Cisco 8300 Series Secure Routers

A Part of the Cisco 8000 Series Secure Routers Family.

Contents

Overview

Cisco Series Secure Routers deliver secure networking simplified. Powered by the all-new secure networking processor and the unified Cisco secure networking platform, the Cisco Series Secure Routers deliver robust, platform-level security, advanced performance engineering through routing and SD-WAN, and on-premises, infrastructure-as-code, or cloud management flexibility that enables businesses to seamlessly scale and grow. Each class of secure routers is designed to deliver risk reduction, enhanced reliability, and future readiness.

Platform highlights

Cisco 8300 Series Secure Routers are engineered for large branch locations and provide scalable, high-throughput connectivity with embedded platform-level security. With hardware-native assurance, post-quantum cryptography, and unified infrastructure as code, the Cisco 8300 Series enables large branches to support bandwidth-intensive applications and evolving threat landscapes with confidence.

Use cases:

- Secure routing or SD-WAN for thousands of users/devices
- High-throughput, secure connectivity for bandwidth-intensive applications
- Network segmentation for compliance purposes
- Advanced threat protection for mission-critical operations

Key features

Hardware accelerated security and networking	· Dedicated secure networking processor for fast cryptography and deep packet inspection · Hardware acceleration ensures high throughput with robust threat protection
Integrated branch connectivity	· Combines NGFW security, routing, and SD-WAN in one unified platform · Simplifies branch infrastructure and management with all-in-one secure access
Secure networking with PQC readiness	· Future-proofs branch security with advanced, quantum-resistant encryption
Offload AI and ML tasks for faster response	· Hardware acceleration for AI and ML tasks · Optimized for faster AI and ML computation
Fanless model for large branches	· Quiet, reliable, fanless SKU ideal for noise-sensitive or space-constrained sites · Reduced moving parts for lower maintenance and enhanced durability

Models and specifications

The Cisco 8300 Series Secure Routers offer both fixed and modular configurations to meet diverse networking needs and include two models: **Cisco C8375-E-G2** and **Cisco C8355-G2**.

C8375-E-G2 is a modular platform with 1 SM and 1 NIM slot plus 2 x 10 Gbps SFP/SFP+ and 4 x 2.5G multigigabit RJ45 ports.

Figure 1. Front view of a Cisco C8375-E-G2 Secure Router

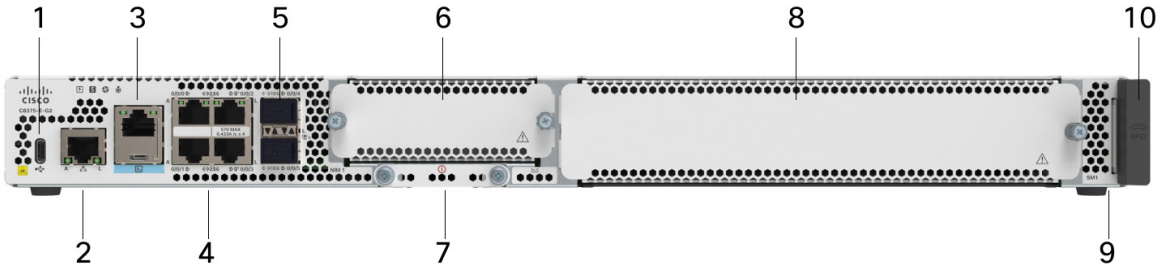

Table 1. Front panel of Cisco C8375-E-G2 Secure Router

Label	Description
1	USB 3.0 Type C Storage
2	Management RJ45 Port
3	Console RJ45 / Micro-USB Port
4	4 x 2.5G Multigigabit RJ45 Port
5	2 x 10G SFP/SFP+ Port

