Overview

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 with Cisco IOS XE SD-WAN Software deliver Cisco's secure, cloud-scale SD-WAN solution for the branch. The Cisco Catalyst 8300 Series Edge Platforms is 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 Cisco 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, LTE, 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. The Cisco 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 Cisco 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.

Cisco Catalyst 8300 Series Edge Platforms target these use cases:

- Enterprise Branch office, Managed Service Provide CPE, Internet Gateway for DIA, SASE cloud platform with SD-WAN

- Next-generation of Software Defined (SD) Branch routing platforms

For more information on the features and specifications, refer to the Cisco Catalyst 8300 Series Edge Platforms datasheet.

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>
> **Note** Sections in this documentation apply to all models of Cisco Catalyst 8300 Series Edge Platforms unless a reference to a specific model is made explicitly.

The support for the Hyperthreading (HT) for the data plane Packet Processing Engine is added on the following platforms:

- C8300-2N2S-4T2X
- C8300-2N2S-6T
- C8300-1N1S-4T2X

• C8300-1N1S-6T

This chapter contains the following sections:

Chassis Views

This section contains views of the Power Supply and I/O sides of the Cisco Catalyst 8300 Series Edge Platforms, showing the locations of power and signal interfaces, module slots, status indicators, and chassis identification labels:

Cisco Catalyst 8300 Series Edge Platforms are available in these models:

• C8300-1N1S-4T2X

• C8300-1N1S-6T

• C8300-2N2S-4T2X

• C8300-2N2S-6T

Note N=Network Interface Modue, S=Services Module, and T=Gigabit Ethernet, X=Ten Gigabit

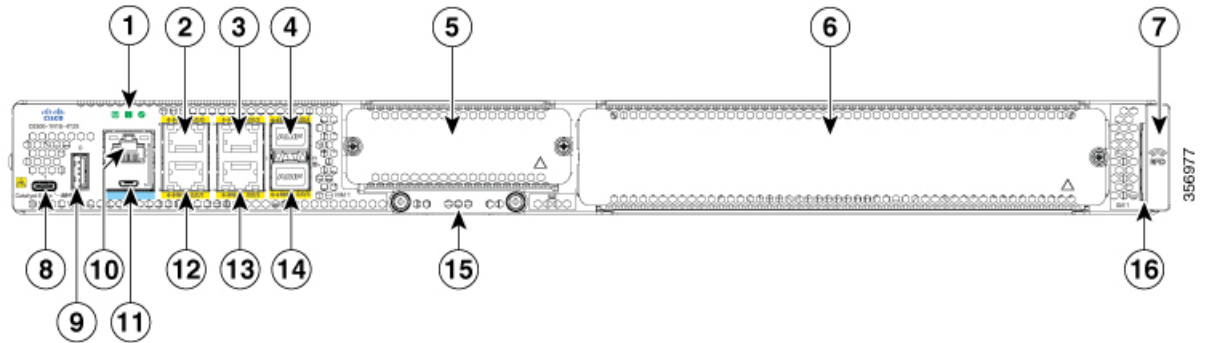*Figure 1: C8300-1N1S-4T2X|6T Chassis - I/O Side*

Table 1: I/O Side

1	LED	2	RJ-45 Gigabit Ethernet port (1G 0/0/0)
3	RJ-45 Gigabit Ethernet port (1G 0/0/2)	4	SFP+/10 Gigabit Ethernet port (10G 0/0/4) SFP/1 Gigabit Ethernet port (1G 0/0/4)
5	NIM Slot1	6	SM Slot1
7	RFID (Optional)	8	USB Type C (3.0) (USB 1)

9	USB Type A (3.0) (USB 0)	10	RJ-45 Console
11	Micro-USB Console	12	RJ-45 Gigabit Ethernet port (1G 0/0/1)
13	RJ-45 Gigabit Ethernet port (1G 0/0/3)	14	SFP+/10 Gigabit Ethernet port (10G 0/0/5) SFP/1 Gigabit Ethernet port (1G 0/0/5)
15	M.2 USB/NVMe storage	16	Device Label Tray

