

Cisco Catalyst 8300 Series Edge Platforms

Contents

| | |
|--|----|
| Product overview | 3 |
| Platform details | 4 |
| Platform performance | 6 |
| Overall platform benefits | 7 |
| Supported modules | 9 |
| Memory, storage, and accessory options | 11 |
| Optics and transceivers modules | 12 |
| Resiliency and high availability | 12 |
| Power supplies | 12 |
| Software requirements | 14 |
| Licensing | 16 |
| Cisco Smart Licensing | 16 |
| Specifications | 16 |
| Services | 19 |
| Cisco Capital | 20 |
| Ordering information | 20 |
| For more information | 20 |
| Document history | 21 |

The Cisco Catalyst 8300 Series Edge Platforms are best-of-breed, 5G-ready, cloud edge platforms designed for accelerated services, multi-layer security, cloud-native agility, and edge intelligence to accelerate your journey to cloud.



Cisco Catalyst 8300 Series Edge Platforms (Catalyst 8300) with Cisco IOS XE SD-WAN Software deliver Cisco’s secure, cloud-scale SD-WAN solution for the branch. The Catalyst 8300 Series is purpose-built for high performance and integrated SD-WAN Services along with flexibility to deliver security and networking services together from the cloud or on premises. It provides higher WAN port density and a redundant power supply capability. The Catalyst 8300 Series Edge Platforms have a wide variety of interface options to choose from—ranging from lower and higher module density with backward compatibility to a variety of existing WAN, LAN, voice, and compute modules. Powered by Cisco IOS XE, fully programmable software architecture, and API support, these platforms can facilitate automation at scale to achieve zero-touch IT capability while migrating workloads to the cloud. Catalyst 8300 Series Edge Platforms also come with Trustworthy Solutions 2.0 infrastructure that secures the platforms against threats and vulnerabilities with integrity verification and remediation of threats.

The Catalyst 8300 Series Edge Platforms are well suited for medium-sized and large enterprise branch offices for high WAN IPsec performance with integrated SD-WAN services.

Product overview

Product highlights

Table 1. Product highlights

| Product feature | Benefits and description |
|---|---|
| Multicore processors | <ul style="list-style-type: none"> • Intel x86 CPU with 8-GB memory default (up to 32 GB memory upgrade) • High-performance multicore processors support high-speed WAN connections. • Dynamic core allocation architecture that can leverage data plane cores for I/O and service plane as per-user configuration. |
| Embedded IPsec VPN hardware acceleration | <ul style="list-style-type: none"> • Up to 5 Gbps of IPsec Internet Mix (IMIX) traffic • Increases scalability for IPsec throughput needs for medium- and large-sized branches • SSL and crypto hardware acceleration |
| Integrated Gigabit Ethernet ports | <ul style="list-style-type: none"> • Provides 6 built-in Layer 3 Ethernet ports for WAN or LAN with port speeds ranging from 10Mbps, 100Mbps, 1Gbps and up to 10Gbps, depending on platform model • All platforms have at least 2 Ethernet ports that can support Small Form-Factor Pluggable (SFP or SFP+) based connectivity in addition to 4 RJ-45 connections, enabling fiber or copper connectivity. |
| DRAM | <ul style="list-style-type: none"> • All Catalyst 8300 platforms have 8G default DRAM and can be upgraded to 16G and 32G for higher scale and performance. |
| Flash memory support | <ul style="list-style-type: none"> • All Catalyst 8300 platforms have an integrated on-board 8G flash and it is not upgradeable. M.2 storage provides upgrade options for additional storage. |

| Product feature | Benefits and description |
|------------------------------------|---|
| M.2 storage | <ul style="list-style-type: none"> All the Catalyst 8300 models ship with default 16G M.2 USB for SD-WAN logging and additional storage on the platform. It can be upgraded to 32G M.2 USB and 600G M.2 Non-Volatile Memory Express (NVMe) |
| Default dual power supplies | <ul style="list-style-type: none"> All Catalyst 8300 platforms ship with dual power supplies for redundancy. AC Power over Ethernet (PoE), DC and High-Voltage DC (HVDC) options are available on all models. Enabling PoE portson Network Interface Modules (NIM) or on Service Modules (SM) requires at least one PoE supporting PSU to be installed |
| Modularity and form factor | <ul style="list-style-type: none"> 1RU and 2RU form factor Supports SM, 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

Figures 1 through 4 highlight the different models included in the Catalyst 8300 Series Edge Platforms.