6	NIM Slot
7	M.2 Storage Slot (eUSB / SED)
8	SM Slot
9	Label Tray
10	RFID

Figure 2. Rear view of a Cisco C8375-E-G2 Secure Router

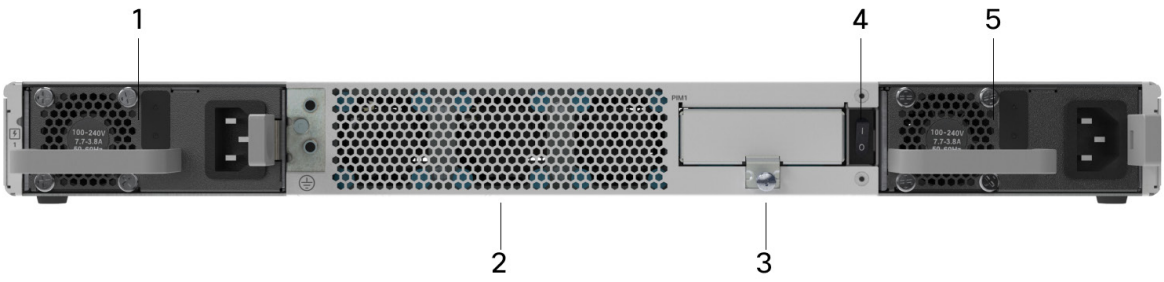

Table 2. Rear panel of Cisco C8375-E-G2 Secure Router

Label	Description
1	Power Supply Slot 1
2	Replaceable Fan Tray Assembly
3	PIM Slot
4	Power ON/OFF Switch
5	Power Supply Slot 0

C8355-G2 is a fixed platform with 4 x 10 Gbps SFP/SFP+, 4 x 5G multigigabit RJ45, and 2 x 1G RJ45 ports.

Figure 3. Front view of a Cisco C8355-G2 Secure Router

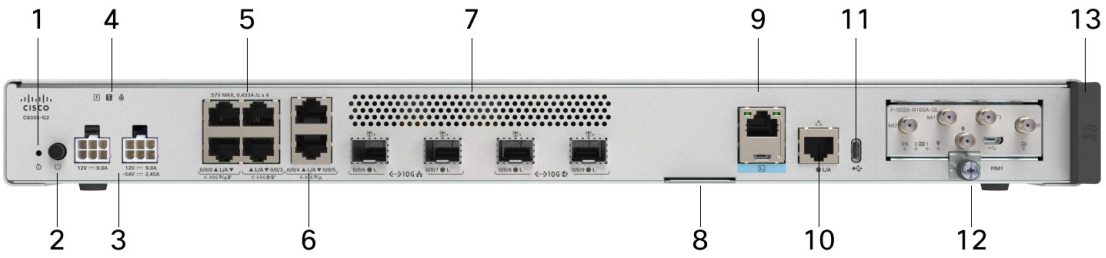

Table 3. Table 3. Front panel of Cisco C8355-G2 Secure Router

PIM Slo	Description
1	Reset Button
2	Power Button
3	Dual Power Supply Input
4	Status LED, blue beacon LED
5	4 x 5G Multigigabit RJ45 Port
6	2 x 1G RJ45 Port
7	4 x 10G SFP/SFP+ Port
8	Label Tray
9	Console RJ45 / Micro-USB Port

10	Management RJ45 Port
11	USB 3.0 Type C Storage
12	PIM Slot
13	RFID

Figure 4. Rear view of a Cisco C8355-G2 Secure Router

Table 4. Rear panel of Cisco C8355-G2 Secure Router

Label	Description
1	Kensington Lock

Table 5. Technical specifications

	Cisco C8375-E-G2	Cisco C8355-G2
Interfaces and Slots		
WAN ports	2 x 10G SFP/SFP+ 4 x 2.5G mGig RJ45 (2x UPoE+)	2 x 10G SFP/SFP+ 2 x 5G mGig RJ45 (2x UPoE+)

	Cisco C8375-E-G2	Cisco C8355-G2
Flex ports	-	2 x 5G mGig RJ45 (2x UPoE+) 2 x 1G RJ45
LAN ports	-	2 x 10G SFP/SFP+
Expansion slots	1 x NIM 1 x SM	-
Cellular slot	1 x PIM	1 x PIM
Management port	1 x RJ45 OOB Mgmt 1 x RJ45 / 1x Micro-USB console	
Memory and storage		
DRAM	16 GB (default) Upgradeable to 32 GB	16 GB (Fixed)
Storage	16 GB (default) 32 GB 600 GB 2 TB	16 GB (default) 32 GB 600 GB 2 TB
Power Supply (Default -Dual PSU)	400W AC (Internal FRU)	110W AC (External Adapter
Power Supply (Upgrade options)	760W AC + PoE (PoE Budget - 360W) 500W DC	230W AC + PoE (PoE Budget - 120W)
Typical Power Consumption (with default PSU and with no modules)	55W	45W

