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**Bezpieczeństwo,
Efektywność,
Optymalizacja**



Cisco Catalyst 8200 Series Edge Platforms

Contents

Product overview	3
Platform details	4
Platform Performance	5
Overall platform benefits	6
Supported modules	9
Memory, storage, and accessory options	12
Optics and transceivers modules	12
Power supplies	12
Software requirements	13
Licensing	15
Specifications	16
Ordering information	18
Product sustainability	18
Services	19
Cisco Capital	20
For more information	20
Document history	21

The Cisco Catalyst 8200 Series Edge Platforms are 5G-ready cloud edge platforms designed for Secure Access Service Edge (SASE), multilayer security, and cloud-native agility to accelerate your journey to cloud.



The Cisco® Catalyst® 8200 Series Edge Platforms with Cisco IOS® XE SD-WAN software deliver Cisco’s secure, cloud-scale SD-WAN and SD-Routing solutions to the small branch. The platforms are purpose-built for performance and integrated SD-WAN services along with flexibility to deliver security and networking services together from the cloud or on premises. They have a wide variety of interface options to choose from, with backward compatibility to existing WAN, LAN, and voice modules. Powered by Cisco IOS XE, a fully programmable software architecture, and API support, the Catalyst 8200 Series can facilitate automation at scale in both SD-WAN and SD-Routing deployments to achieve zero-touch IT capability while migrating workloads to the cloud. The platforms also come with a trustworthy solutions 2.0 infrastructure that secures them against threats and vulnerabilities through advanced integrity verification and remediation of threats.

The 8200 Series is well suited for small and medium-sized enterprise branch offices at optimal price/performance with integrated SD-WAN and SD-Routing services.

The Catalyst 8200 Series Edge Platforms are offered in two models: C8200L-1N-4T for the small branch with SASE-compliant, cloud-based security requirements, and C8200-1N-4T for the small to medium-sized branch with requirements for higher throughput, scale, and service flexibility. In addition to supporting SASE-compliant cloud-based security services, the C8200-1N-4T also delivers a flexible system of best-in-class, on-premises security services through container-based apps, using Cisco’s third-party ecosystem.

Product overview

Product highlights

Table 1. Product highlights

Product feature	Benefits and description
Multicore processors	<ul style="list-style-type: none"> • C8200-1N-4T uses an 8-core CPU with 8 GB DRAM memory default • C8200L-1N-4T uses a 4-core CPU with 4 GB DRAM memory default • High-performance multicore processors support high-speed WAN connections • Dynamic core allocation architecture will repurpose unused cores into forwarding entities as per the user’s configuration
Embedded IPsec VPN hardware acceleration	<ul style="list-style-type: none"> • C8200-1N-4T enables up to 1 Gbps IPsec traffic • C8200L-1N-4T enables up to 500 Mbps IPsec traffic • Increases scalability for IPsec throughput requirements • SSL and crypto hardware acceleration
Integrated Gigabit Ethernet ports	<ul style="list-style-type: none"> • Provides four built-in Ethernet WAN ports • Two Ethernet ports are Small Form-Factor Pluggable (SFP) and two are RJ45 ports, enabling fiber as well as copper connectivity

Product feature	Benefits and description
DRAM	<ul style="list-style-type: none"> • C8200-1N-4T ships with 8 GB DRAM • C8200L-1N-4T ships with 4 GB DRAM • C8200-1N-4T can be upgraded to 16 GB and 32 GB DRAM for higher scale and performance • C8200L-1N-4T can be upgraded to 8GB, 16 GB and 32 GB DRAM for higher scale and performance
Flash memory support	<ul style="list-style-type: none"> • Both models have an integrated onboard 8-GB flash which is not upgradable. M.2 storage provides flash upgrade options
M.2 storage	<ul style="list-style-type: none"> • The C8200-1N-4T is shipped with default 16G M.2 storage and can be upgraded to 32G M.2 USB and 600G M.2 Non-Volatile Memory Express (NVMe) Storage • The C8200L-1N-4T does not ship with a default M.2 storage but can be upgraded to 16G, 32G USB and to 600G M.2 Non-Volatile Memory Express (NVMe) Storage
Power supply	<ul style="list-style-type: none"> • Both models use an internal, fixed AC power supply • Power over Ethernet (PoE) is available as an option • PoE ports added in the Network Interface Module (NIM) slot will require an additional external PoE power supply
Modularity and form factor	<ul style="list-style-type: none"> • 1-Rack Unit (1RU) form factor • Supports NIM and Pluggable Interface Module (PIM) slots
Integrated security	<ul style="list-style-type: none"> • Hardware-anchored Secure Boot and Secure Unique Device Identification (SUDI) support for Plug and Play to verify the identity of the hardware and software

Platform details

Models and configurations



Figure 1.
Catalyst 8200 Series with 1 NIM slot and 4x 1 Gigabit Ethernet WAN ports

Tables 2 and 3 detail platform specifications and performance, respectively.

