Catalyst 8300 Series Edge Platforms



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Platform

Q: What are the Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms are the evolution of the Cisco 4400 Series Integrated Services Routers (ISR), designed for Secure Access Service Edge (SASE), software-defined WAN (SD-WAN), and 5G-based architectures. Within the Catalyst 8300 Series Edge Platforms, there are four (two 2-RU and two 1-RU) platforms. Powered by a programmable software stack, these cloud edge platforms are purpose-built for high performance, supporting 10 GE, high availability, and advanced Catalyst SD-WAN capabilities with full-feature parity and module portability with other ISRs.

New capabilities include 5G support, embedded security, WAN MACSec, integrated enhanced Layer 2 switching, and improved analytics with Deep Packet Inspection (DPI) with application optimization. These platforms will provide edge computing with an existing container architecture on the ISRs as well as the Cisco UCS-E modules that are currently available on the 4000 Series ISR platforms.

Q: What are the different models of the Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms include the following models:

- **C8300-2N2S-4T2X:** Catalyst 8300 with 2 Service Module (SM) and 2 Network Interface Module (NIM) slots, and 2 x 10-Gigabit Ethernet and 4 x 1-Gigabit Ethernet ports.
- **C8300-2N2S-6T:** Catalyst 8300 with 2 SM and 2 NIM slots, and 6 x 1-Gigabit Ethernet ports.
- **C8300-1N1S-4T2X:** Catalyst 8300 with 1 SM slot and 1 NIM slot, and 2 x 10-Gigabit Ethernet and 4 x 1-Gigabit Ethernet ports.
- **C8300-1N1S-6T:** Catalyst 8300 with1 SM slot and 1 NIM slot, and 6 x 1-Gigabit Ethernet ports.

Q: What are the key differences between the 4400 Series ISR and the Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms offer the following key benefits:

- Integrated 10G ports.
- Higher IPSec Performance and Services Scale.
- Higher WAN port density.
- New-generation Layer 2 and Layer 3 module support.
- Improved Backplane connectivity with 10G connections for slots.
- 256-bits WAN MACSec support on 10G ports.
- Dedicated Physical Interface Module (PIM) slot for CAT18 LTE support and future 5G-ready.
- 8G default DRAM to support embedded security.
- Default Dual Power Supplies.
- Pluggable M.2 USB (16G Default) and M.2 NVMe Self-Encrypted Drive Storage.

Q: What are the key capabilities of the Catalyst 8300 Series Edge Platforms?

The Catalyst 8300 Series offers:

- Software-Defined-WAN (SD-WAN) capabilities.
- Software-Defined-Routing (SD-Routing) capabilities.

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- Support for Kernel Virtual Machine (KVM)-based containers, providing support for integrated applications.
- Support for applications, including Snort Intrusion Detection and Prevention Systems (IDS/IPS), URL-F, Advanced Malware Protection (AMP), Cisco ThreatGrid, SSL proxy, Transmission Control Protocol (TCP) optimization.
- Network programmability using Netconf and YANG.
- Zero-touch provisioning.
- Multiple options for LAN, WAN, voice, storage and edge compute (Cisco UCS-E) modules.
- Software-Defined Access (SD-Access).
- AppQoE- TCP optimization, Forward Error Correction (FEC), Packet Duplication.
- Unified Communications (Voice).
- LTE CAT4, 6, 7, 18 and 5G.

Q: What is the naming convention for the Cisco Catalyst 8300 Series Edge Platforms?

Each part of the product ID is outlined as follows:

- ''C''= standard Product ID (PID) prefix.
- ''8300'' = platform series.
- ''1N1S'' and ''2N2S'' = number of NIM and SM slots support, 1N1S supports 1 NIM and 1 SM slot, and 2N2S supports 2 NIM and 2 SM slots.
- "4T'' and ''6T'' = number of 1G ports; 4T supports 4 x1G ports and 6T supports 6 x1G ports.
- "2X'' = number of 10G ports.

Q: Where do I deploy the Cisco Catalyst 8300 Series Edge Platforms in comparison to the Cisco Catalyst 8500 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms are deployed for medium-sized and large enterprise branch offices, where there is an aggregated performance requirement between 15G - 20G CEF traffic or IPSec performance between 1G - 5G with services. The Cisco Catalyst 8300 Series Edge Platforms provide for a rich set of branch-optimized services that encompass security, voice, WAN optimization, application hosting (KVM/LXC containers) and edge compute. The Cisco Catalyst 8500 Series Edge Platforms provide hardware-based encryption, Quality of Service (QoS), and for IPSec performances greater than 5 Gbps using custom-built ASICs for aggregation or headend sites.

Q: Are the Cisco ASR 1000 Series Shared Port Adapter (SPA) cards supported on the Catalyst 8300 Series Edge Platforms?

A: No. SPAs are not compatible with the Catalyst 8300 Series Edge Platforms.

Q: Can I use the Enhanced High-Speed WAN Interface Cards (EHWICs) available on the Cisco 1900, 2900, and 3900 Series ISRs on the Catalyst 8300 Series Edge Platforms?

A: EHWIC modules, based on older technologies available on the Cisco ISR Generation 2 (ISR G2) routers, will not work with the Catalyst 8300 Series Edge Platforms. The Catalyst 8300 Series Edge Platforms support newer NIM architecture, allowing for faster, more capable modules on a high-end platform that can deliver higher bandwidth and greater application performance.

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Q: What are the available onboard Ethernet options (FPGE)?

A: The onboard Ethernet options are outlined in the following table:

Platform	Gigabit Ethernet SFP	Gigabit Ethernet SFP		10-Gigabit Ethernet SFP+
C8300-2N2S-4T2X	4	2	or	2
C8300-2N2S-6T	4	2		0
C8300-1N1S-4T2X	4	2	or	2
C8300-1N1S-6T	4	2		0

Q: What are the different SM, NIM and PIM hardware configuration options for the Catalyst 8300 Series Edge Platforms?

A: SM, NIM and PIM slot configuration options are shown in the immediately following table:

Platform	Single-wide SM		Double-wide SM	NIM	PIM
C8300-2N2S-4T2X*	2	or	1	2	1
C8300-2N2S-6T*	2	or	1	2	1
C8300-1N1S-4T2X	1		0	1	1
C8300-1N1S-6T	1		0	1	1

* Double-wide SMs can be fit in by removing the divider between the two SM slots.

Q: Is Medium Dependent Interface crossover (MDI crossover or MDI-X) supported on the four onboard RJ-45 Ethernet interfaces?

A: Yes.

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Q: What are the different memory configuration options for the Catalyst 8300 Series Edge Platforms?