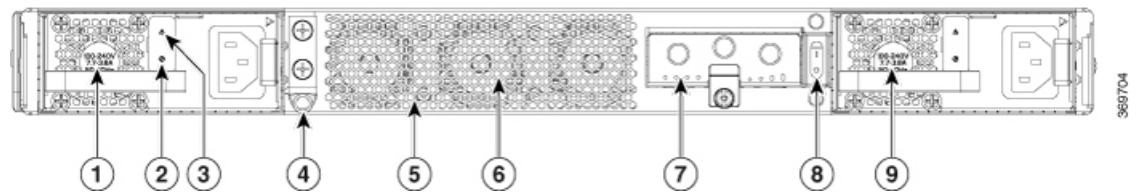*Figure 2: C8300-1N1S-4T2X|6T Chassis - PSU/Fan Tray Side*

Table 2: PSU/Fan Tray Side

1	AC/DC power supply unit (PSU1)	2	Power, Preset, OK, LED
3	ALARM Fail LED	4	Ground lug
5	Fan tray vent	6	3-Internal Fan tray
7	PIM Slot 1	8	Power switch
9	AC/DC Power Supply Unit (PSU0)		

Figure 3: C8300-2N2S-4T2X|6T Chassis - I/O Side
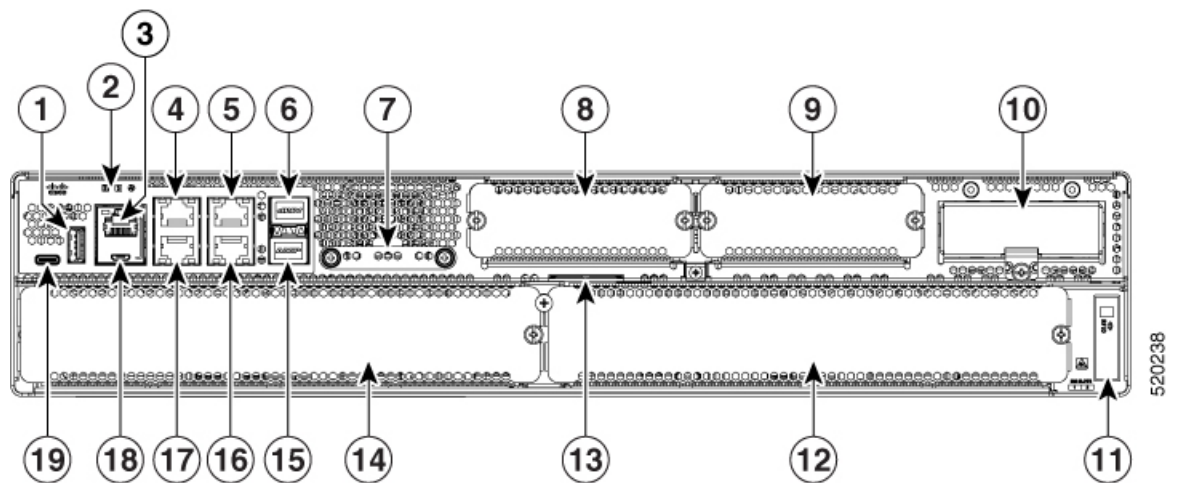
Table 3: I/O Side

1	USB Type A (3.0) (USB 0)	2	LED

| 3	RJ-45 Console	4	RJ-45 Gigabit Ethernet port (1G 0/0/0)
5	RJ-45 Gigabit Ethernet port (1G 0/0/2)	6	SFP+/10 Gigabit Ethernet port (10G 0/0/4) for C8300-2N2S-4T2X SFP/1 Gigabit Ethernet port (1G 0/0/4) for C8300-2N2S-6T
7	M.2 USB/NVMe storage	8	NIM Slot 1
9	NIM Slot 2	0	PIM Slot 1
1	RFID (Optional)	2	SM Slot 2
3	Device label tray	4	SM Slot 1
5	SFP+/10 Gigabit Ethernet port (10G 0/0/5) for C8300-2N2S-4T2X SFP/1 Gigabit Ethernet port (1G 0/0/5) for C8300-2N2S-6T	6	RJ-45 Gigabit Ethernet port (1G 0/0/3)
7	RJ-45 Gigabit Ethernet port (1G 0/0/1)	8	Micro-USB Console
9	USB Type C(3.0) (USB 1)		