Table 2. Platform specifications

Model	Description	1G port density	Slots	Memory (DRAM) default	Storage (M.2 SSD) default
C8200-1N-4T	C8200 1RU w/ 1 NIM slot and 4x 1 Gigabit Ethernet WAN ports	4	1 NIM 1 PIM	8 GB	16 GB
C8200L-1N-4T	C8200L 1RU w/ 1 NIM slot and 4x 1 Gigabit Ethernet WAN ports	4	1 NIM 1 PIM	4 GB	No

*16GB eUSB M.2 can only be ordered as a spare.

Platform Performance

Traffic patterns and use cases

Table 3. Cisco Catalyst 8200 Series SD-WAN performance

Feature	C8200-1N-4T	C8200L-1N-4T
SD-WAN IPsec Throughput (1400Bytes)	Up to 1Gbps	Up to 500Mbps
SD-WAN IPsec Throughput with IQDF** (1400Bytes)	Up to 1Gbps	Up to 460Mbps
SD-WAN IPsec Throughput (IMIX*)	900Mbps	400Mbps
SD-WAN IPsec Throughput with IQDF** (IMIX*)	850Mbps	300Mbps
SD-WAN Overlay Tunnels scale	2500	1500

* IMIX is average packet size of 352 Bytes packet size

** IQDF traffic pattern: IPsec + Quality of Service (QoS) + Deep Packet Inspection (DPI) + Flexible Netflow (FNF)

SD-WAN Multi-layer security performance use cases

The Cisco Catalyst 8200 Series Edge platforms connect branch offices to the Internet and cloud, with industry-leading protection against major web attacks. Table 4 below provides test results for two common Multi-layer Security use cases in SD-WAN. Multi-layer Security use cases are only tested on C8200-1N-4T. C8200L-1N-4T doesn't support embedded, containerized, security features.

- The first use case is with 50% of the traffic encrypted in IQDF traffic pattern (IPsec + Quality of Service (QoS) + Deep Packet Inspection (DPI) + Flexible Netflow (FNF) and another 50% of unencrypted Direct Internet Access (DIA) traffic protected by advanced security features. This protection includes NG-FW, IPS, URLF (URL-Filtering) and AMP (Advanced Malware Protection).
- The second use case is with 100% unencrypted DIA traffic protected by the same advanced security features as in the first use case.

Table 4. Cisco Catalyst 8200-1N-4T SD-WAN, Multi-layer security performance use cases *

Feature	C8200-1N-4T
50% IQDF* + 50% (DIA w. NAT + NGFW + IPS + URLF + AMP)	950Mbps
DIA w. NAT + NGFW + IPS + URLF + AMP	980Mbps

* Tested with IOS XE release 17.12.2. All NGFW + UTD tests with Firewall EMIX traffic profile.

Table 5. Cisco Catalyst 8200 Series autonomous mode (non SD-WAN) performance specifications

Feature	C8200-1N-4T	C8200L-1N-4T
IPv4 Forwarding Throughput (1400Bytes)	Up to 3.8Gbps	Up to 3.8Gbps
IPsec Throughput (1400Bytes)	Up to 1Gbps	Up to 500Mbps
IPsec Throughput (IMIX*)	900Mbps	400Mbps

* IMIX is average packet size of 352 Bytes packet size

Table 6. Cisco Catalyst 8200 Series autonomous mode (non SD-WAN) system scalability

Feature	C8200-1N-4T	C8200L-1N-4T
Number of IPsec SVTI Tunnels	2500	1500
Number of ACLs per system	4000	4000
Number of IPv4 ACEs per system	72K	72K
Number of IPv4 Routes	1.6M w/ default 8GB, up to 4M w/ 32GB	800k w/ default 4GB, up to 4M w/ 32GB
Number of IPv6 Routes	1.5M w/ default 8GB, up to 4M w/ 32GB	800k w/ default 4GB, up to 4M w/ 32GB
Number of Queues	8K	8K
Number of NAT Sessions	1.2M w/ default 8GB, up to 2M w/ 32GB	600k w/ default 4GB, up to 2M w/ 32GB
Number of Firewall Sessions	512K	512K
Number of VRFs	4000	4000

Overall platform benefits

Dynamic core allocation

Dynamic core allocation architecture will allow you to tailor the Cisco Catalyst 8200 Series Edge platforms’ multicore resources to fit your business needs. You can choose between two core allocations

- Service plane heavy mode is a service-oriented core allocation which has the platform’s Multicore resources set to balance throughput with providing adequate resources for containerized services. Choose Service plane heavy mode if integrated, container based, services are required. C8200-1N-4T with its 8-core SoC architecture will allow for KVM and/or Docker container-based applications on up to 3 cores. C8200L-1N-4T with a 4-core SoC architecture has a single core earmarked for Thousand Eyes agent in Service plane heavy mode. This platform doesn’t allow for KVM and/or Docker container-based applications. Service plane heavy mode is the factory default core allocation with which all C8200 platforms are shipped.