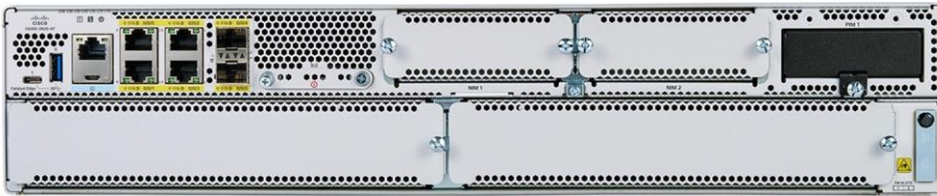


Figure 1.

C8300-2N2S-4T2X is a 2RU platform with 2 SM and 2 NIM slots plus 2 x 10Gbps and 4 x 1Gbps embedded Layer3 Ethernet ports



Figure 2.

C8300-2N2S-6T is a 2RU platform with 2 SM and 2 NIM slots plus 6 x 1Gbps embedded Layer3 Ethernet ports



Figure 3.

C8300-1N1S-4T2X is a 1RU platform with 1 SM slot and 1 NIM slot plus 2 x 10Gbps and 4 x 1Gbps embedded Layer3 Ethernet ports



Figure 4.

C8300-1N1S-6T is a 1RU platform with 1 SM slot and 1 NIM slot plus 6 x 1Gbps embedded Layer3 Ethernet ports

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

Table 2. Cisco Catalyst 8300 Series specifications

| Model | Description | 10G port density | 1G port density | Slots | Memory (DRAM) default | Storage (M.2 SSD) default |
|------------------------|--|------------------|-----------------|------------------------|-----------------------|---------------------------|
| C8300-2N2S-4T2X | C8300 2RU w/ 10G WAN (2 SM and 2 NIM slots, and 2 x 10-Gigabit Ethernet and 4 x 1-Gigabit Ethernet ports) | 2 | 4 | 2 SM 2 NIM 1 PIM | 8 GB | 16 GB |
| C8300-2N2S-6T | C8300 2RU w/ 1G WAN (2 SM and 2 NIM slots, and 6 x 1-Gigabit Ethernet ports) | - | 6 | 2 SM 2 NIM 1 PIM | 8 GB | 16 GB |
| C8300-1N1S-4T2X | C8300 1RU w/ 10G WAN (1 SM slot and 1 NIM slot, and 2 x 10-Gigabit Ethernet and 4 x 1-Gigabit Ethernet ports) | 2 | 4 | 1 SM 1 NIM 1 PIM | 8 GB | 16 GB |
| C8300-1N1S-6T | C8300 1RU w/ 1G WAN (1 SM slot and 1 NIM slot, and 6 x 1-Gigabit Ethernet ports) | - | 6 | 1 SM 1 NIM 1 PIM | 8 GB | 16 GB |

Platform performance

Table 3a Cisco controller mode (SD-WAN) performance specifications

| Feature | C8300-2N2S-4T2X (2RU w/ 10G WAN) | C8300-1N1S-4T2X (1RU w/ 10G WAN) | C8300-2N2S-6T (2RU w/ 1G WAN) | C8300-1N1S-6T (1RU w/ 1G WAN) |
|--|-------------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| SD-WAN IPsec Throughput (1400Bytes) | Up to 18Gbps | Up to 15Gbps | Up to 1.9Gbps | Up to 1.9Gbps |
| SD-WAN IPsec Throughput (IMIX*) | 5Gbps | 4.3Gbps | 1.75Gbps | 1.75Gbps |
| SD-WAN Overlay Tunnels scale | 6000 | 6000 | 6000 | 6000 |

* IMIX is average packet size of 352 Bytes packet size

Table 3b Cisco autonomous mode (non SD-WAN) performance specifications

| Feature | C8300-2N2S-4T2X (2RU w/ 10G WAN) | C8300-1N1S-4T2X (1RU w/ 10G WAN) | C8300-2N2S-6T (2RU w/ 1G WAN) | C8300-1N1S-6T (1RU w/ 1G WAN) |
|---|-------------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| IPv4 Forwarding Throughput (1400Bytes) | Up to 19.7Gbps | Up to 19.7Gbps | Up to 19.7Gbps | Up to 19.7Gbps |
| IPsec Throughput (1400Bytes) | Up to 18.8Gbps | Up to 15.8Gbps | Up to 1.9Gbps | Up to 1.9Gbps |
| Number of IPsec SVTI Tunnels | 4000 | 4000 | 4000 | 4000 |