*SD-WAN feature combination: IPsec + QoS + Deep Packet Inspection + Flexible NetFlow

Table 6. Performance and Scale

Description	Cisco C8375-E-G2	Cisco C8355-G2
Throughput		
Forwarding (512B)	38 Gbps	38 Gbps
IPsec (512B)	20 Gbps	20 Gbps
SD-WAN* (512B)	12 Gbps	12 Gbps
Threat Protection* (EMIX)	7 Gbps	3.9 Gbps
Scale		
IPv4/IPv6 routes	2M	2M
IPsec tunnels	3500	3500
IPv4 ACLs	4000	4000
IPv4 ACEs	20K	20K
NAT Sessions	1.5M	1.5M
VRFs	4000	4000

*SD-WAN feature combination: IPsec + QoS + Deep Packet Inspection + Flexible NetFlow

* Threat Protection : 100% DIA-NAT + NGFW + IPS + URLF + AMP

Table 7. Mechanical specifications

Description	Cisco C8375-E-G2	Cisco C8355-G2
Dimensions (H x W x D)	1.73 in x 17.5 in x 16.25 in	1.73 in x 17.5 in x 11.49 in
Rack Units (RU)	1 RU	1 RU
Chassis weight	14.3 lbs (with 2X AC power supplies and fan tray)	9.25 lbs

Description	Cisco C8375-E-G2	Cisco C8355-G2
Input voltage	AC: 85 to 264 VAC DC: -40 to 72V; 48V nominal	AC: 85 to 264 VAC
Operating temperature	0 to 40°C (32° to 104°F), up to 10,000 feet 0 to 45°C (32° to 113°F), up to 6000 feet For NEBS, -5 to 55°C (23° to 131°F), up to 6000 feet	0 to 40°C (32° to 104°F), sea level
Storage temperature	-40 to 70°C -40° to 158°F	-40 to 70°C -40° to 158°F
Relative humidity (noncondensing)	Operating: 5 to 85% Non-operating and Storage: 5 to 95%	

Modules

Product number	Description
WAN modules	
C-NIM-WAN-2X	2-port 1/10Gbps SFP/SFP+ NIM with WAN MACsec
C-NIM-WAN-4S	4-port 1Gbps SFP NIM with WAN MACsec
LAN modules	
C-NIM-4X	4-port 1/10 Gbps SFP/SFP+ switch NIM, LAN/WAN MACsec and Optional L3
C-NIM-8T	8-port 100 Mbps/1 Gbps switch NIM, LAN/WAN MACsec and Optional L3
C-NIM-8M	8-port 100M/1/2.5 Gbps switch NIM, UPOE+, LAN/WAN MACsec and Optional L3
C-SM-16P4M2X	22-port Catalyst L2 switch module with UADP ASIC

Product number	Description
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
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
SM-X-64A	64-port Asynchronous Module
Cellular Modules	
P-5GS6-R16SA-GL*	5G Sub-6 GHz Pluggable – 5G SA Global
P-LTEA7-NA*	CAT7 LTE Advanced Pluggable - North America
P-LTEA7-EAL*	CAT7 LTE Advanced Pluggable - EMEA, APAC, and LATAM
P-LTEA7-JP*	CAT7 LTE Advanced Pluggable - Japan

Product number	Description
NIM Carrier Adapter Card	
C-SM-NIM-ADPT	Single-wide 2x NIM carrier module in SM-X form factor

*Only Cellular Modules are supported on C8355-G2

Software management

The minimum Cisco IOS XE release versions for the Cisco 8000 Series Secure Routers are listed below:

	Device OS	Cisco Catalyst SD-WAN Manager
Cisco C8375-E-G2	Starting IOS XE 17.15.3	Starting SD-WAN Release 20.15.3
Cisco C8355-G2	Starting IOS XE 17.18.1	Starting SD-WAN Release 20.18.1

Ordering information

For a detailed overview of the ordering process, please visit the Cisco 8000 Series Secure Routers Ordering Guide.