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- Data plane heavy core allocation has the platform’s Multicore resources repurposed and optimized for high traffic throughput. Choose this architecture when throughput is of higher priority, A Data plane heavy architecture will on 8-core platforms completely remove resources for containerized services.

In order to maximize the platforms performance and your investment, it’s recommended to change into a Data plane heavy core allocation when container-based services are not being required.

Accelerated services with Cisco Software-Defined WAN

Cisco Catalyst SD-WAN is a set of intelligent software services that allow you to connect users, devices, and branch office locations reliably and securely across a diverse set of WAN transport links. The Cisco Catalyst 8000 Edge Platforms Family can dynamically route traffic across the “best” link based on up-to-the-minute application and network conditions for great application experiences. With Catalyst SD-WAN you get tight control over application performance, bandwidth usage, data privacy, and availability of your WAN links. This control is critical as branches conduct greater volumes of mission-critical business using both on-premises and cloud controllers.

SD-Routing

Simplifying traditional routing deployment and workflows with Cisco Software-Defined Routing

Cisco SD-Routing enables Cisco routing devices to be managed through Cisco Catalyst™ SD-WAN Manager, bringing operational simplicity and agility to traditional routing deployments by avoiding truck rolls for routine operational tasks. It also reduces OpEx by leveraging Catalyst SD-WAN Manager as the unified management platform for Catalyst SD-WAN as well as routing deployments.

SD-Routing enables customers to manage their routing devices in a flexible manner through on-premises controllers and will also be offered through cloud-delivered controllers in the near future.

Operationally, Cisco SD-Routing provides intuitive device lifecycle orchestration workflows for secure device onboarding as well as secure device software upgrades. By leveraging the rich monitoring and troubleshooting capabilities of Catalyst SD-WAN Manager, administrators can quickly isolate and resolve network problems.

Application performance optimization

Ensure that SD-WAN networks meet Service-Level Agreements (SLAs) and maintain strong performance, even if network problems occur. With branch multicloud access, you can accelerate your Software-as-a-Service (SaaS) applications with a simple template push from the SD-WAN controller. Features such as TCP optimization, Forward Error Correction (FEC), and packet duplication enhance application performance for a better user experience.

Multilayer security

You can now move your traditional and complex WAN networks into an agile, software-defined WAN with integrated security. The Catalyst 8200 Series Edge Platforms connect branch offices to the internet and cloud with industry-leading protection against major web attacks. Secure Direct Internet Access (DIA) from the branches helps optimize branch workloads for improved performance, specifically for cloud-hosted applications. At the same time, secure DIA helps ensure that your branch is protected from external threats.

Application visibility

Applications and users are more distributed than ever, and the internet has effectively become the new enterprise WAN. As organizations continue to embrace internet, cloud, and SaaS, network and IT teams are challenged to deliver consistent and reliable connectivity and application performance over networks and services they don’t own or directly control.

The Catalyst 8200 Series Edge Platforms are integrated with Cisco ThousandEyes internet and cloud intelligence. IT managers now have expanded visibility, including hop-by-hop analytics, into network underlay, proactive monitoring of SD-WAN overlay, and performance measurement of SaaS applications. This granular visibility ultimately lowers the Mean Time to Identification of Issues (MTTI) and accelerates resolution time.

Unified communications

The Catalyst 8200 Series Edge Platforms offer rich voice services in both SD-WAN and traditional Cisco IOS XE software feature stacks. Cisco is the only SD-WAN vendor to natively integrate analog and digital IP directly into single Customer Premises Equipment (CPE), reducing CapEx and OpEx. In SD-WAN mode, the Catalyst 8200 Series also helps prevent internal and external outages with Survivable Remote Site Telephony (SRST), enabling branch routers to assume the role of call control PBX for telephony survivability. They also continue to support a long list of traditional Cisco IOS XE voice use cases such as Cisco Unified Border Element (CUBE) Session Border Controller (SBC), Cisco Unified Communications Manager Express (CUCME), Survivable Remote Site Telephony (SRST), ISDN, and voice over IP.

Cloud-native agility with a programmable software architecture

Cisco continues to offer a feature-rich traditional Cisco IOS XE routing stack on the Catalyst 8200 Series. IP routing, IPsec, QoS, firewall, NAT, Network-Based Application Recognition (NBAR), Flexible NetFlow (FNF), and many other features are part of Cisco IOS XE, a fully programmable software architecture with API support and a wide variety of protocols and configurations. With an integrated software image and a single binary file, you can now choose between Cisco IOS XE SD-WAN and Cisco IOS XE. And you can easily move from one to the other when you choose to do so.