Table 3c Cisco autonomous mode (non SD-WAN) system scalability

| Feature | C8300-2N2S-4T2X (2RU w/ 10G WAN) | C8300-1N1S-4T2X (1RU w/ 10G WAN) | C8300-2N2S-6T (2RU w/ 1G WAN) | C8300-1N1S-6T (1RU w/ 1G WAN) |
|---------------------------------------|---|---|---|---|
| Number of ACLs per system | 4000 | 4000 | 4000 | 4000 |
| Number of IPv4 ACEs per system | 72K | 72K | 72K | 72K |
| Number of IPv4 Routes | 1.6M w/ default 8GB, up to 4M w/ 32GB | 1.6M w/ default 8GB, up to 4M w/ 32GB | 1.6M w/ default 8GB, up to 4M w/ 32GB | 1.6M w/ default 8GB, up to 4M w/ 32GB |
| Number of IPv6 Routes | 1.5M w/ default 8GB, up to 4M w/ 32GB | 1.5M w/ default 8GB, up to 4M w/ 32GB | 1.5M w/ default 8GB, up to 4M w/ 32GB | 1.5M w/ default 8GB, up to 4M w/ 32GB |
| Number of Queues | 16K | 16K | 16K | 16K |
| Number of NAT Sessions | 1.2M w/ default 8GB, up to 2M w/ 32GB | 1.2M w/ default 8GB, up to 2M w/ 32GB | 1.2M w/ default 8GB, up to 2M w/ 32GB | 1.2M w/ default 8GB, up to 2M w/ 32GB |
| Number of Firewall Sessions | 512K | 512K | 512K | 512K |
| Number of VRFs | 4000 | 4000 | 4000 | 4000 |

Overall platform benefits

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. Cisco Catalyst 8000 Series Edge Platforms can dynamically route traffic across the “best” link based on up-to-the-minute application and network conditions for great application experiences. You get tight control over application performance, bandwidth usage, data privacy, and availability of your WAN links—control you need as your branches conduct greater volumes of mission-critical business with both on-premises and cloud controllers.

Application performance optimization

Ensure that Catalyst SD-WAN networks meet Service-Level Agreements (SLAs) and maintain strong performance, even if network problems occur. With branch multi-cloud access, you can accelerate your SaaS applications with a simple template push from the Catalyst SD-WAN controller. Features like Transmission Control Protocol (TCP) optimization, forward error correction, and packet duplication help application performance for a better user experience.

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 8300 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 Catalyst 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.

Multi-layer security

You can now move your traditional and complex WAN networks to a more agile software-defined WAN with integrated security. The Cisco Catalyst 8300 Series Edge platforms connect branch offices to the Internet and cloud, with industry-leading protection against major web attacks. Secure Direct Internet Access (DIA) to the branches helps optimize branch workloads for improved performance, specifically for cloud-hosted applications. At the same time, DIA ensures your branch is protected from external threats.

Unified communications

The Cisco Catalyst 8300 Edge platforms offer rich voice services in both Catalyst SD-WAN and traditional IOS-XE software feature stacks. Cisco is the only SDWAN vendor to natively integrate analog/digital IP directly into single CPE reducing Capex and Opex costs. In SD-WAN mode, the Catalyst 8300 Series also prevent internal and external outages using SRST enabling Branch router to assume role of call control PBX for Telephony survivability. They also continue to support the long list of traditional IOS-XE voice use cases like 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 IOS-XE routing stack on the Cisco Catalyst 8300 Series Edge Platforms. IP Routing, IPSec, Quality of Service (QoS), firewall, Network Address Translation (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 IOS XE. And easily move from one to the other when you choose to do so.