A: Data plane DRAM is fixed for Catalyst 8300 Series Edge Platforms. Only the control plane DRAM can be upgraded. Memory configuration options are shown in the immediately following table:

Platform	Total default DRAM	Data plane DRAM*	Memory upgrade options
C8300-2N2S-4T2X	8 GB	2 GB	Upgrades to 16 GB, 32 GB
C8300-2N2S-6T	8 GB	2 GB	Upgrades to 16 GB, 32 GB
C8300-1N1S-4T2X	8 GB	2 GB	Upgrades to 16 GB, 32 GB
C8300-1N1S-6T	8 GB	2 GB	Upgrades to 16 GB, 32 GB

*** Data plane DRAM allocation is fixed.**

Note: A single Dual Inline Memory Module (DIMM) configuration is supported on both the 1RU and 2RU platforms. The only upgrade options available are 1 x 16G and 1 x 32G.

Q: What is the flash memory available on the Catalyst 8300 Series Edge Platforms?

A: All the Catalyst 8300 Series Edge Platforms come with a default of 8 GB flash memory. Flash memory cannot be upgraded.

Q: What are the external storage options available on the Catalyst 8300 Series Edge Platforms?

A: The Catalyst 8300 Series Edge Platforms are equipped with 16 GB M.2 USB default storage. The upgradeable options are 32 GB M.2 USB as well as 600GB or 2TB M.2 NVMe Self-Encrypted Drive Storage.

Q: Can I upgrade the DRAM and flash memory on the Catalyst 8300 Series Edge Platforms?

A: The DRAM can be upgraded to 16GB or 32GB, but the flash memory cannot be upgraded. To upgrade the storage options, these platforms do support 16GB, 32GB, 600GB and 2TB external storage options.

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Q: Are the Catalyst 8300 Series Edge Platforms fanless?

A: No, Catalyst 8300 Series Edge Platforms have three or four fans, depending on the platform.

Q: How does the system fan speed vary?

A: The number of fans on the Catalyst 8300 Series Edge Platforms varies. The C8300-1N1S-xxxx (1RU) platforms contain three internal fans and C8300-2N2S-xxxx (2RU) platforms contain four field-replaceable fan trays.

For more details refer to the hardware installation guide.

Q: Can the Cisco Catalyst 8300 Series Edge Platforms handle the failure of a fan?

A: Yes, for routers with multiple system fans, the platforms can handle a single fan failure. These fully loaded systems will function normally below 6000 feet (1.82 km) with a single fan failure. If the platform is above 6000 feet with a single fan failure and in 32°F (or 0°C) temperatures it may shut down because of overheating.

Failure of a power-supply fan will likely result in overheating and shutdown of the power supply. If power redundancy is required, you should run the default two power supplies in a Catalyst 8300 Series Edge Platform in redundancy mode.

Q: Is a rack-mount kit available for the Cisco Catalyst 8300 Series Edge Platforms? How do I order it?

A: Yes. A rack-mount kit is part of the default accessory kit and is shipped with the Cisco Catalyst 8300 Series Edge Platforms. The platforms will ship with the standard 19-inch rack mount kit. Options to choose a 23-inch rack-mount kit and four post-rack-mount kits are also available. A wall-mount rack-mount kit is available for the 1RU platforms only.

Q: How can I calculate the Mean Time Between Failures (MTBF) information for the Catalyst 8300 Series Edge Platforms with the plugged-in modules?

A: The MTBF for the 2RU and 1RU units are given below:

- C8300 2RU: 710,300 Hours
- C8300 1RU: 536,060 Hours

Q: Is there an out-of-band GigabitEthernet0 management interface on the Catalyst 8300 Series Edge Platforms?

A: No. The Catalyst 8300 Series Edge Platforms do not have an out-of-band management interface. Only in-band management is possible.

Q: What does the default accessory kit include?

A: The default accessory kit includes:

- Mechanical ground lug 90 feet per screw kit.
- 19-inch or 23-inch rack-mount kit.
- Regulatory Compliance and Safety Information (RCSI) roadmap document.
- Shipping label.
- Document pointer card for Cisco router.

Q: Is Online Insertion and Removal (OIR) supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, OIR is supported on the Catalyst 8300 Series Edge Platforms for the following scenarios:

- Surprise insertion or removal of any NIM in any of the NIM slots, except the C-NIM-1X module, which requires a proper shutdown of the slot before removing the C-NIM-1X module.
- Surprise insertion or removal of any SM in the SM slots.
- Surprise insertion or removal of PIM LTE/5G module.

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- Surprise insertion or removal of any power supply or system Power over Ethernet (PoE) conversion module.
- Surprise replacement of the system fan tray is not supported. To replace the fans, the system has to be powered down prior to the removal of the fans inside the fan tray.

Note: The SM and NIM modules allow replacement only for like-to-like modules. A faulty module can be replaced with a good module of the same type but cannot be replaced with a completely different module of a different type.

Q: Is a console port available on the Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms include the option of the regular RJ-45 console port as well as the micro USB console port.

Q: Is there a RFID tag available on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, an RFID tag is available on the right side of the front panel on these platforms for externally collecting the inventory (Product ID [PID] and serial number) without requiring someone to log in to the device. These inventories can be used by customers to help you pre-populate the devices in the backend system for zero-touch provisioning. They can also be used by non-technical staff to collect the inventory offsite. An RFID tag is included by default, but customers can choose to have the tag removed during the ordering process if they prefer not to have it on the system.

Q: What different types of modules are supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: The Catalyst 8300 Series Edge Platforms supports:

- NIM modules supported on the ISR4000 series, except the NIM-1GE-CU-SFP and NIM-2GE-CU-SFP.
- SM-X modules supported on the ISR4000 series, except the SM-X-ES3-16-P, SM-X-ES3-24-P, SM-X-ES3-48-P, SM-X- 6X1G, SM-X-4X1G-1X10G and UCS-E M1/M2 modules.
- L3 WAN (routed) modules C-NIM-1X, C-NIM-1M & C-NIM-2T.
- The next-generation Flexible L2/L3 LANWAN modules C-NIM-4X, C-NIM-8M & C-NIM-8T.
- The next-generation SM-NIM adapter module – C-SM-NIM-ADPT.
- The next-generation Doppler-based ASIC switching modules – C-SM-16G4M2X and C-SM-40G8M2X.
- The next-generation DSP NIM Module – NIM-PVDM-32, NIM-PVDM-64, NIM-PVDM-128, NIM-PVDM-256.
- Pluggable Interface Modules (PIM) for cellular connectivity CAT4, CAT6, CAT7, CAT18 & 5G are supported.

Q: Is Multi-Gigabit Ethernet (2.5G) supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, 2.5Gbps Multigigabit Ethernet (mGig) is supported by SM-switch modules C-SM-16G4M2X and C-SM-40G8M2X as well as by NIM modules C-NIM-1M and C-NIM-8M.