Mobility

The Catalyst 8200 Series Edge Platforms are built for high-speed Cat18 LTE and 5G networks. With the higher throughputs from Cat18 LTE and 5G, wireless WAN solutions are becoming feasible options for primary transport use cases. These platforms supports both integrated pluggable modules as well as external Cellular Gateways with Cat18 LTE and 5G capability for improved throughput that addresses those use cases. An integrated PIM module or external Cellular Gateway can be chosen based on a specific branch's cellular coverage, or work in tandem forming a high-availability Active-Active cellular WAN solution

Interface flexibility

Layer 2 LAN (Switched) and Layer 3 WAN (Routed) ports

The Catalyst 8200 Series continues Cisco's support for a flexible single-box solution with both switching and routing. The NIM based Layer 2 LAN modules provide 4- and 8-port switching with optional PoE capability for up to 1Gbps. The NIM based Layer 3 WAN modules provides extended Layer 3 port density for up to 2.5Gbps mGig with full Layer 3 feature parity to the Catalyst 8200 Series four embedded Layer 3 ports.

LANWAN – Flexible Layer 2 Switching and Layer 3 Routing

In addition to a wide range of NIM based Ethernet modules for a flexible and scalable combination of switched L2 ports and routed L3 ports, the Cisco Catalyst 8200 Series Edge Platforms also offer a new LANWAN module series which combines both capabilities. These new NIM based modules offer combined Layer 2 & Layer 3 connectivity with full Layer 3 feature parity to the embedded Layer 3 ports. LANWAN modules are offered as 8-port RJ45 modules ranging from 100Mbps up to 2.5Gbps mGig with 90 PoE capacity. In addition, LANWAN modules also support LAN MACsec for all ports operating in Layer 2 mode and WAN MACsec for all ports operating in Layer 3 mode. The introduction of LANWAN series modules offer unprecedented flexibility for the branch through higher density of Layer 3 ports, with options for higher PoE capacity and with HW-based MACsec for secure connections.

Voice modules

The Catalyst 8200 Series continues Cisco's support for a variety of voice modules for the different voice needs at the branch. Voice module examples include Foreign Exchange Station (FXS), Foreign Exchange Office (FXO), Digital Signal Processor (DSP), etc.

Sustainability

The Cisco Catalyst 8200 Series Edge Platforms are designed ground-up with sustainability in mind. These platforms are standardized on highly efficient power supplies and common form factors for sharing tooling and accessories. We have eliminated the use of plastic bezels as well as the need for wet paint, thereby reducing hazardous chemicals, and facilitating recyclability.

All platforms are designed for maximizing efficient use of PCBs and material in motherboard designs and for employing common modules across platforms. Over 70% of the ISR4000 platform family's modules are being reused by the Cisco Catalyst 8200 and 8300 Series Edge Platforms.

We standardize on integration of features to a single, very power effective, System on a Chip (SoC) architecture across the platform portfolio. It offers dynamic power management plus added power and thermal management capabilities on modules. All platforms furthermore include a barometer to sense atmospheric pressure and estimate installation altitude. Fan speeds can thereby be reduced in installations at lower altitudes, yielding significant energy savings.

Throughput Efficiency (Gbps per Watt)

By using a single, effective, SoC architecture, the Cisco Catalyst 8200 Series Edge family provides significantly higher performance per consumed wattage than its predecessors.

Supported modules

Table 7. Modules supported on Cisco Catalyst 8200 Series Edge Platforms

Product number	Description
Ethernet Layer 3 modules	
C-NIM-1M	1-port 2.5/1Gbps RJ-45 WAN, 90W Poe 802.3 af/at/bt NIM
C-NIM-2T	2-port 100Mbps/1Gbps dual-mode RJ45/SFP, NIM with WAN MACSec
LAN / LANWAN modules	
C-NIM-8T	8-port 100Mbps/1Gbps switch NIM, LAN/WAN MACSec and Optional L3
C-NIM-8M*	8-port 100M/1/2.5Gbps switch NIM, UPoE+, LAN/WAN MACSec and Optional L3
NIM-ES2-4	Cisco 4-port Gigabit Ethernet LAN switch NIM
NIM-ES2-8	Cisco 8-port Gigabit Ethernet LAN switch NIM
NIM-ES2-8-P	Cisco 8-port Gigabit Ethernet LAN switch NIM with PoE support