Figure 4: C8300-2N2S-4T2X|6T Chassis - PSU/Fan Tray Side
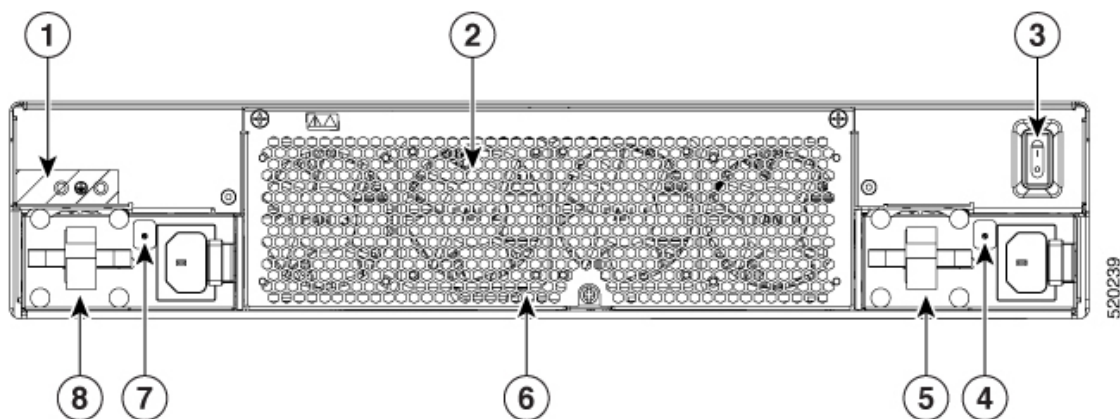

Table 4: PSU/Fan Tray Side

1	Ground Lug	2	FRU Fan tray
3	Power Switch	4	PSU0 Power LED
5	PSU0	6	POE Power Module 0/1, behind removable Fan tray
7	PSU1 Power LED	8	PSU1

For detailed information on LEDs, see the section on LED indicators.