Q: Is a QR code available on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, a QR code is printed on the label tray for all the Catalyst 8300 Series Edge Platforms. The same QR code label will be printed on the shipping box label as well for easy access to the platform details, without the need to open the shipping box.

- The QR code gives the following information for the platform.
- Device Family
- Base Product ID (PID)
- Device MAC
- Vendor
- Serial Number
- HW Version ID (PID VID)

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Power

Q: What power cables work with the Cisco Catalyst 8300 Series Edge Platforms?

A: All power-supply options for the Cisco Catalyst 8300 Series Edge Platforms use a standard IEC C13 connector. An IEC C15 cord is necessary for the Power over Ethernet (PoE) power supply.

Q: Are the power supplies in the Cisco Catalyst 8300 Series Edge Platforms Field-Replaceable Units (FRUs)?

A: Yes. The power supplies for Cisco Catalyst 8300 Series Edge Platforms can be replaced in the field.

Q: Are the power supplies of Cisco Catalyst 8300 Series Edge Platforms hot-swappable?

A: Yes, you do not need to power down the chassis to insert or remove a power supply. The bezel and fan tray can remain in place while a power supply is replaced.

Q: Why are some of my older C8300 1RU chassis equipped with 400W power supplies instead of the normal 250W power supply?

A: A component shortage during the pandemic prevented Cisco from fulfilling orders. To address this situation, Cisco shipped an upgraded substitute power supply as replacement for the std. 250W power supply This power supply is the same form and fit, with a similar function as the default 250W power supply but providing a higher maximum output rating of 400 watts. Should it be required, the 400W and 250W power supplies can work in tandem without any interaction from the user.

For more information, please visit 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.

Q: What ports are PoE-capable on the Cisco Catalyst 8300 Series Edge Platforms?

A: The following table outlines PoE-capable ports on the 8300 Series.

Platform	PoE-capable FPGE ports	PoE-capable NIMs and SMs
C8300-2N2S-4T2X	No	NIM-ES2-8-P C-NIM-1M C-NIM-8M C-SM-16G4M2X C-SM-40G8M2X
C8300-2N2S-6T	No	NIM-ES2-8-P C-NIM-1M C-NIM-8M C-SM-16G4M2X C-SM-40G8M2X
C8300-1N1S-4T2X	No	NIM-ES2-8-P C-NIM-1M C-NIM-8M C-SM-16G4M2X
C8300-1N1S-6T	No	NIM-ES2-8-P C-NIM-1M C-NIM-8M C-SM-16G4M2X

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Q: What are the different power supply options available for the Cisco Catalyst 8300 Series Edge Platforms?

A: Available power supply options are detailed in the following table:

Platform	Type of PSU	Dual AC (Default)	Dual DC	Dual DC Reverse-airflow (NEBS)	PoE adapter equired
C8300-2N2S-4T2X	Internal	Yes	Yes	Yes	Yes
C8300-2N2S-6T	Internal	Yes	Yes	Yes	Yes
C8300-1N1S-4T2X	Internal	Yes	Yes	No	No
C8300-1N1S-6T	Internal	Yes	Yes	No	No

Note: Combination of AC and DC power supply is supported and can be selected during the ordering process.

Q: What is the difference between PoE Redundancy mode and PoE Boost mode?

A: Both modes require that two power supplies be installed in the Catalyst 8300 Series Edge Platforms. Redundancy mode provides backup PoE power to the chassis; full PoE power will be available in the event of a single power supply failure. PoE Boost mode provides double the available PoE power—the maximum amount of power from both power supplies combined—meaning that if a single power supply fails, the second redundant power supply will be cut in half.

Q: With redundant power supplies, can we switch the power to primary when it fails, and the router is running on the secondary power supply?

A: There is no concept of primary or secondary power supply for the Catalyst 8300 Series Edge Platforms. The power supplies are simply redundant, so that when one fails the other Power Supply Unit (PSU) takes over by transparently providing power to the entire system. No switching or intervention is required. Both share the load when running in the system; however, when one fails the other provides power to the complete unit. When the failed PSU is replaced with a new PSU in the system, the two power supplies are redundant.

Q: What types of PoE are supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: The SM-X Layer 2 UADP 2.0 Doppler ASIC-based Ethernet switch modules support PoE up to UPoE.

WAN & LANWAN NIM modules C-NIM-1M and C-NIM-8M support PoE up to 90W 802.3BT (UPoE+).

The Layer 2 NIM switch module, NIM-ES2-8, supports up to PoE+.

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Q: Is the redundant power supply added to the Cisco Catalyst 8300 Series Edge Platform by default during the ordering process?

A: Yes, the Cisco Catalyst 8300 Series Edge Platform comes with redundant power supplies, included in the default Bill Of Materials (BOM) configuration. Unlike the 4000 Series ISR, you do not have to add it separately at an additional cost.

Q: What power supply is used with Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms come with the following power supply options:

- 250W AC (1RU) and 650W AC (2RU)
- 500W AC PoE (1RU)
- 1000W AC with PoE Convertor (2RU)
- 400W DC (1RU) and 650W DC (2RU)
- 650W DCR Reverse Airflow for NEBS (2RU)

Q: Do we support AC + DC power supplies on the Cisco Catalyst Series Edge Platforms?

A: Yes, we support AC + DC power supplies on the same chassis and can be configured during the ordering process of the platform.

Q: Does the Cisco Catalyst 8300 Series Edge Platform support an external power supply?

A: No, all the power supplies are integrated power supplies.

Q: Are the Catalyst 8300 Series Edge Platforms Network Equipment Building System (NEBS) certified?

A: Yes. The 2RU platforms C8300-2N2S-6T & C8300-2N2S-4X are NEBS certified.

Q: How do I order my C8300 for NEBS deployment?

A: By choosing the reverse-air power supplies PWR-CC1-650WDCR in CCW, a C8300-FAN-2R-R reverse-air fan assembly will autopopulate in your config. That's all you need.

Interfaces and modules

Q: Is there a channelized solution on the Catalyst 8300 Series Edge Platforms?

A: Yes. The Catalyst 8300 Series Edge Platforms support channelized T1/E1 modules and T3/E3 modules.

Q: What are the NIM-16A, NIM-24A, and the SM-X-64A used for on the Catalyst 8300 Series Edge Platforms?

A: The three modules, when used on the Catalyst 8300 Series Edge Platforms, are for terminal services. They do not provide for asynchronous support on the router. Eight-port octal cables need to be purchased with the module for connectivity.

Q: Are SSDs supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, 600GB & 2TB Self-encrypting SSDs are supported on Catalyst 8300 Series Edge Platforms for container-based application hosting services and for general storage purposes. SSDs are also supported in the Cisco UCS E-Series compute module.

Q: Is the Solid-State Drive (SSD) drive field-upgradable or replaceable?