Product number	Description
Voice modules	
NIM-2FXO	2-port FXO NIM
NIM-4FXO	4-port FXO NIM
NIM-2FXSP	2-port FXS NIM
NIM-4FXSP	4-port FXS NIM
NIM-2FXSP/4FXOP	2-port FXS and 4-port FXO NIM
NIM-4E/M	4-port E/M NIM
NIM-2BRI-NT/TE	2-port BRI (NT and TE) NIM
NIM-4BRI-NT/TE	4-port BRI (NT and TE) NIM
NIM-PVDM-32	32-channel Voice DSP NIM Module
NIM-PVDM-64	64-channel Voice DSP NIM Module
NIM-PVDM-128	128-channel Voice DSP NIM Module
NIM-PVDM-256	256-channel Voice DSP NIM Module
NIM-1MFT-T1/E1	1-port multiflex trunk voice/clear-channel data T1/E1 module
NIM-2MFT-T1/E1	2-port multiflex trunk voice/clear-channel data T1/E1 module
NIM-4MFT-T1/E1	4-port multiflex trunk voice/clear-channel data T1/E1 module
NIM-8MFT-T1/E1	8-port multiflex trunk voice/clear-channel data T1/E1 module
DSL/broadband	
NIM-VAB-A	Multi-mode VDSL2/ADSL/2/2+ NIM Annex A
NIM-VA-B	Multi-mode VDSL2/ADSL/2/2+ NIM Annex B
NIM-VAB-M	Multi-mode VDSL2/ADSL/2/2+ NIM Annex M
NIM-4SHDSL-EA	Multi-mode G.SHDSL NIM
ISDN BRI for Data	
NIM-2BRI-S/T	2-port ISDN BRI WAN interface card for data
NIM-4BRI-S/T	4-port ISDN BRI WAN interface card for data
Channelized T1/E1 and ISDN PRI	
NIM-1CE1T1-PRI	1-port Multiflex trunk voice/channelized data T1/E1 module

Product number	Description
NIM-2CE1T1-PRI	2-port Multiflex trunk voice/channelized data T1/E1 module
NIM-8CE1T1-PRI	8-port Multiflex trunk voice/channelized data T1/E1 module
Serial WAN interface	
NIM-1T	1-port serial high-speed WAN interface card
NIM-2T	2-port serial high-speed WAN interface card
NIM-4T	4-port serial high-speed WAN interface card
Async WAN interface	
NIM-16A	16-port Asynchronous Module
NIM-24A	24-port Asynchronous Module
Wireless WAN (LTE)	
P-5GS6-R16SA-GL*	5G Sub-6 GHz Pluggable - 5G SA Global
P-5GS6-GL	5G Sub-6 GHz Pluggable - Global
P-LTEAP18-GL	CAT18 LTE Advanced Pro Pluggable - Global
P-LTEA7-NA*	CAT7 LTE Advanced Pluggable - North America
P-LTEA7-EAL*	CAT7 LTE Advanced Pluggable - EMEA, APAC, and LATAM
P-LTEA7-JP*	CAT7 LTE Advanced Pluggable - Japan
P-LTEA-EA	CAT6 LTE Advanced Pluggable - North America and EMEA
P-LTEA-LA	CAT6 LTE Advanced Pluggable - APAC, ANZ, and LATAM
NIM-LTEA-EA	CAT6 LTE Advanced - North America and EMEA
NIM-LTEA-LA	CAT6 LTE Advanced - APAC, ANZ, and LATAM

* Supported with IOS-XE release 17.12.2

Memory, storage, and accessory options

Table 8. Memory, storage, and accessory options

Product number	Description
MEM-C8200-8GB	Cisco C8200 Edge Platform - 8 GB DRAM Memory
MEM-C8200-16GB	Cisco C8200 Edge Platform - 16 GB DRAM Memory
MEM-C8200-32GB	Cisco C8200 Edge Platform - 32 GB DRAM Memory
M2USB-16G	Cisco C8000 Edge Platform - 16 GB M.2 USB SSD Storage
M2USB-32G	Cisco C8000 Edge Platform - 32 GB M.2 USB SSD Storage
SSD-M2SED-600G *	Cisco C8000 Edge Platform - 600GB M.2 NVMe Self-Encrypted Drive (SED) Storage
C8200-RM-19	Cisco C8200 1RU Edge Platform - Rack Mount kit - 19"
C8200-RM-23	Cisco C8200 1RU Edge Platform - Rack Mount kit - 23"
C8200-WM-1R	Cisco C8200 1RU Edge Platform - Wall Mount Kit
C8200-RFID-1R	Cisco C8200 1RU Edge Platform - RFID
C8200-NIM-BLANK	Cisco C8200 NIM Blank
C8200-PIM-BLANK	Cisco C8200 PIM Blank

* Supported with IOS-XE release 17.12.1

Optics and transceivers modules

Find a full list of optics and transceivers [here](#).