Platform Summary

The figure below shows the internal view of Cisco Catalyst 8300 Series Edge Platforms with components and module locations.
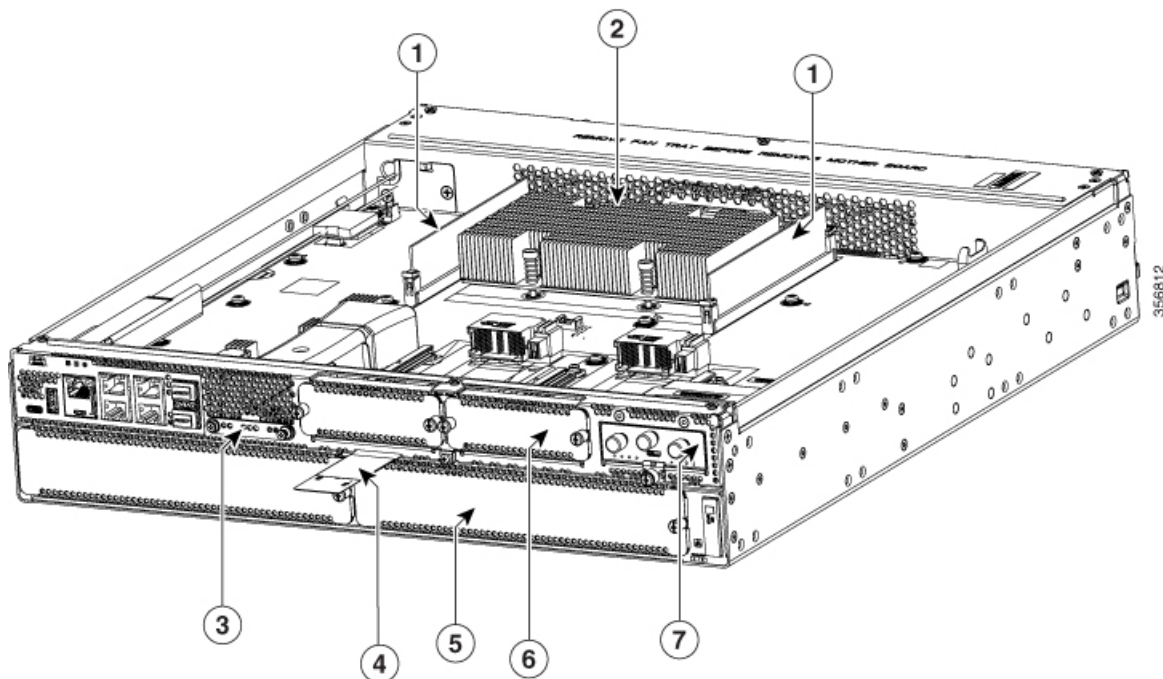
Figure 5: Platform Summary of C8300-1N1S-4T2X|6T
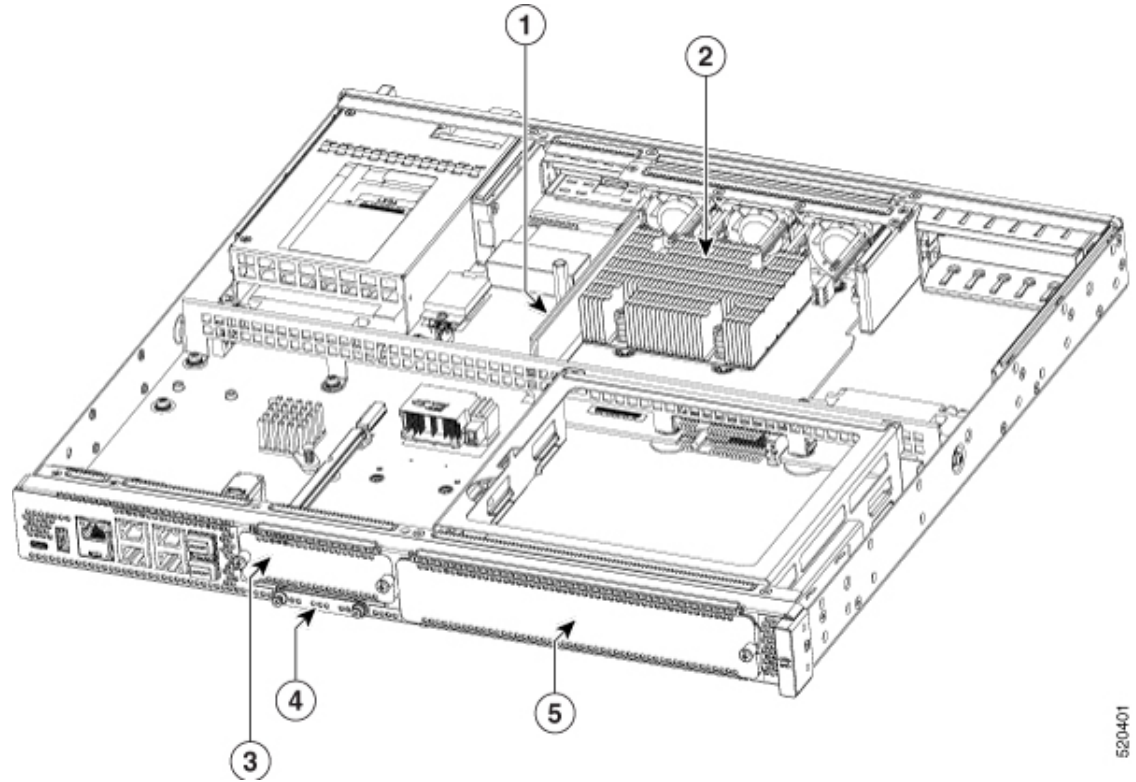
1	DIMM	2	CPU
3	NIM slot	4	M.2 card slot
5	SM		

Figure 6: Platform Summary of C8300-2N2S-4T2X|6T Chassis

1	DIMMs	2	CPU
3	M.2 Card slot	4	Label tray
5	SM	6	NIM
7	PIM		

Locating Labels on Cisco Catalyst 8300 Series Edge Platforms

Use the Cisco Product Identification (CPI) tool to find labels on the platform. The tool provides detailed illustrations and descriptions of where labels are located on Cisco products. It includes the following features:

- A search option that allows browsing for models by using a tree-structured product hierarchy

- A search field on the final results page that makes it easier to look up multiple products

- End-of-sale products clearly identified in results lists

The tool streamlines the process of locating serial number labels and identifying products. Serial number information expedites the entitlement process and is required for access to support services.

## Location of labels on Cisco Catalyst 8300 Series Edge Platforms

The figure below shows the location of the labels on the Cisco Catalyst 8300 Series Edge Platforms. Labels are located at the same location on all the Cisco Catalyst 8300 Series Edge Platforms

The Serial number (SN), Common language equipment identifier (CLEI), Top Assembly Number (TAN), Product ID (PID), PID version ID (VID), and Quick response (QR) code are printed on a label on the back of the platform or on a label tray located on the chassis.