A: Yes, SSD drives are field-replaceable. The M.2 is an external slot that is accessible without having to un-rack the platform or open the chassis.

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Q: Is Online Insertion and Removal (OIR) possible on the M.2 USB and in NVMe SSD storage?

A: Yes, OIR is supported for the M.2 storage.

Q: What is the maximum number of storage options that can be present in the Catalyst 8300 Series Edge Platforms?

A: There is one M.2 Storage slot on Catalyst 8300 Series Edge Platforms that supports an M.2 USB or an M.2 NVMe SSD card for up to 2TB of storage. The platform also includes 8 GB on-board flash by default; it is used for system files, logs, and core dumps.

Q: Is there a module that supports 10G ports?

A: Yes, the Layer 3 NIM module C-NIM-1X supports 1x 10Gbps port and the LANWAN NIM module C-NIM-4X supports 4x 10Gbps ports. Also the SM-X switch modules each provide 2x Layer2 10Gbps uplink ports.

Q: Can a NIM be inserted into an SM slot?

A: Yes, the SM-to-NIM adapter C-SM-NIM-ADPT can be used to fit up to two NIMs in a single SM slot.

Q: Is LTE supported?

A: Yes, a PIM slot can enable cellular support for LTE Cat4/6/7 & 18. In addition, new Catalyst cellular gateway devices will be supported on these platforms, providing deployment flexibility.

Q: Is LTE Advanced supported?

A: Yes, the Catalyst 8300 Series Edge Platforms supports NIM-LTEA-EA and NIM-LTEA-LA. The theoretical speeds are 300 Mbps downlink and 50 Mbps uplink.

Q: Is LTE Advance Pro supported?

A: Yes, Catalyst 8300 Series Edge Platforms support a P-LTEAP18-GL-pluggable LTE module. Also, the Cisco Catalyst cellular gateway can be directly connected to these platforms for CAT18 support. The theoretical speeds are 1200 Mbps downlink and 150 Mbps uplink.

Q: Is 5G supported?

A: Yes, the PIM slot used for LTE also supports 5G. 5G Sub6 PIM modules are offered in both non-standalone and standalone versions.

Q: Can the Catalyst 8300 Series Edge Platforms support dual-SIM?

A: Yes, the NIM and PIM modules support dual- SIM, but they can only work in active-standby mode. (The exception is the CAT4 Verizon Pluggable module, which has a single SIM slot.)

Q: Can the Catalyst 8300 Series Edge Platforms support dual-radio?

A: No, the Catalyst 8300 Series Edge Platforms support only one pluggable PIM module.

Q: Can the Catalyst 8300 Series Edge Platforms support older 3G/4G standards?

A: Yes, the Catalyst 8300 Series Edge Platforms support 3G, and are able to fall back from LTE to 3G.

Q: What broadband technologies are supported?

We have NIMs that support Multimode VDSL2/ADSL/2/2+ NIM Annex A, B and M. We also support SHDSL capability with the SHDSL NIM Module.

Q: What Small Form-Factor Pluggable (SFP) interfaces are used with the Cisco Catalyst 8300 Series Edge Platforms?

A: All the SFPs supported on the 4000 Series ISRs are compatible with Cisco Catalyst 8300 Series Edge Platforms, except that these platforms don't support 100 Mbps SFP interfaces. For a detailed list of SFP support, refer to the link below. https://tmgmatrix.cisco.com/?si=C8300.

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Software

Q: Is the Cisco Catalyst 8300 Series Edge Platform Catalyst SD-WAN-capable?

A: Yes, these platforms natively support Catalyst SD-WAN.

Q: Does the Cisco Catalyst 8300 Series Edge Platform support SD-Routing?

A: Yes, these platforms natively support SD-Routing.

Q: How many VLANs can the Cisco Catalyst 8300 Series Edge Platforms support?

A: The Cisco Catalyst 8300 Series Edge Platforms support configuration of 4K VLANs.

Q: Do the Cisco Catalyst 8300 Series Edge Platforms have feature parity with the 4000 Series ISRs?

A: Yes, the Cisco Catalyst 8300 Series Edge Platforms has feature parity with the 4000 Series ISRs, with the exception of the following two features:

- Performance Routing PfR (Traffic Management feature).
- Call Manager Express (CME - Unified Communications feature).
- Cisco Wide Area Application Services (WAAS) as a native container (WAAS can still be run on the Cisco UCS-E compute module).

Q: Do the Cisco Catalyst 8300 Series Edge Platforms support Cisco Umbrella?

A: Yes, Cisco Catalyst 8300 Series Edge Platforms support Cisco Umbrella SIG (Secure Internet Gateway) capabilities.

Q: Is WAAS supported on Cisco Catalyst 8300 Series Edge Platforms?

A: WAAS is not supported as a container service but is supported on Cisco UCS-E blade servers inserted in the Cisco Catalyst 8300 Series Edge Platforms.

Q: Is MPLS supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, MPLS features are supported with a Cisco DNA Advantage license.

Q: What Cisco IOS Software is available for the Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge platforms run on a Cisco IOS XE single image, which is a single binary file that can operate in autonomous mode (IOS-XE) or controller mode (XE SD-WAN).

Q: Do Cisco routers support NETCONF and YANG?

A: Yes, the Cisco Catalyst 8300 Series Edge Platforms provide support for NETCONF operations and YANG modeling using a combination of industry-wide common models and Cisco specific models.

Q: Is the Cisco Locator/ID Separation Protocol (LISP) supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, LISP is supported on the Cisco Catalyst 8300 Series Edge Platforms.

Q: Is In-Service Software Upgrade (ISSU) supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: ISSU is not supported on the Cisco Catalyst 8300 Series Edge Platforms.

Q: Is Suite-B or Next-Generation Encryption (NGE) support available on the Catalyst 8300 Series Edge Platforms?

A: Yes, Suite-B and NGE support are available on the Cisco Catalyst 8300 Series Edge Platforms as part of the initial release.

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Q: Is Cisco Encrypted Traffic Analytics (ETA) supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, ETA is supported on the Cisco Catalyst 8300 Series Edge Platforms.

Q: Is Quality of Service (QoS) supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, comprehensive and flexible QoS models are supported on Cisco Catalyst 8300 Series Edge Platforms for traffic classification, shaping and policing, marking, queueing, and scheduling on both egress and ingress.

Q: Is Flexible NetFlow (FnF) supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, Flexible NetFlow (FnF) is supported for IPv4 and IPv6 in both egress and ingress directions. Cisco Express Forwarding (CEF) is required to be enabled to run the Flexible NetFlow (FnF) on the Cisco Catalyst 8300 Series Edge Platforms.

Q: The Cisco Catalyst 8300 Series Edge Platforms already support a wide range of security capabilities. What does the Cisco Umbrella solution offer?