Power supplies

Table 9. Power supply specifications

Power supply feature	Default	PWR-CC1-150WAC optional external PSU for PoE
Power maximum rating	100W	150W For PoE only PoE budget: 150W
Input-voltage range and frequency	90 to 264 VAC 47 to 63 Hz	90 to 264 VAC 47 to 63 Hz
Power supply efficiency	85%	Avg 89%
Input current	1.5A max	2A max

Power supply feature	Default	PWR-CC1-150WAC optional external PSU for PoE
Output ratings	12V 8.4A	54V 2.78A
Output holdup time	20 ms	10 ms
Power supply input receptacles	IEC 320 C14	IEC 320 C14
Power cord rating	10A	10A

Table 10. Cisco Catalyst 8200 Edge platform Typical power consumption

Power consumption, no modules	C8200-1N-4S	C8200L-1N-4S
Typical power (watts)	35W	33W

Asset management

The Catalyst 8200 Series Edge Platforms have an embedded RFID tag that holds the serial number and product ID for easy asset and inventory management using commercial RFID readers. The RFID tag is external and can be easily removed if needed or can be unselected at the time of ordering. It also features an extendable label tag providing the same information. A QR code on this tag makes asset management easy by simply scanning the label using a smartphone QR reader.

Software requirements

Cisco DNA Software for the Catalyst 8200 Series offers comprehensive solutions for enterprise branch networks.

Table 11a. Minimum software requirements

Platform product ID (PID)	Description	Minimum software requirement
C8200-1N-4T	Cisco Catalyst 8200 Series Edge Platform	Cisco IOS XE Software Release 17.4.1
C8200L-1N-4T	Cisco Catalyst 8200 Series Edge Platform	Cisco IOS XE Software Release 17.5.1

Table 11b. ThousandEyes requirements

Feature	Requirements
Cisco ThousandEyes	ThousandEyes is supported with a minimum 8 GB DRAM and 8 GB bootflash/storage. Additional memory and storage will be necessary for concurrently running the ThousandEyes agent with containerized SD-WAN security services.

Table 11c. Software features and protocols for autonomous mode

Feature	Description
Protocols	IPv4, IPv6, static routes, Routing Information Protocol Versions 1 and 2 (RIP and RIPv2), Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Border Gateway Protocol (BGP), BGP Route Reflector, Intermediate System-to-Intermediate System (IS-IS), Multicast Internet Group Management Protocol Version 3 (IGMPv3), Protocol Independent Multicast Sparse Mode (PIM SM), PIM Source-Specific Multicast (SSM), Resource Reservation Protocol (RSVP), Cisco Discovery Protocol, Encapsulated Remote Switched Port Analyzer (ERSPAN), Cisco IOS IP Service-Level Agreements (IPSLA), Call Home, Cisco IOS Embedded Event Manager (EEM), Internet Key Exchange (IKE), ACLs, Ethernet Virtual Connections (EVC), Dynamic Host Configuration Protocol (DHCP), Frame Relay, DNS, Locator ID Separation Protocol (LISP), Hot Standby Router Protocol (HSRP), RADIUS, Authentication, Authorization, and Accounting (AAA), Application Visibility and Control (AVC), Distance Vector Multicast Routing Protocol (DVMRP), IPv4-to-IPv6 Multicast, Multiprotocol Label Switching (MPLS), Layer 2 and Layer 3 VPN, IPsec, Layer 2 Tunneling Protocol Version 3 (L2TPv3), Bidirectional Forwarding Detection (BFD), IEEE 802.1ag, and IEEE 802.3ah
Encapsulations	Generic Routing Encapsulation (GRE), Ethernet, 802.1q VLAN, Point-to-Point Protocol (PPP), Multilink Point-to-Point Protocol (MLPPP), Frame Relay, Multilink Frame Relay (MLFR) (FR.15 and FR.16), High-Level Data Link Control (HDLC), serial (RS-232, RS-449, X.21, V.35, and EIA-530), and PPP over Ethernet (PPPoE)
Traffic management	QoS, Class-Based Weighted Fair Queuing (CBWFQ), Weighted Random Early Detection (WRED), Hierarchical QoS, Policy-Based Routing (PBR), and Network-Based Application Recognition NBAR
Cryptographic algorithms	Encryption: Data Encryption Standard (DES), 3DES, Advanced Encryption Standard (AES)-128 or AES-256 (in Cipher Block Chaining [CBC] and Galois/Counter Mode [GCM]) Authentication: RSA (748/1024/2048 bit), ECDSA (256/384 bit) Integrity: MD5, SHA, SHA-256, SHA-384, SHA-512
Unified communications	Call Admission Control (CAC), Cisco Unified Boarder Element(CUBE) Session Border Controller(SBC), Cisco Unified Communications Manager Express (CUCME), (ISDN), RADIUS , RFC 4040-based clear channel codec signaling with Session Initiation Protocol (SIP), Resource Reservation Protocol (RSVP), RTP Control Protocol (RTCP), SIP for voice over IP (VoIP), Survivable Remote Site Telephony (SRST), Secure Real-Time Transport Protocol (SRTP), and voice modules