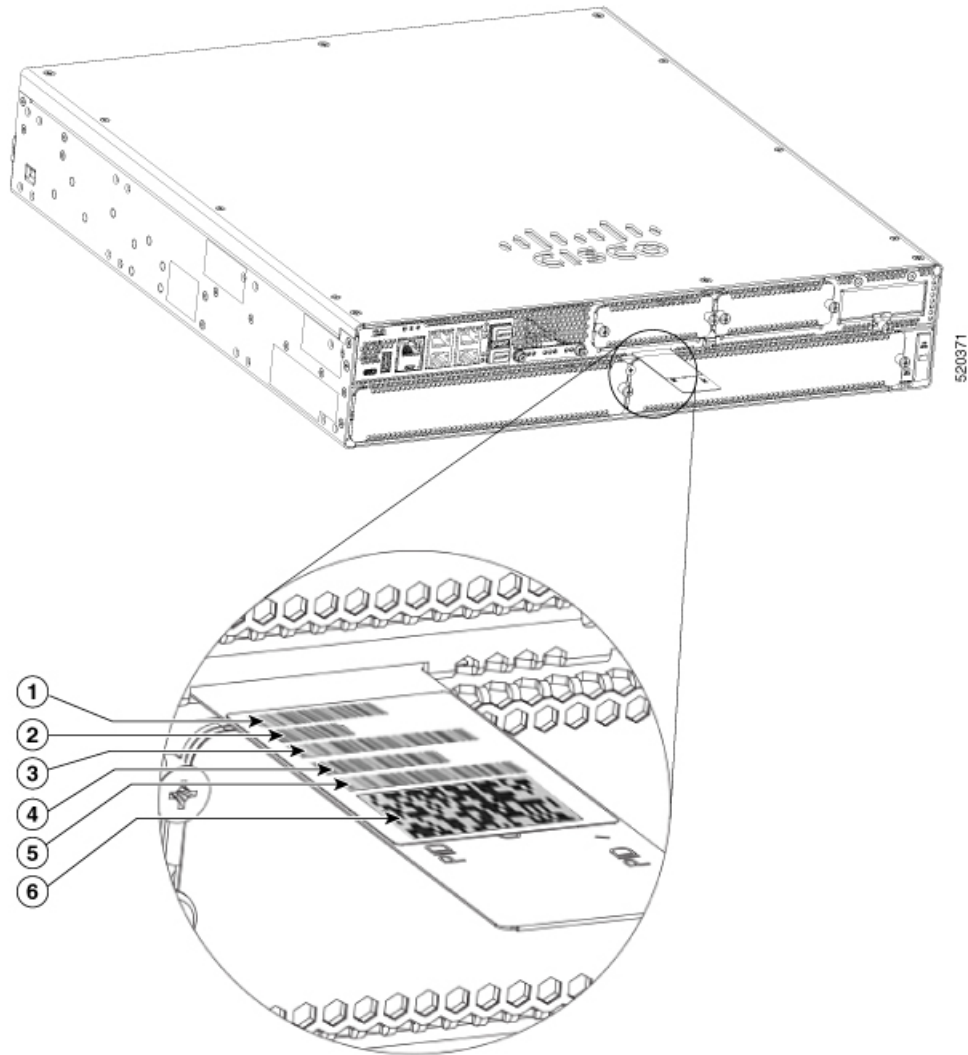**Note**   The RFID tags on the devices are pre-fitted and does not come with spare RFID tags.