LTE and 5G Wireless WAN

The Cisco Catalyst 8300 Series Edge Platforms are built 5G networks. With the higher throughputs provided by CAT18 LTE and 5G, wireless WAN connections become feasible as primary transports for different use cases. These platforms support both integrated pluggable modules as well as external cellular gateways with LTE or 5G capability for improved throughputs that address all of those use cases. Based on a specific branch's direct line of sight and cellular coverage, this solution provides the flexibility of either using integrated PIM module or an external gateway. The integrated module can work in tandem with a cellular gateway for Active-Active redundancy.

Interface flexibility

High-density Switching

We are introducing a Unified Access Data Plane (UADP)-based 22-port and 50-port Layer 2 switch module for the Catalyst 8300 Series. The edge platform can be a branch-in-a-box solution with this integrated switch module with 1G, Cisco Multigigabit Technology (mGig), and 10G ports for downstream switches and devices. The 22-port Layer-2 module is a single-wide module that can be used on both the 1RU and 2RU platforms. The 50-port Layer-2 module is a double-wide module that can be used on the 2RU platforms.

Cisco UCS-E compute

The Cisco Catalyst 8300 Series Edge Platforms will support the Cisco UCS-E M3 modules for branch compute needs. We support both Cisco and third-party Virtual Network Functions (VNFs) on the Cisco Enterprise NFV Infrastructure Software (NFVIS) hypervisor running on the UCS-E compute blade server. Cisco UCS-E M3 modules have 6-, 8-, and 12-core options to choose from based on the number of VNFs that need to be run at the branch.

Voice modules

The Cisco Catalyst 8300 Series Edge Platforms will continue to support 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.

Supported modules

Table 4. Modules supported on Cisco Catalyst 8300 Series Edge Platforms

| Product number | Description |
|---------------------------------|--|
| Ethernet Layer 3 modules | |
| C-NIM-1X | 1-port 10Gbps SFP/SFP+ NIM with WAN MACSec |
| 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 modules | |
| NIM-ES2-4 | Cisco 4-port Gigabit Ethernet switch NIM |
| NIM-ES2-8 | Cisco 8-port Gigabit Ethernet switch NIM |
| NIM-ES2-8-P | Cisco 8-port Gigabit Ethernet switch NIM with PoE support |
| C-SM-16P4M2X | Cisco 22-port Catalyst L2 switch module with UADP ASIC |
| C-SM-40P8M2X | Cisco 50-port Catalyst L2 switch module with UADP ASIC |
| Compute modules | |
| UCS-E160S-M3/K9 | UCS-E, single-wide, Intel Broadwell 6-core CPU; up to 64 GB RAM, 1-2 HDD |
| UCS-E180D-M3/K9 | UCS-E, double-wide, Intel Broadwell 8-core CPU; up to 128 GB RAM, 1-4 HDD |
| UCS-E1120D-M3/K9 | UCS-E, double-wide, Intel Broadwell 12-core CPU; up to 128 GB RAM, 1-4 HDD |
| 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 |
| SM-X-8FXS/12FXO | 8-port FXS and 12-port FXO single-wide service module |
| SM-X-16FXS/2FXO | 16-port FXS and 2-port FXO single-wide service module |

| Product number | Description |
|---------------------------------------|--|
| SM-X-24FXS/4FXO | 24-port FXS and 4-port FXO single-wide service module |
| SM-X-72FXS | 72-port FXS double-wide service module |
| 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 |
| SM-X-PVDM-3000 | 3080-channel high-density voice DSP module |
| SM-X-PVDM-2000 | 2048-channel high-density voice DSP module |
| SM-X-PVDM-1000 | 1024-channel high-density voice DSP module |
| SM-X-PVDM-500 | 768-channel high-density voice DSP 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 |
| 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 |

| Product number | Description |
|---------------------------------|--|
| Serial WAN interface | |
| SM-X-1T3/E3 | 1-port clear-channel T3/E3 service module |
| 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-GL | 5G Sub-6 GHz Pluggable - Global |
| P-LTEAP18-GL | 4G/CAT18 LTE Advanced Pro Pluggable - Global |
| P-LTEA-EA | 4G/CAT6 LTE Advanced Pluggable for North American and Europe |
| P-LTEA-LA | 4G/ CAT6 LTE Advanced Pluggable for APAC, ANZ, and LATAM |
| NIM-LTEA-EA | LTE Advanced for Europe and North America |
| NIM-LTEA-LA | LTE Advanced for Asia Pacific, Australia and LATAM |
| NIM Carrier Adapter Card | |
| C-SM-NIM-ADPT | Single-wide 2x NIM carrier module in SM-X form factor |