Table 11d. Software features and protocols for controller mode

Feature	Description
Core features	IPv4, IPv6, static routes, OSPF, EIGRP, BGP, Overlay Management Protocol (OMP), Application Aware Routing (AAR), Traffic Engineering, service insertion, zero trust, whitelisting, tamper-proof module, DTLS/TLS, IPsec, classification, prioritization, low latency queuing, remarking, shaping, scheduling, policing, mirroring, Multicast IPv4 support, service advertisement and insertion policy, Simple Network Management Protocol (SNMP), Network Time Protocol (NTP), DNS client, DHCP, DHCP client, DHCP server, DHCP relay archival, syslog, Secure Shell (SSH), Secure Copy (SCP), Cflowd v10 IPFIX export, IPv6 for transport side, Virtual Router Redundancy Protocol (VRRP), MPLS, NAT (DIA, service-side, overload/PAT, NAT64, etc.), NAT pools, split DNS, ACLs, BFD, NETCONF over SSH, CLI, NTP server support, BFD with service-side BGP, BGP community propagation to OMP, 6 SLA for AAR, Cisco TrustSec®/SD-Access (inline scalable group tag [SGT] propagation), custom app with Software-Defined AVC (SD-AVC), multicast AAR, dynamic on-demand tunnels, OSM, OSPFv3, route policies, multi-VRF support

Feature	Description
Encapsulations	Generic Routing Encapsulation (GRE), Ethernet, 802.1q VLAN
Application experience	QoS, FEC, Class of Service (CoS) marking, Weighted Random Early Detection (WRED), Hierarchical QoS, PBR, NBAR, SD-AVC, per-tunnel QoS, Cloud OnRamp for SaaS, Enhanced Office 365 traffic steering, direct access, FNF
Cryptographic algorithms	Encryption: AES-256 (in CBC and GCM modes), Internet Key Exchange (IKE), Cisco Public Key Infrastructure (PKI) Authentication: AAA, RSA (2048 bit), ESP-256-CBC, HMAC-SHA1, ECDSA (256/384 bit) Integrity: SHA-1, SHA-2
Security: C8200-1N-4T	Built-in end-to-end segmentation (VPNs), zone-based firewall (ZBFW), PKI, Cisco DNA Layer Security, Snort® IPS/IDS, URL filtering, Secure Malware Defense, Secure Malware Analytics, Application-Level Gateway (ALG) for ZBFW, Secure Internet Gateway (SIG)
Security: C8200L-1N-4T	Built-in end-to-end segmentation (VPNs), ZBFW, PKI, Cisco DNA Layer Security, SIG
Unified communications	Cisco Unified Border Element (CUBE), Survivable Remote Site Telephony (SRST), Cisco Unified Communications Manager Express (CUCME) and, voice modules

Licensing

The Catalyst 8200 Series Edge Platforms are offered only with a Cisco DNA Software subscription, Enterprise Agreement, and Managed Service Licensing Agreement (MSLA). For more details, refer to this [licensing guide](#).

Cisco DNA Subscriptions offered with the Catalyst 8200 Series

- Catalyst Routing Essentials
- Cisco DNA Essentials
- Cisco DNA Advantage

For a more detailed overview on Cisco Licensing, go to cisco.com/go/licensingguide.

Cisco ThousandEyes

A valid ThousandEyes agent license is required to activate the ThousandEyes agent. Existing ThousandEyes subscriptions can be leveraged on eligible platforms. Additional ThousandEyes subscription information can be found [here](#).

Specifications

Table 12. Mechanical specifications

Description	Specification
Part number	C8200-1N-4T and C8200L-1N-4T
Dimensions (H x W x D)	1.73 x 17.25 x 11.8 in. (4.39 x 43.81 x 29.97 cm)
Rack Units (RU)	1RU
Chassis weight	10 lb (4.54 kg)
Input voltage	AC: 90 to 264 VAC
Operating temperature	32° to 104°F (0° to 40°C)
Storage temperature	-40° to 150°F (-40° to 70°C)
Acoustics, both models: Sound pressure (Typical/maximum)	54 dBA/69 dBA
Acoustics, both models: Sound power (Typical/maximum)	68 dBA/80 dBA
Relative humidity operating and nonoperating noncondensing	Ambient (noncondensing) operating: 5% to 85% Ambient (noncondensing) nonoperating and storage: 5% to 95%
Altitude	0 to 10,000 feet (0 to 3050 meters)
Mean Time Between Failures (MTBF)	692,577 hours