Figure 7: Label Location on a C8300-1N1S-4T2X|6T
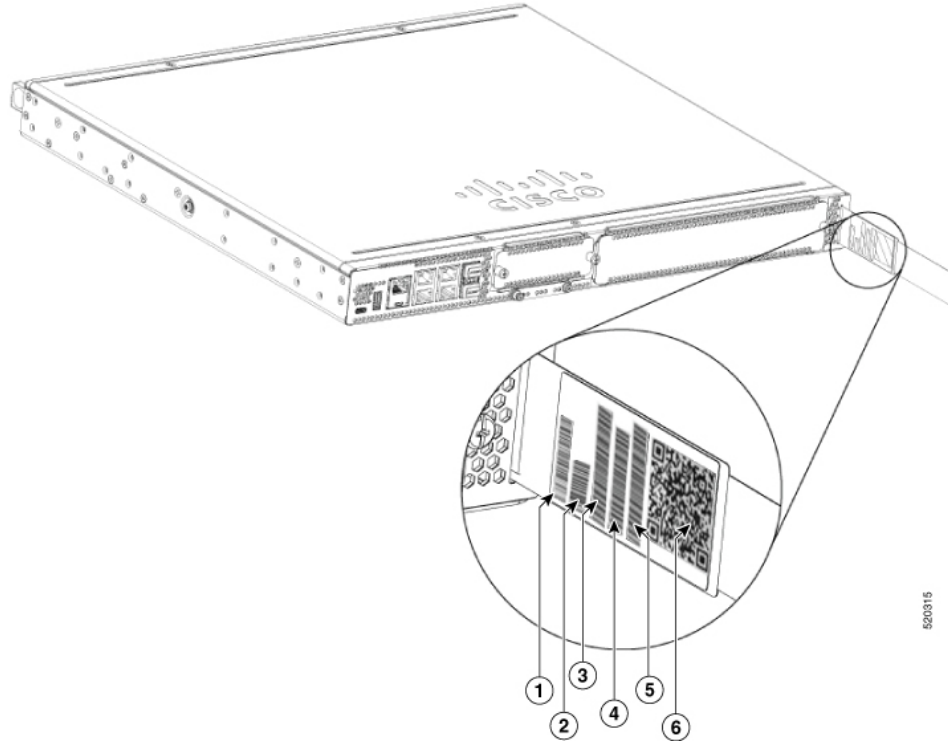
1	SN	2	CLEI
3	TAN	4	MAC
5	PIDVID	6	QR code

Figure 8: Label Location on a C8300-2N2S-4T2X|6T

1	SN	2	CLEI
3	TAN	4	MAC
5	PIDVID	6	QR code

Locate Product Identification Details

Software License

The serial number (SN), product ID (PID), version ID (VID), and Common Language Equipment Identifier (CLEI) are printed on a label on the bottom of the device or on the label tray.

To obtain a software license, you need the unique device identifier (UDI) of the device where the license is to be installed.

The UDI has two main components:

- Product ID (PID)

- Serial number (SN)

The UDI can be viewed using the **show license udi** command in privileged Exec mode in Cisco Internet Operating System (IOS) software.

For additional information on the UDI, see the << >>document on cisco.com.

Hardware Features of Cisco Catalyst 8300 Series Edge Platforms

This section describes the hardware features of Cisco Catalyst 8300 Series Edge Platforms

Built-In Interface Ports

The Cisco Catalyst 8300 Series Edge Platforms have multiple 10/100/1000 front panel ports and Small Form Pluggables.

Warning   To comply with the Telcordia GR-1089 NEBS standard for electromagnetic compatibility and safety, connect the Management Ethernet ports only to intra-building or unexposed wiring or cable. The intra-building cable must be shielded and the shield must be grounded at both ends. The intra-building port(s) of the equipment or subassembly must not be metallically connected to interfaces that connect to the OSP or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of Primary Protectors in not sufficient protection in order to connect these interfaces metallically to OSP wiring.

GE or SFP Ports

The following GE and SFP ports are available on the Catalyst 8300 series edge platforms:

GE Ports

The GE RJ-45 copper interface ports support 10BASE-T, 100BASE-TX, and 1000BASE-T.

SFP Ports

The small-form-factor pluggable (SFP) ports support 1Gbps SFP modules.

SFP+ Ports

The enhanced small-form-factor pluggable (SFP) ports support 10 Gbps SFP+ modules.

Removable and Interchangeable Modules and Cards

Service Modules (SMs), Network Interface Modules (NIMs), Pluggable Interface Modules (PIMs) and M.2 USB/NVMe storage fit into external slots and can be removed or replaced without opening the chassis.

External Slots

- Service Modules

- Network Interface Modules

- Pluggable Interface Modules

- M.2 USB/NVMe storage

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Note   The LTE Pluggable Interface Module interfaces with the host CPU through the USB3.0 interface. The host then accesses the LTE related signals through the I2C interface of the pluggable module.

Internal Slots

- Memory

See the Cisco Catalyst 8300 Series Edge Platforms product page on cisco.com for a list of supported modules and interface cards.

Memory

Cisco Catalyst 8300 Series Edge Platforms contain DIMMs that store running configuration and routing tables, and are used for packet buffering by the network interfaces.