A: Cisco Umbrella, the cloud-delivered security service, complements the existing security offerings on the Catalyst 8300 Series Edge Platforms by adding simple, easy-to-manage DNS-layer cloud security and content filtering that can be up and running in minutes. Cisco Umbrella - prevents branch users from accessing inappropriate content and known malicious sites that might contain malware and other security risks. It offers security protection for guests and employee users alike.

Q: Do the Catalyst 8300 Series Edge Platforms have certifications such as Common Criteria and Evaluation Assurance (EAL)?

A: Common Criteria and EAL certification are present for the Catalyst 8300 Series Edge Platforms. The Cisco Catalyst 8300 Series Edge Platforms claim conformance to Protection Profile for Network Devices with an extended package VPN gateway.

Q: Do the Cisco Catalyst 8300 Series Edge Platforms have certifications such as Federal Information Processing Standards (FIPS)?

A: The Cisco Catalyst 8300 Series Edge Platforms support FIPS 140-2 Level 1 both for the hardware and software.

Q: How can I order Cisco Catalyst SD-WAN support on the Cisco Catalyst 8300 Series Edge Platforms?

A: Cisco DNA for SD-WAN and Routing subscription licenses include base software-level support ONLY for the subscription functionality (Cisco Catalyst SD-WAN Manager, Cisco Catalyst SD-WAN Analytics, Cisco Catalyst SD-WAN Validator, Cisco Catalyst SD-WAN Controller, Cisco Umbrella SIG Essentials, etc.) enabled by the Cisco DNA Subscription (Cisco DNA Essentials or Advantage). Customers can access the Cisco Technical Assistance Center (TAC) 24x7x365 for software support and release updates.

Base software-level support does NOT cover the Network Stack. No support is included for the underlying hardware, nor are support, upgrades, or updates included for the Cisco IOS XE-related perpetual network stack (Network Essentials or Advantage). These items are handled via a service contract (Success Tracks, Solution Support, or Smart Net Total Care) on the router hardware.

Q: How can I support Cisco Catalyst Center on the Cisco Catalyst 8300 Series Edge Platforms?

A: Support for the Cisco Catalyst Center is enabled via a subscription to Cisco DNA Essentials or Advantage, or via a subscription to Catalyst Routing Essentials.

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Q: Can I use the same Cisco IOS-XE Software image for classic routing requirements and SD- WAN capabilities?

A: Yes, the single image IOS-XE is compatible to run on both IOS-XE and XE SD-WAN capabilities. The minimum supported version of software on the Catalyst 8300 platforms is version 17.3.2.

Q: Is wireless LAN supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: No, wireless LAN is not supported on the Cisco Catalyst 8300 Series Edge Platforms.

Q: Is SD-Access supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, the Cisco Catalyst 8300 Series Edge Platforms can be used as a fabric control plane and as border nodes.

Security

Q: What features from the Cisco Trustworthy Solutions are offered on the Cisco Catalyst 8300 Series Edge Platforms?

A: The security features of Trustworthy Solutions include:

- Secure boot with signed images and hardware anchoring with Secure Unique Device Identifier (SUDI).
- Secure storage.
- Run-time defenses.
- Authentication and integrity verification.
- Recovery mechanisms.
- Management plane protections.

Q: Do the Cisco Catalyst 8300 Series Edge Platforms have separate hardware to accelerate VPN operations?

A: Yes, these platforms have a dedicated Intel Quick Assist Technology (QAT) chip to offload the crypto processing in the data plane. All the encryption and decryption of the crypto packet happens in the QAT chip.

Q: Is SSL VPN supported on Cisco Catalyst 8300 Series Edge Platforms?

A: No, SSL VPN is not supported on Cisco Catalyst 8300 Series Edge Platforms. The alternate solution would be to use Cisco FlexVPN for remote access solutions.

Q: Is the Cisco Easy VPN client supported on Cisco Catalyst 8300 Series Edge Platforms?

A: No, the Easy VPN client is not supported on Cisco Catalyst 8300 Series Edge Platforms. The alternate solution is to use FlexVPN for remote access solutions.

Q: What VPN technologies are supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms support the following VPN technologies: FlexVPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GETVPN), and EasyVPN Server.

Q: Is WAN MACSEC supported in the Catalyst 8300 Series Edge Platforms onboard Ethernet ports?

A: WAN MACSEC is supported on the front-panel 10Gbps interfaces on the C8300-2N2S-4T2X platform. It's also supported on NIM modules C-NIM-1X, C-NIM-2T, C-NIM-4X, C-NIM-8T and C-NIM-8M.

Q: Is Cisco Encrypted Traffic Analytics (ETA) available on Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, Cisco Catalyst 8300 Series Edge Platforms support ETA.

Q: Is Cisco Intrusion Prevention System (IPS) supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, signature-based IPS is supported on the Cisco Catalyst 8300 Series Edge Platforms through the Snort engine. The Catalyst 8300 Series Edge Platform routers also support Next- Generation IPS (NGIPS) through Cisco Firepower on the Cisco UCS E-Series.

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Q: What is Cisco Snort IPS for Catalyst 8300 Series Edge Platforms?

A: Cisco Snort IPS for the Catalyst 8300 Series Edge Platforms offers a lightweight threat defense solution that uses industry- recognized Snort open-source IPS technology. It is perfect for customers looking for a cost- effective solution that provides one box for both advanced routing capabilities and integrated threat defense security to help comply with regulatory requirements. Snort provides term- based subscription rule sets to keep current with the latest threats.

Q: Is content filtering supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, content filtering is supported on the Cisco Catalyst 8300 Series Edge Platforms using Cisco Umbrella -/Cisco Open DNS.

Q: What container-based security solutions are supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms offers Snort IDS/IPS, URL Filtering, Advanced Malware Protection (AMP), ThreatGrid, and SSL Proxy security solutions, to be deployed inside the service containers.

Q: What Layer-2 tunneling mechanisms are available on Cisco Catalyst 8300 Series Edge Platforms?

A: Cisco Catalyst 8300 Series Edge Platforms support L2TPv2, L2TPv3, EVPN, and VPLS as Layer-2 tunneling mechanisms.

Q: Do the Cisco Catalyst 8300 Series Edge Platforms support L2TPv3 and VPN over LTE connections?

A: Yes, Cisco Catalyst 8300 Series Edge Platforms support L2TPv3 and VPN over LTE connections.

Q: What security solutions are offered on the Cisco Catalyst 8300 Series Edge Platforms embedded within the Cisco IOS-XE/XE-SD-WAN code (not as containers)?

A: The Cisco Catalyst 8300 Series Edge Platforms support Enterprise Firewall with Application Awareness and DNS web layer security using redirection to Cisco Umbrella. They are embedded security features.

