local GUI as well as integration with vManage and MSX

Catalyst 8000v Virtual Router Convergence





Virtual Router Unified



Open ecosystem for 3rd party VNFs

Open source KVM based

Customers can call Cisco support for certified 3rd party VNFs

Run 3rd-party VNFs, regardless of certification

3rd party vendors can submit for certification





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, VirtlO

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.

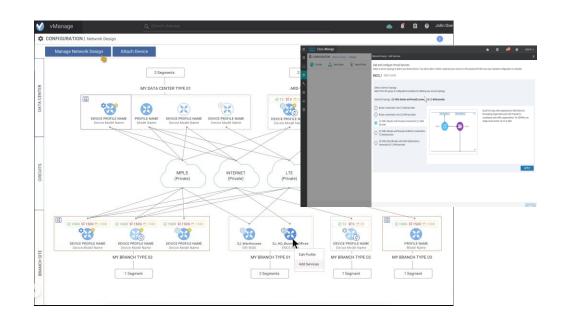
Single pane management for NFVIS platform and SD-WAN

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



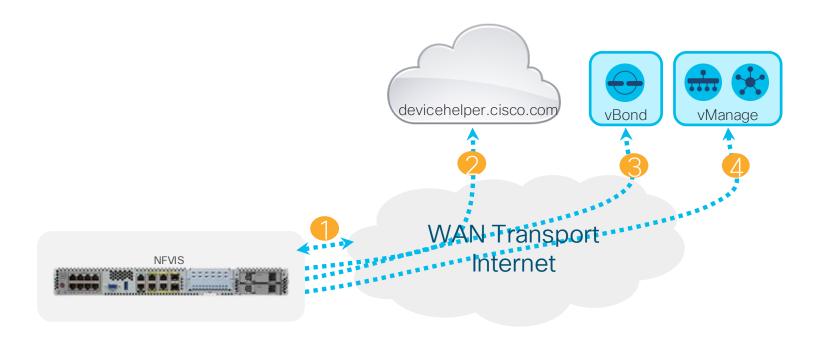
Automated service chaining

Zero-touch provisioning

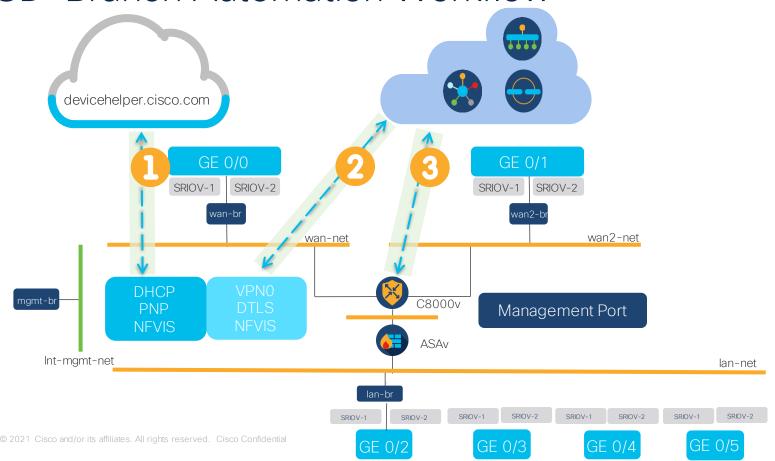
Cloud delivered orchestrator

Validated network design templates

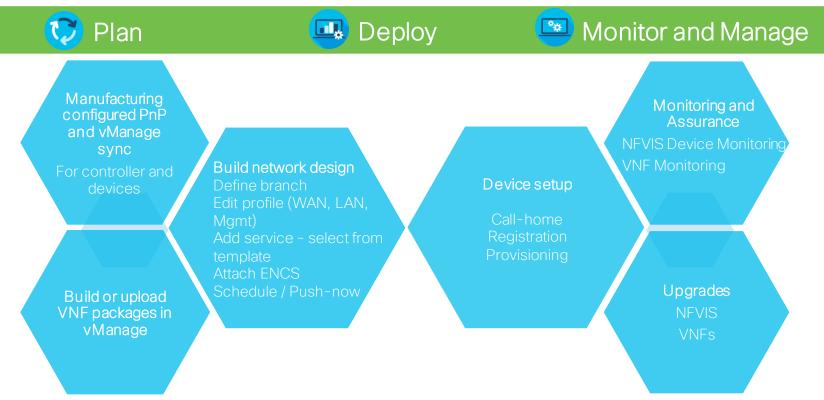
uCPE Onboarding steps



SD-Branch Automation Workflow



vManage SD-Branch workflow



Network Design Procedure in vManage

Network Design

Add Branch

Add Services

Attach/Detach
Device to/from
Branch

Global Settings

AAA NTP Syslog Branch & Device Profile

Circuit, WAN, LAN, Management

Select Validated Network Design

Customize Network and Services as required

Provision ENCS

With Site specific bootstrap information for Services

Promotion Offers and Summary

Q3FY21 Promotion Offers

ISR G2 (2900/3900)



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





SD-WAN | Voice Survivability | Interface Richness

C8300

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



FREE Switch

OF

FREE PIM



4G/Cat18 Based Gigabit Cellular Module

C8200

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



4G/Cat18 Based Gigabit Cellular Module

22P Port UADP Based Switch Module



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