- Boot/NVRAM—Stores the bootstrap program (ROM monitor) and the configuration register. The boot/NVRAM is not serviceable.

- Internal memory—Internal bootflash memory

- Removable M.2 card—Available in 16GB (default), 32GB M.2 USB and 600GB M.2 NVMe SSD

- DRAM options

  - 1x 8GB DDR4 (default)

  - 1x 16GB DDR4 (upgrade)

  - 1x 32GB DDR4 (upgrade)

Power Supply

The Cisco Catalyst 8300 Series Edge Platforms support a variety of power supply configurations. These devices have power supplies that are field replaceable and externally accessible. The following table summarizes the power options:

Table 5: Field Replaceable Unit Power Options

Model	AC Input PSU	PSU with Integrated PoE	PoE Power Supply Converter	Dual, Hot Swap	DC Input PSU
C8300-1N1S-4T2X	Y	Y	N	Y	Y
C8300-1N1S-6T	Y	Y	N	Y	Y
C8300-2N2S-4T2X	Y	N**	Y	Y	Y
C8300-2N2S-6T	Y	N**	Y	Y	Y

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Note   **PoE with AC PSU+ a separate PoE adapter.

LEDs for Cisco Catalyst 8300 Series Edge Platforms

Table 6: LEDs Indicators

LED	Color	Description
Logo	Blue	**Cisco Logo LED** Off: The system is powered off Blue: The system is powered on
PWR	Green/Amber	**Power Supply Status** Off: The system is powered off Yellow: A Power Supply in the system is not functioning correctly Green: All installed PSUs are operating correctly
STATUS	Green/Amber/Red	**System Status** Red: The system is booting Red Blinking Red: The system has failed a hardware integrity error Yellow: Rommon has completed booting and system is at Rommon prompt or booting platform software. Green: Normal System Operation

LED	Color	Description
ENV	Green/Amber/Red	**Environmental Status** Off: Monitor is not active. Red: The system has detected a critical overcurrent event and may shut down. Blinking Yellow: One or more temperature sensors in the system are outside the acceptable range. Yellow: One or more fans in the system are outside the acceptable range. Green: All temperature sensors and fans in the system are within acceptable range.
USB CON	Green	**USB Console Active** Green indicates that the active console port is USB.
RJ-45 CON	Green/Yellow	**Serial Console Active** Green indicates that RJ-45 is the active console port.
SFP EN	Green	**SFP Enable LED** **SFP+ Enable LED** Off: Not present Green: The SFP is supported and no faults. Amber: The SFP is not supported or is in a faulty state
SFP LINK	Green	**SFP port 0/1 Link LED** Off: No Link (or not present) Green: Link established

Fans, Ventilation, and Airflow

Chassis Ventilation

The chassis temperature is regulated with internal fans. An onboard temperature sensor controls the fan speed. The fans are always on when the device is powered on. Under all conditions, the fans operate at the slowest