Q: Are any other security solutions offered on the Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms support:

- Zone-based firewall.
- Network Address Translation (NAT).
- Virtual Route Forwarding (VRF)-aware security.
- Anomaly detection and machine learning.
- Cisco TrustSec.
- Identity-based networking (802.1x).
- Access Control Lists (ACL).
- Control Plane Protection (CoPP).
- Role-based CLI access.
- Source-based Remotely Triggered Black Hole (RTBH) filtering.
- SSHv2.
- Unicast Reverse Path Forwarding (RPF).

Collaboration

Q: Do the Cisco Catalyst 8300 Series Edge Platforms support unified communications in XE SD-WAN mode?

A: Yes, the Cisco Catalyst 8300 Series Edge Platforms support unified communications in XE SD-WAN mode. For a list of supported features, refer to the XE SD-WAN release notes.

Q: Are older FXS analog network interface modules supported on Cisco Catalyst 8300 Series Edge Platforms?

A: No, only the newer “P” version, based analog FXS network interface modules, are supported on Cisco Catalyst 8300 Series Edge Platforms.

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Part number
NIM-2FXSP
NIM-2FXS/4FXOP
NIM-4FXSP

The “P” version was created due to the introduction of a new hardware component into the manufacturing process. There is no change in functionality from non-P version.

Q: What are the Cisco Packet Voice DSP Module (PVDM4) version 4 options on Cisco Catalyst 8300 Series Edge Platforms for IP media services such as transcoding, conferencing, etc.?

A: In IOS XE mode, PVDM4, NIM-PVDM, or SM-X-PVDM modules can be used to support DSP-farm IP services.

In XE SD-WAN mode, only NIM-PVDM or SM-X-PVDM can be used for IP media services.

Q: Can I register IP phones on the Cisco Catalyst 8300 Series Edge Platforms with on-box Cisco Call Manager Express (CME)?

A: No, Cisco Catalyst 8300 Series Edge Platforms do not support CME on-box, however they do support a Survivable Remote Site Telephony (SRST) feature that can be used to register IP phones at branch sites, in case of a WAN outage.

Q: What high-density analog service modules are supported on Cisco Catalyst 8300 Series Edge Platforms?

A: The immediately following table shows the module numbers.

Part number
SM-X-8FXS/12FXO
SM-X-16FXS/2FXO
SM-X-24FXS/4FXO
SM-X-72FXS*

*The double-wide service modules are only supported on 2 RU platforms.

Cisco UCS E-Series modules

Q: Are Cisco UCS E-Series modules supported on the Cisco Catalyst 8300 Series Edge Platforms?

A: Yes, the Catalyst 8300 Series Edge Platforms support single-wide and double-wide M3 modules. For exact PIDs and details of UCS E M3 and M6 modules, review their respective data sheets.

Q: What is the maximum amount of CPU cores, DRAM, and storage capacity?

A: UCS E-Series are currently offered with 6, 8, 10, and 12 CPU cores and up to 128 GB of DRAM and 4 x 4TB SSD storage.

Q: What is the minimum Cisco IOS XE software version to support UCS E-Series modules in Catalyst 8300 Series Edge Platforms?

A: The minimum software version to support UCS E-Series blades is Cisco IOS XE Software Release 17.11 or later.

Q: Can I install more than one UCS E-Series blade in a Catalyst 8300 Series Edge Platform?

A: Yes. For example, the Catalyst 8300 2-RU model supports either up to 2 single-wide UCS E-Series modules or 1 double-wide UCS E-Series module.

Q: How are UCS E-Series modules managed?

A: UCS E-Series modules contain the same Cisco Integrated Management Console (IMC), also referred to as Baseboard Management Controller (BMC) as the UCS C-Series. Cisco IMC provides rich management functionality, including virtual KVM (Keyboard, Video, Mouse). UCS E-Series management is independent of the management of the host router, allowing separate management domains for network and compute.

Q: Is there a central management solution for UCS E-Series modules?

A: Yes. UCS E-Series can be centrally managed via Cisco IMC Supervisor. See the IMC Supervisor data sheet for more information.

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Q: How many network interfaces do UCS E-Series modules provide and what is their speed?

A: UCS E-Series M3 modules provide two internal 1-Gbps interfaces, which are directly connected to the platform data plane, as well as two external 10GBase-T interfaces, which are completely independent of the host device.

Q: Is data traffic to or from the UCS E-Series modules subject to the platform throughput license?

A: This depends. Data traffic from or to the external network interfaces is never throttled by the platform throughput license or maximum forwarding performance. Data traffic from or to the internal interfaces is not throttled if it is staying in the same Layer-2 VLAN and coming from or exiting to a NIM switch module (i.e., the data traffic stays local to the Multigigabit Fabric [MGF] and does not traverse the host router's CPU). Data traffic traversing any Layer-3 interface (including VLAN interfaces) is subject to the router's throughput license and its maximum forwarding performance.

Q: Do UCS E-Series modules support Online Insertion and Removal (OIR)?

A: Yes, they do support OIR.

Q: Is any external cabling required to set up, manage, or operate a UCS E-Series module?

A: No. Although UCS E-Series modules do provide external ports for connectivity, they can be fully set up, managed, and operated without any external cabling, relying only on the internal connection to the host router.

Q: Do UCS E-Series modules support high availability?

A: Yes. UCS E-Series modules are fully virtualization-ready, with support for the most common hypervisors, including VMware vSphere and Microsoft Hyper-V, which enable enterprise-class high availability for compute resources. Furthermore, the UCS E-Series supports storage virtualization with VMware vSAN or StorMagic SvSAN, enabling fully resilient branch deployments.

Q: Can we run Cisco virtual Wide Area Application Services (vWAAS) for larger- scale WAAS deployments on the Cisco UCS E-Series?

A: Yes, vWAAS supports up to 6000 TCP connections on the Cisco UCS E-Series. Additionally, standard VMware virtual machines can coexist with vWAAS, allowing the Cisco UCS E-Series module to be used for branch- office server consolidation.

Cisco Catalyst SD-WAN

Q: Do all Catalyst 8300 Series Edge Platforms support XE SD-WAN?

A: Yes, all the Catalyst 8300 Series Edge Platforms support XE SD-WAN. The following table shows the minimum version for each platform.

Platform	Minimum XE SD-WAN version	Minimum Cisco Catalyst SD-WAN Controller Version
C8300-2N2S-4T2X	17.3.2	20.3.2
C8300-2N2S-6T	17.3.2	20.3.2
C8300-1N1S-4T2X	17.3.2	20.3.2
C8300-1N1S-6T	17.3.2	20.3.2

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Q: Cisco Firepower a supported service on Catalyst 8300 Series Edge Platforms running XE SD-WAN?