Memory, storage, and accessory options

Table 5. Cisco Catalyst 8300 Series memory, storage, and accessory options

| Product number | Description |
|------------------------|---|
| MEM-C8300-8GB | Cisco C8300 Edge Platform - 8 GB Memory |
| MEM-C8300-16GB | Cisco C8300 Edge Platform - 16GB Memory |
| MEM-C8300-32GB | Cisco C8300 Edge Platform - 32GB Memory |
| M2USB-16G | Cisco C8000 Edge Platform - 16G M.2 USB SSD Storage |
| M2USB-32G | Cisco C8000 Edge Platform - 32G M.2 USB SSD Storage |
| SSD-M2NVME-600G | Cisco C8000 Edge Platform - 600G M.2 NVMe SSD Storage |
| C8300-RM-19-1R | Cisco C8300 1RU Edge Platform - Rack Mount kit - 19" |

| Product number | Description |
|------------------------|--|
| C8300-RM-23-1R | Cisco C8300 1RU Edge Platform - Rack Mount kit - 23" |
| C8300-RM-19-2R | Cisco C8300 2RU Edge Platform - Rack Mount kit - 19" |
| C8300-RM-23-2R | Cisco C8300 2RU Edge Platform - Rack Mount kit - 23" |
| C8300-WM-1R | Cisco C8300 1RU Edge Platform - Wall Mount Kit |
| C8300-FAN-1R | Cisco C8300 1RU Edge Platform - Fan Tray Assembly |
| C8300-FAN-2R | Cisco C8300 2RU Edge Platform Fan Tray Assembly |
| C-RFID-1R | Cisco C8300 1RU Edge Platform - RFID |
| C-RFID-2R | Cisco C8300 2RU Edge Platform - RFID |
| C8300-SM-BLANK | Cisco C8300 SM Blank |
| C8300-NIM-BLANK | Cisco C8300 NIM Blank |
| C8300-PIM-BLANK | Cisco C8300 PIM Blank |

The fan tray is shipped default with the Cisco Catalyst 8300 Edge Series Platforms.

Optics and transceivers modules

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

Resiliency and high availability

Platform redundancy is critical for branch operations, as any downtime has direct impact to a customer's business. To address that priority, Cisco makes a dual power supply default on all the Catalyst 8300 platforms to ensure that there is always a backup power supply module in case the primary power supply fails.

Power supplies

Important notice: Cisco is working diligently to resolve the present component shortages preventing us from fulfilling orders.

To address this situation, Cisco will be shipping an upgraded substitute power supply which can be used in place of the current 250-watt power supply used on our Catalyst 8300 1RU platforms. This power supply is the same form and fit, with a similar function as the default 250-watt power supply but provides a higher maximum output rating of 400-watts instead of the 250-watt maximum output of the default power supply. Should it be required, these two power supplies can work in tandem without any interaction from the user.

For more information, please visit <https://www.cisco.com/c/en/us/products/collateral/routers/catalyst-8300-series-edge-platforms/catalyst-8300-series-pb.html>.

Table 6. Cisco Catalyst 8300 1RU edge platform power supply specifications

| Power supply feature | PWR-CC1-250WAC | PWR-CC1-400WAC* | PWR-CC1-500WAC | PWR-CC1-400WDC | PWR-CC1-400WHV |
|--|------------------------------|------------------------------|--|-----------------|------------------|
| Power maximum rating | 250W | 250W | 500W PoE (Yes) PoE Budget: 250W | 400W | 400W |
| Input-voltage range and frequency | 100 to 240 VAC 50 – 60 Hz | 100 to 240 VAC 50 – 60 Hz | 100 to 240 VAC 50 – 60 Hz | DC: -40 to -72V | DC: 240 – 380V |
| Power supply efficiency | 80 Plus Silver | 80 Plus Silver | 80 Plus Silver | 85 % | 80 Plus Platinum |
| Input current | 3A – 1.25A | 6A – 3A | 6 A – 2.5A | 13 A – 7.25 A | 1.75 A – 1.1 A |
| Output ratings | 12V 21A | 12V 33A | 12V 21A 54 V – 4.5 A | 12 V 33.5 A | 12V 54A |
| Output holdup time | 20ms | 20ms | 20ms | 2 ms | 20ms |
| Power supply input receptacles | IEC 320 C14 | IEC 320 C14 | IEC 320 C14 | Terminal block | Saf-D-Grid |
| Power cord rating | 5A | 10A | 10A | 15 A # 14 wire | 5A |