Table 13. Safety and compliance

Description	Specification
Safety certifications	UL 60950-1 CAN/CSA-C22.2 No. 60950-1 EN 60950-1 IEC 60950-1 AS/NZS 60950-1 IEC/EN 60825 Laser Safety FDA: Code of Federal Regulations Laser Safety
EMC (emissions)	47 CFR Part 15 Class A ICES 003 Class A AS/NZS CISPR 32 Class A CISPR 32 Class A EN55032 Class A VCCI-CISPR 32 Class A CNS-13438 Class A KN32 Class A IEC/EN 61000-3-2: Power Line Harmonics IEC/EN 61000-3-3: Voltage Fluctuations and Flicker
EMC (immunity)	IEC/EN-61000-4-2: Electrostatic Discharge Immunity IEC/EN-61000-4-3: Radiated Immunity IEC/EN-61000-4-4: Electrical Fast Transient Immunity IEC/EN-61000-4-5: Surge AC, DC, and Signal Ports IEC/EN-61000-4-6: Immunity to Conducted Disturbances IEC/EN-61000-4-8: Power Frequency Magnetic Field Immunity IEC/EN-61000-4-11: Voltage DIPS, Short Interruptions, and Voltage Variations KN35
EMC (ETSI/EN)	EN300 386: Telecommunications Network Equipment (EMC) EN55032: Multimedia Equipment (Emissions) EN55024: Information Technology Equipment (Immunity) EN55035: Multimedia Equipment (Immunity) EN61000-6-1: Generic Immunity Standard

Ordering information

To place an order, visit the [Cisco Ordering Home Page](#). To download software, visit the [Cisco Software Center](#).

Product sustainability

Information about Cisco's environmental, Social and Governance (ESG) initiatives and performance is provided in Cisco's CSR and sustainability [reporting](#).

Sustainability Topic		Reference
General	Information on product-material-content laws and regulations	Materials
	Information on electronic waste laws and regulations, including our products, batteries and packaging	WEEE Compliance
	Sustainability Inquiries	Contact: csr_inquiries@cisco.com
	Information on product takeback and reuse program	Cisco Takeback and Reuse Program
	Operating and nonoperating conditions	Table 12. Mechanical specifications
	Mean Time Between Failures (MTBF)	Table 12. Mechanical specifications
	Safety and EMC (emissions, immunity and ETSI/EN)	Table 12. Mechanical specifications
Power	Power Supply	Table 1. Product highlights Table 9. Power supply specifications
	Material	Product packaging weight and materials
Dimensions and weight		Table 12. Mechanical specifications

Services

Cisco Customer Experience support services for Catalyst 8000 platforms and Cisco DNA Software for SD-WAN and Routing

This section discusses the Cisco support services available for the Catalyst 8000 platforms and associated Cisco DNA Software for SD-WAN and Routing, as well as optional support service offers.

- **Catalyst 8000 platforms:** Cisco Solution Support is the default and recommended Cisco support service. However, Cisco Solution Support is not mandatory; it can be removed or replaced with another Cisco support service or partner service per the customer's preference.
- **Cisco DNA Software for SD-WAN and Routing:** Cisco Solution Support is the default Cisco support service. However, Cisco Solution Support is not mandatory; the customer may choose to use the Cisco Subscription Embedded Software Support included with the purchase of this software.

Note:

- When Solution Support is selected, it must be ordered on both the Catalyst 8000 platform and Cisco DNA Software for SD-WAN and Routing for complete customer entitlement to this premium support service.
- SD-WAN and Routing customers with Solution Support or Cisco Subscription Embedded Software Support are entitled to maintenance releases and software updates for **Cisco DNA SD-WAN and Routing software only**. Support for the Catalyst 8000 platform's OS and network stack, along with OS updates, is covered by the support contract on the Catalyst 8000 platform.
- For ThousandEyes support, C8200L-1N-4T must be upgraded to a minimum of 8GB DRAM

Cisco Solution Support is a premium support purpose-built for today's multiproduct, multivendor network environments and provides:

- A primary point of contact, centralizing support across a solution deployment
- Solution, product, and interoperability expertise
- No requirement for customers to isolate their issue to a product to open a case
- 30-minute service response objective for Severity 1 and 2 cases
- Prioritized case handling over product support cases
- Product support team coordination (Cisco and Solution Support Alliance Partners)
- Accountability for multiproduct, multivendor issue management from first call to resolution, no matter where the issue resides

Learn more about Cisco Solution Support at: www.cisco.com/go/solutionsupport.

Cisco Subscription Embedded Software Support includes:

- Access to support and troubleshooting via online tools and web case submission. Case severity or escalation guidelines are not applicable.
- Cisco Technical Assistance Center (TAC) access 24 hours per day, 7 days per week to assist by telephone, or web case submission and online tools with application software use and troubleshooting issues.
- Access to www.cisco.com, providing helpful technical and general information on Cisco products, as well as access to Cisco's online Software Center library.

Note: No additional products or fees are required to receive embedded support for Cisco DNA Software for SD-WAN and Routing. However, if using embedded support for this software, hardware support for the Catalyst 8000 platforms must be purchased separately, as Cisco Subscription Embedded Software Support does not cover hardware. In this case, Cisco Smart Net Total Care[®] Service is recommended for the Catalyst 8000 platforms.

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For more information

For more information about the Cisco Catalyst 8200 Series Edge Platforms, Visit: <https://www.cisco.com/go/C8200> or contact your local Cisco account representative.

Document history

New or Revised Topic	Described In	Date
Updated licensing information	Licensing	June 25, 2021
Updated Technology and modules	Across document	April 22, 2024

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