A: No, there is no support for Cisco Firepower Threat Defense Virtual (FTDv) with XE SD-WAN. An application-aware firewall, IPS/ IDS, AMP, URL Filtering, SSL Proxy, DNS web layer, and Threat Grid are the supported XE SDWAN security features integrated into the SD- WAN Manager dashboard.

Q: Is application hosting supported with XE SD-WAN?

A: No. Third-party applications are not supported on the Service cores with XE SD- WAN. XE S-WAN supports Snort IPS, URL Filtering, AMP, ThreatGrid, and SSL Proxy as containers within the XE SD-WAN code. Third- party applications can be run on the UCS-E compute blade server module on the Catalyst 8300 Series.

Q: Is a HSEC license required with XE SD-WAN?

A: Yes. An HSEC license is delivered by default with all Cisco DNA BW-tiers at no extra cost.

Q: Is Network-Based Application Recognition (NBAR) supported with XE SD-WAN?

A: Yes, NBAR is supported.

Q: Which XE SD-WAN features use services cores?

A: IPS/IDS, URL Filtering, AMP, ThreatGrid, SSL Proxy, and TCP optimization use the services cores in the Catalyst 8300 Series Edge Platforms.

Catalyst SD-Routing

Q: Do all Catalyst 8300 Series Edge Platforms support SD-Routing?

A: Yes. All the Catalyst 8300 Series Edge Platforms support SD-Routing as of IOS XE release 17.12.1a.

Q: What are the software features supported in Cisco SD-WAN Manager for SD-Routing?

A: With XE 17.12.1 and Cisco SD-WAN Manager 20.12.1 release, we allow basic management and monitoring capabilities for devices that are operating in non-SD-WAN mode. For more details, refer to below link https://www.cisco.com/c/en/us/td/docs/routers/cloud_edge/c8300/software_config/cat8300swcfg-xe-17-book/managing-the-device-using-vmanage.html.

Application visibility

Q: How does a lack of visibility into applications impact overall IT operations?

A: 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.

Network teams often carry the burden of proving the network innocent when something goes wrong. Application issues might manifest as network issues. Finger-pointing and cycles wasted searching for the source issues can lead to prolonged service disruptions that ultimately damage the revenue and reputation of the business.

Q: How does Catalyst SD-WAN deliver greater application visibility?

A: Catalyst SD-WAN is fully integrated with Cisco ThousandEyes in a turnkey solution that enables greater visibility for IT operators to drive optimal digital experience across the internet, cloud, and SaaS. With this turnkey solution, you can:

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- Gain hop-by-hop visibility into network underlay, including detailed path and performance metrics.
- Measure and proactively monitor Catalyst SD-WAN overlay performance and routing policy validation.
- Determine the reachability and performance of SaaS and internally owned applications.
- Establish network and application performance baselines across global regions before, during, and after deployment of SD- WAN to mitigate risk and establish/ validate Key Performance Indicators (KPIs).

Q: What are the benefits of this expanded visibility?

A: With Catalyst SD-WAN and ThousandEyes, IT managers can rapidly pinpoint the root cause of application and network disruptions, provide actionable insights, and accelerate resolution time.

- **Lower Mean Time to Identification (MTTI) of issues:** Fast root cause isolation and intuitive, easy-to-understand visualization of the entire service delivery chain.
- **Eliminate wasteful finger-pointing:** Correlated visibility across the application, hop-by-hop network path, underlay and overlay performance, and internet routing to immediately isolate issues to the right problem domain (network or application) and responsible party (internal team or external service).
- **Enable effective escalation:** Concrete proof to successfully escalate issues to providers and effectively manage Operational-Level Agreements (OLAs) and Service-Level Agreements (SLAs).

Q: What is Cisco ThousandEyes?

A: Cisco ThousandEyes enables enterprises that are increasingly dependent on internet, cloud, and SaaS to see, understand, and improve digital experiences for customers and employees. Its end-to-end visibility from any user to any application, over any network, enables enterprises to quickly pinpoint the source of issues, get to a resolution faster, and measure and manage the performance of what matters.

ThousandEyes collects multilayer telemetry data from vantage points distributed throughout the internet, as well as in enterprise data centers and cloud, branch, and campus environments, providing detailed metrics from between those vantage points and applications and services distributed throughout the globe. The result is real insight into application experience and every underlying dependency, whether network, service, or application related.

For more information, see https://www.thousandeyes.com.

Q: How is Catalyst SD-WAN integrated with ThousandEyes?

A: Catalyst SD-WAN is the only SD-WAN solution with turnkey ThousandEyes vantage points. This solution is supported on eligible Cisco Catalyst 8300 Series platforms. Existing customers can expedite ThousandEyes agent deployment with Catalyst SD-WAN Manager integration and enable faster time to value for their IT operators.

Q: What are the minimum requirements for ThousandEyes?

A: ThousandEyes is natively integrated with eligible Cisco Catalyst 8300 Series Edge Platforms with a minimum of 8 GB DRAM and 8 GB bootflash/storage. Additional memory and storage will be necessary for concurrently running a ThousandEyes agent with containerized Catalyst SD-WAN security services.

Q: How is ThousandEyes ordered?

A: Customers can leverage existing ThousandEyes subscriptions with eligible Catalyst 8300 Series Edge Platforms.

- Existing ThousandEyes customers can use their available ThousandEyes license and units toward new tests.

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- New ThousandEyes customers will need to purchase a ThousandEyes license to activate the ThousandEyes agent.

Licensing

Q: Is a software subscription license mandatory for Catalyst 8000 Edge Platform Family? What options are available to customers?

A: A software subscription is mandatory for Cisco Catalyst 8000 Series Edge Platforms at the initial time of purchase of the hardware. This initial software subscription is mandatory for both Autonomous mode (traditional routing) and Controller mode (SD-WAN).

The following Cisco DNA Subscriptions are available for the Catalyst 8300 Series

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

To enable all advanced Cisco DNA capabilities, customers will require a Cisco DNA Advantage license that is packed with powerful features. Cisco DNA Essentials offers basic automation, configuration, and management capabilities. Catalyst Routing Essentials license is targeted for deployments with basic requirements and provides routing features plus basic security and secure infrastructure features.

For further details on the Cisco DNA for SD-WAN and Routing subscription offer, review the SD-WAN and Routing Feature Matrix: https://www.cisco.com/c/m/en_us/products/software/sd-wan-routing-matrix.html. For more information about specific Cisco DNA subscription features, refer to the Cisco DNA Subscription Software for SD-WAN and Routing FAQ.

Q: What entitlements are included in the Cisco DNA subscriptions for Catalyst 8000 Edge Platform Family?