*See Important Notice above

Table 7. Cisco Catalyst 8300 2RU edge platform power supply specifications

| Power supply feature | PWR-CC1-650WAC | PWR-CC1-1000WAC | PWR-CC1-650WDC |
|--|------------------------------|--|-----------------|
| Power maximum rating | 650W | 1000W PoE (Yes) PoE Budget: 250W | 650W |
| Input-voltage range and frequency | 100 to 240 VAC 50 – 60 Hz | 100 to 240 VAC 50 – 60 Hz | DC: -40 to -72V |
| Power supply efficiency | 80 Plus Gold | 80 Plus Gold | 80 Plus Gold |
| Input current | 7.2 A – 3 A | 11.5 A – 4.63 A | 18 A – 10 A |
| Output ratings | 12V 54A | 12V 83A | 12 V54 A |
| Output holdup time | 20ms | 20ms | 4 ms |
| Power supply input receptacles | IEC 320 C14 | IEC 320 C14 | Terminal block |
| Power cord rating | 10A | 12A | 20 A # 14 wire |

RFID tags: Catalyst 8300 Series Edge Platforms have an embedded RFID tag that holds 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.

Software requirements

Cisco DNA Software for the Catalyst 8300 Series offers comprehensive solutions for enterprise branch networks.

Table 8. Catalyst 8300 Series minimum software requirements

| Platform Product ID (PID) | Description | Minimum software requirement |
|--|---|--------------------------------------|
| C8300-2N2S-4T2X C8300-1N1S-4T2X C8300-2N2S-6T C8300-1N1S-6T | Cisco Catalyst 8300 Series Edge Platforms | Cisco IOS XE Software Release 17.3.2 |

Table 9a. 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 Router 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), Access Control Lists (ACL), 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 | Quality of Service (QoS), Class-Based Weighted Fair Queuing (CBWFQ), Weighted Random Early Detection (WRED), Hierarchical QoS, Policy-Based Routing (PBR), Performance Routing (PfR), and Network-Based Application Recognition (NBAR) |
| Cryptographic algorithms | Encryption: DES, 3DES, AES-128 or AES-256 (in CBC and GCM modes) Authentication: RSA (748/1024/2048 bit), ECDSA (256/384 bit) Integrity: MD5, SHA, SHA-256, SHA-384, SHA-512 |

| Feature | Description |
|------------------------------|---|
| Unified Communication | Call Admission Control (CAC), Cisco Unified Border Element (CUBE) Session Border Controller(SBC), Cisco Unified Communications Manager Express (CUCME), ISDN, RADIUS, RFC4040 based Clear Channel codec signaling with SIP, Resource Reservation Protocol (RSVP), RTP Control Protocol (RTCP), Session Initiation Protocol for VoIP(SIP), Survivable Remote Site Telephony (SRST), Secure Real-time Transport Protocol(SRTP), and Voice modules |