speed possible to conserve power and reduce noise. When necessary, the fans operate at higher speeds under conditions of higher ambient temperature and altitude.
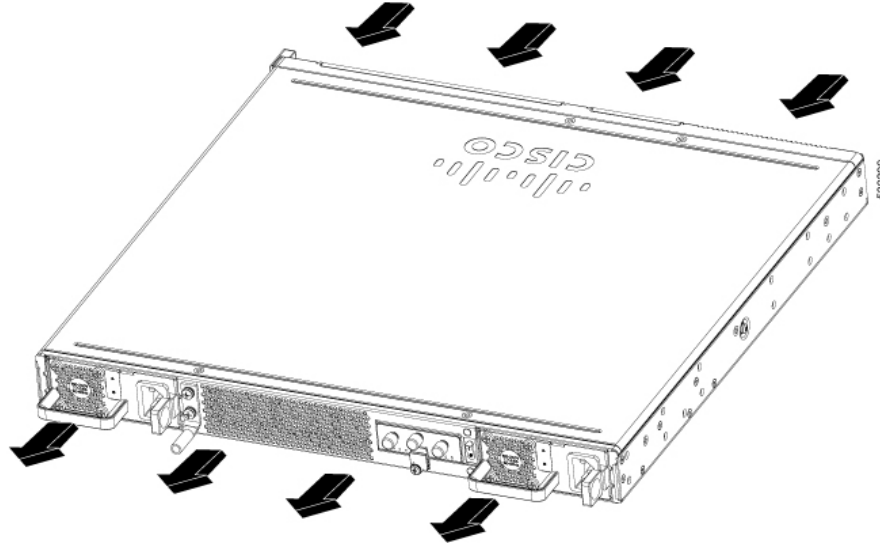
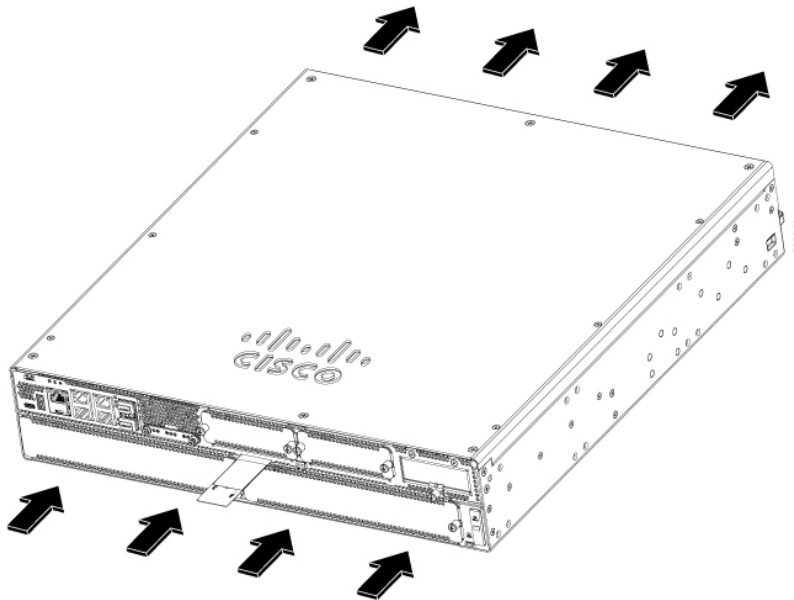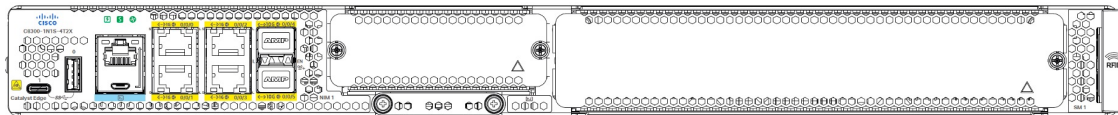*Figure 9: Airflow of C8300-1N1S-4T2X|6T*

Figure 10: Airflow of C8300-2N2S-4T2X|6T

Slots, Subslots-Bay, Ports, and Interfaces

The Cisco Catalyst 8300 Series Edge Platforms support interface modules: Service Modules (SM) and Network Modules (NIMs) and Pluggable Interface Modules (PIMs).

Figure 11:

In all cases, the device designates its interfaces using a 3-tuple notation that lists the slot, bay, and port. The 3-tuple value is zero based. An example of a 3-tuple is 0/1/2. This refers to slot 0, the second bay in slot 0 (the first bay is 0 so the second bay is 1), and the third port in bay 1. See the following table for more examples.

Table 7: Slot, Subslot-Bay and Port Numbering

3-Tuple Example	Slot	Bay	Port
0/1/2	0	2nd	3rd
0/0/1	0	1st	2nd
1/1/1	1	2nd	2nd

- Slots and bays are numbered from the left to the right, and from the top to the bottom.

- The two USB ports are named USB0 and USB1. They do not have slot or bay numbers.

Note USB0 and USB1 can be used to insert flash drives.

Slot Numbering

Slots are numbered 0, 1, and 2.

About Slot 0

The following are the main features of Slot 0:

- Slot 0 is reserved for integrated ports and NIMs, it can be used for either SM or NIM.

- NIMs are designated by the number of the first slot that they occupy. A double-wide SM occupies two slots, but its designation is only the left-most slot number.

- The ten GE ports (or native interface ports) always reside in slot 0 and bay 0. The ports are called Gigabitethernet 0/0/0, Gigabitethernet 0/0/1, Gigabitethernet 0/0/2, and Gigabitethernet 0/0/3 (up to as many ports supported on the particular router).

Subslot and Bay Numbering

- Integrated devices, also known as integrated ports or FPGEs, and NIMs reside in a fixed section of bay 0.

- Motherboard NIMs bays start at bay 1 because the integrated devices and integrated NIMs take up bay 0.