A: Cisco DNA Essentials and Advantage subscriptions include a perpetual network stack license and a term-based Cisco DNA stack license. Even after a subscription term expires, the network stack will remain. After the subscription term expires, the term-based Cisco DNA Subscription would have to be renewed. For any controller-led (**Example:** Cisco Catalyst SD-WAN Manager, Cisco Catalyst Center) orchestration capabilities, an active Cisco DNA stack entitlement is mandatory.

Q: What are the entitlements of the network stack?

A: The network stack provides entitlements for non-SD-WAN features (autonomous mode). The network stack is a perpetual license in DNA Essentials and Advantage. Catalyst Routing Essentials is a term-based only license and hence does not include a perpetual network stack.

See network stack feature packaging here: https://www.cisco.com/c/dam/m/en_us/products/software/dna-software/dna-software-sd-wan-routing-matrix/pdf/c95-742999-dna-software-sd-wan-routing-matrices.pdf.

Q: What are the entitlements of the Cisco DNA stack?

A: The Cisco DNA stack entitlements are available here: https://www.cisco.com/c/m/en_us/products/software/sd-wan-routing-matrix.html.

Q: What entitlements are included in the Catalyst Routing Essentials subscription for Catalyst 8000 Edge Platform Family?

A: A Catalyst Routing Essentials subscription only includes a 7-year term-based traditional routing license. After its subscription term expires, any further use of the Catalyst 8000 Edge Platform device would therefore be out of compliance. It includes entitlement for On-Prem SD-Routing but not for SD-WAN.

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Q: What do I buy for Cisco Catalyst Center based management?

A: Both Cisco DNA subscription licenses (Essentials and Advantage) as well as the Catalyst Routing Essentials license provide an entitlement to use Cisco Catalyst Center based management.

Q: What if I don't buy a Cisco DNA subscription license? What if I don't buy a Catalyst Routing Essentials subscription license?

A: Purchasing the hardware alone does not provide entitlements to use the device in either the Controller or the Autonomous mode. A subscription is needed to enable the software capabilities supported. A network stack is needed for Autonomous mode and a Cisco DNA stack is needed for Controller mode operation. These licenses are included as part of the subscription. Term-based licenses are mandatory for Catalyst 8000 Edge Platform Family at the initial time of purchase to unlock any capabilities.

Q: What is HSEC?

A: The US Department of Commerce necessitates that the Aggregate encrypted throughput of all incoming and outgoing interfaces not exceed 250Mbps (in each direction). Cisco uses the HSEC license to enforce such a regulation. The HSEC license is automatically included with all purchases of a Cisco DNA Subscription on the Catalyst 8300 Series Edge Platform Family. A Catalyst 8300 Edge Platform Family will not perform at an encrypted throughput that is greater than 250Mbps unless it is associated with a HSEC license.

Every purchase of throughput that is greater than 250Mbps of encryption is vetted to ensure compliance with all associated export regulations of the US Dept of Commerce. To accomplish this objective Cisco does not provide for any temporary HSEC license on the Catalyst 8300 Series Edge Platform Family.

Q: How do I order HSEC?

A: HSEC is included with all Cisco DNA Bandwidth tiers by default and will show up in the customer's Smart Account.

Q: Do the Catalyst 8300 Series Edge Platforms support Smart Licensing?

A: Yes. Smart Licensing using Policy (SLUP) is the only supported mode on all Catalyst 8000 series edge platforms. For a more detailed overview on Cisco Licensing, visit the Licensing Hub.

Application hosting

Q: Can my application be hosted on the bootflash?

A: No, application hosting requires dedicated storage locations and is disabled in the bootflash.

Q: Is Docker supported in Cisco Catalyst 8300 Series Edge Platforms?

A: No, Docker applications are not supported in the Cisco Catalyst 8300 Series Edge Platforms.

Q: Do the Cisco Catalyst 8300 Series Edge Platforms support Python programmability?

A: Yes, the Cisco Catalyst 8300 Series Edge Platforms support Python programmability in IOS XE (autonomous mode).

Python programmability provides users with the ability to control devices running the Cisco IOS XE operating system in autonomous mode by running Python code that makes use of APIs. It has multiple use cases, such as:

- Interactive Python prompts.
- Running python scripts.
- Cisco IOS Embedded Event Manager.
- Zero-touch provisioning.

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Q: What is the minimum platform requirement for application hosting?

A: Eight GB of DRAM is required as the minimum for application hosting. All the Cisco Catalyst 8300 Series Edge Platforms ship with a default of 8 GB DRAM.

Q: How does Zero-Touch Provisioning (ZTP) work on the Cisco Catalyst 8300 Series Edge Platforms?

A: When a Cisco Catalyst 8300 Series Edge Platform boots up, and does not find the startup configuration, the device enters the zero-touch provisioning mode. The device locates a Dynamic Host Control Protocol (DHCP) server; bootstraps itself with its interface IP address, gateway, and Domain Name System (DNS) server IP address; and enables Guest Shell. The device then obtains the IP address or URL of a Trivial File Transfer Protocol (TFTP) server and downloads the Python script to configure the device.

Guest Shell provides the environment for the Python script to run. Guest Shell executes the downloaded Python script and configures the device for day zero. After day-zero provisioning is complete, Guest Shell remains enabled.

Management

Q: What are the management options available for Cisco Catalyst 8300 Series Edge Platforms for centralized orchestration, management, and monitoring?

A: The Cisco Catalyst 8300 Series Edge Platforms can be managed and monitored via:

- Cisco Catalyst Center.
- Cisco Catalyst SD-WAN Manager.
- Software-based local Web User Interface (WebUI).

Q: What management capabilities are available on the Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms support management via:

- Command-Line Interface (CLI).
- Simple Network Management Protocol (SNMP).
- Onboard IOS-XE software Web User Interface (WebUI).
- NETCONF, RestConf, and YANG models.

Q: What programmability capabilities are available on the Cisco Catalyst 8300 Series Edge Platforms?

A: The Cisco Catalyst 8300 Series Edge Platforms open a completely new paradigm in network configuration, operation, and monitoring through network automation. The Cisco automation solution is open, standards- based, and extensible across the entire network lifecycle of a network device.

- **Device provisioning** – Through Plug-and-Play (PnP), Zero-Touch Provisioning (ZTP), and Preboot Execution (PXE).
- **Configuration** – Model-driven operation through open Application Programming Interfaces (APIs) over NETCONF/RESTconf and Python Scripting.
- **Customization and monitoring** – Streaming telemetry.

Q: Can the Cisco Catalyst 8300 Series Edge Platforms be managed through Cisco Prime Infrastructure?

A: No, the Cisco Catalyst 8300 Series Edge Platforms cannot be managed through Cisco Prime Infrastructure.

Q: Can the Cisco Catalyst 8300 Series Edge Platforms include a local management capability?

A: Yes, the IOS-XE WebUI is supported on the Cisco Catalyst 8300 Series Edge Platforms.

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