Table 9b. Software features and protocols for controller mode

| Feature | Description |
|---------------------------------|---|
| Core Features | IPv4, IPv6, static routes, Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Border Gateway Protocol (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 inserpolicy, SNMP, NTP, DNS client, Dynamic Host Configuration Protocol (DHCP), DHCP client, DHCP server, DHCP relay, archival, syslog, SSH, SCP, Cflowd v10 IPFIX export, IPv6 for transport-side, VRRP, MPLS, NAT (DIA, Service-side, overload/PAT, NAT64, etc), NAT pools, split DNS, Access Control Lists (ACL), Bidirectional Forwarding Detection (BFD) over SSH, CLI, NTP server support, BFD with service-side BGP, BGP community propagation to OMP, 6 SLA for AAR, Trustsec/SDA (Inline SGT propagation), custom app with SD-AVC, multicast AAR, dynamic on-demand tunneling, OSPFv3, route policies, Multi-VRF support |
| Encapsulations | Generic Routing Encapsulation (GRE), Ethernet, 802.1q VLAN |
| Application Experience | Quality of service (QoS), Forward Error Correction (FEC), COS Marking, Weighted Random Early Detection (WRED) Hierarchical QoS, Policy-Based Routing (PBR), Network-Based Application Recognition (NBAR), Software Defined AVisibility and Control (SD-AVC), per tunnel QoS, Cloud onRamp for SaaS, Enhanced Office 365 traffic steering, Direct Access, Flexible Netflow (FnF) |
| Cryptographic Algorithms | Encryption: AES-256 (in CBC and GCM modes), Internet Key Exchange (IKE), Cisco PKI Authentication: AAA, RSA (2048 bit), ESP-256-CBC, HMAC-SHA1, ECDSA (256/384 bit) Integrity: SHA-1, SHA-2 |
| Security | Built-in end-to-end segmentation (VPNs), ZBFW, PKI, Cisco DNA Layer Security, Snort IPS/IDS, URL Filtering, Advanced Protection(AMP), ThreatGrid(TG), ALG for ZBFW |
| Unified Communication | Cisco Unified Border Element (CUBE), Survivable Remote Site Telephony (SRST), Cisco Unified Communications Manager Express (CUCME) and Voice Modules |

Licensing

All Cisco Catalyst 8300 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 stack:

- Cisco DNA Essentials
- Cisco DNA Advantage
- Cisco DNA Premier

Network stack:

- Network Essentials
- Network Advantage

Cisco Smart Licensing

Cisco Smart Licensing is a flexible licensing model that provides you with an easier, faster, and more consistent way to purchase and manage software across the Cisco portfolio and across your organization. And it's secure – you control what users can access. With Smart Licensing you get:

- **Easy Activation:** Smart Licensing establishes a pool of software licenses that can be used across the entire organization—no more PAKs (Product Activation Keys).
- **Unified Management:** My Cisco Entitlements (MCE) provides a complete view into all of your Cisco products and services in an easy-to-use portal, so you always know what you have and what you are using.
- **License Flexibility:** Your software is not node-locked to your hardware, so you can easily use and transfer licenses as needed.

To use Smart Licensing, you must first set up a Smart Account on Cisco Software Central (software.cisco.com).

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

Specifications

Table 10. Mechanical specifications

| Description | Specification | |
|--|----------------------------------|----------------------------------|
| Part number | C8300-2N2S-4T2X C8300-2N2S-6T | C8300-1N1S-4T2X C8300-1N1S-6T |
| Dimensions (H x W x D) | 3.5 in. x 17.25 in. x 18.52 in. | 1.73 in. x 17.50 in. x 16.25 in. |
| Rack Units (RU) | 2RU | 1RU |
| Chassis weight with 2X AC power supplies and fan tray | 40 lbs | 20 lbs |

| Description | Specification | |
|--|---|---------------|
| Acoustics: Sound pressure (Typical/maximum) | 59 dBa/73 dBa (Non-NEBS) 63 dBa/75 dBa (NEBS) | 49 dBa/71 dBa |
| Acoustics: Sound power (Typical/maximum) | 74 dBa/87 dBa (Non-NEBS) 77 dBa/89 dBa (NEBS) | 60 dBa/82 dBa |
| Input voltage | AC: 85 to 264 VAC DC: -40 to 72V; 48V nominal | |
| Operating temperature | 32 to 104° F (0 to 40° C) | |
| Storage temperature | -40 to 150° F (-40 to 70° C) | |
| 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) | 710,300 hours | 536,060 hours |

Table 11. 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 |

| Description | Specification |
|------------------------|--|
| 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 |

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 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, with both Solution Support or Cisco Subscription Embedded Software Support, customers are entitled to maintenance releases and software updates for **Cisco DNA SD-WAN and Routing software only**. The 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.

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 Catalyst 8000 platforms.

Cisco Capital

Flexible payment solutions to help you achieve your objectives

Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. [Learn more](#).

Ordering information

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

For more information

For more information about the Cisco Catalyst 8300 Series Edge Platforms, visit <https://www.cisco.com/go/C8300> or contact your local Cisco account representative.

Document history

| New or revised topic | Described In | Date |
|--|-------------------------|--------------------|
| Describing why a new 400W PSU is added to C8300 | Power supplies | September 21, 2022 |
| Added column with technical specs for new 400W PSU | Power supplies, Table 6 | September 21, 2022 |

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