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)







Switch Module¹

R

Cellular Module

¹ Offer 20P on Modules: Applicable for C8300

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

- 7

Cisco Catalyst 8000 Edge Platforms Family High Performance SD-WAN Headend, Intelligent Branch and Agile Cloud Edge

10GF WAN, Rich



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





The bridge to possible

Submit Your Questions Now!



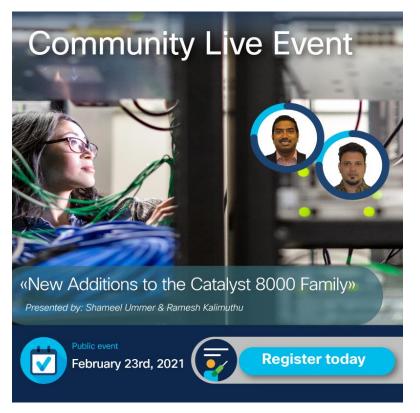
Use the Q&A panel to submit your questions, our expert will respond.

Upcoming Community Live Event

ASK ME ANYTHING

Till March 5th, 2021 With Shameel Ummer & Ramesh Kalimuthu

Participate: http://bit.ly/cl0223-AMA8k



Collaborate within our Social Media





Twitter

@Cisco_Support http://bit.ly/csc-twitter

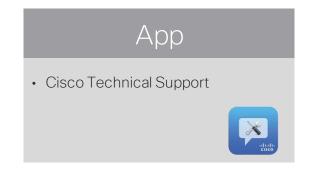
Facebook

Cisco Community
 http://bit.ly/csc-facebook

Learn About Upcoming Events

We invite you to review our Social Media Channels

YouTube Cisco Community http://bit.ly/csc-youtube





Cisco has support communities in other languages!

If you speak Spanish, Portuguese, Japanese, Russian or Chinese we invite you to participate & collaborate





More IT Training Videos and **Technical** Seminars on the Cisco Learning Network

View Upcoming Sessions Schedule https://cisco.com/go/techseminars

Thank you for Your Time!

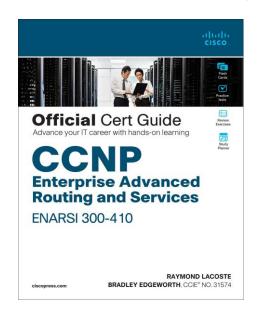
Please take a moment to complete the survey

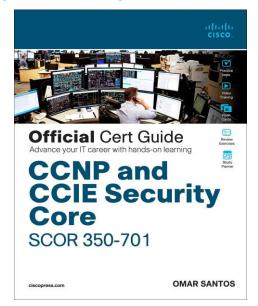


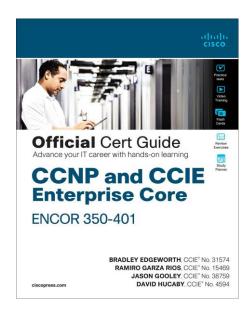
Thank you for participating, you earned a discount!

Redeem your 35% discount offer by entering code: CSC when checking out.

http://bit.ly/Community-CiscoPress2020







Thanks For Joining today!



The bridge to possible