Warranty

Cisco 8300 Series Secure Routers come standard with a Cisco Limited 2-Year Return To Factory Hardware Warranty. For more information, refer to:
https://www.cisco.com/c/en/us/products/warranties/warr-2yr-ltd-hw.html

Sustainability profile

Cisco is embedding sustainability into the product lifecycle—from manufacturing to end of use. Designed with consideration for Cisco's Circular Design Principles, our products feature both individual and portfolio-wide programs and innovations, including those that address efficient architecture design, power consumption, energy management, packaging sustainability, and takeback. These elements are pivotal in reducing operational costs and advancing net-zero greenhouse gas (GHG) emissions targets, and other sustainability-related ambitions.

Information about Cisco's environmental, social, and governance (ESG) initiatives and performance is available in Cisco's Purpose Reporting Hub.

Table 7. Sustainability references

Sustainability topic		Description
Power	Power management configuration	The power management chapter in the System Management Configuration Guide provides detailed information on power management features and configurations available for the Cisco 8300 Series Secure Routers. The features discussed include power-supply modes, and power-budgeting considerations.
	Auto-off ports without Small Form-factor Pluggable (SFP)	Once enabled, the system checks for the presence of SFPs in Fiber ports on a regular basis and turns on SerDes when SFP is detected. If no SFP is detected, the system will keep SerDes off to save energy.
	Auto-off port LEDs	Once enabled, port light emitting diodes (LEDs) will stay depowered saving energy until a link event is triggered or manually enabled by Command Line Interface or Mode button.
Energy management	Energy Management dashboard	The Energy Management dashboard on the Catalyst SD-WAN Manager offers comprehensive energy management capabilities, allowing users to monitor energy usage, energy mix, costs, and greenhouse gas emissions in real time Energy Management
	Environmental monitoring configuration	The environmental monitoring chapter in the System Management Configuration Guide provides guidelines for configuring monitoring of environmental conditions of chassis components.

Sustainability topic		Description
Materials, modularity, and reuse	Hardware standardization and modularity	Cisco 8300 Series Secure Routers use standard subassemblies and common components across products to streamline production and enhance repairability and upgradability.
	Simplified architecture	Cisco 8300 Series Secure Routers offer a simplified architecture by consolidating multiple discreet ASIC/NPU components into a central system-on-chip (SoC) architecture, providing multiple discrete functions in a more integrated design.
	Powder-coat finish	Cisco 8300 Series Secure Routers use a powder-coating finish instead of oil-based wet paint. In comparison, a powder-coating finish reduces the amount of harmful solvents used and volatile organic compounds (VOCs) emitted during the painting process.
	Bezel-free design	Cisco 8300 Series Secure Routers use a bezel-free design reducing plastic usage.
	Cisco Takeback and Reuse	This program allows customers to return used equipment for responsible recycling and reuse. Takeback and Reuse Program
	Cisco Refresh	This program offers certified remanufactured products, providing cost-effective alternatives to new equipment. Cisco Refresh
Packaging	Removal of single-use plastic bags	The Cisco 8300 Series Secure Routers are packaged with kraft paper materials, removing single-use plastic bags.
	Foam reduction	Cisco 8000 Series Secure Routers are packaged with corrugated and fiber flute materials, containing minimum 25% post-consumer recycled content. Circular economy and packaging sustainability
	Accessory opt-in	Accessory opt-in allows customers to select whether to include the accessory kit. Not including the kit results in using fewer materials and reducing waste. The default is now to not include the kit unless it is required.

Sustainability topic		Description
Regulatory compliance	Environmental compliance	Information regarding Cisco compliance with applicable environmental laws and regulations is available at the Environmental Compliance section of Cisco's Purpose Reporting Hub. Environmental compliance
	Product Approvals Status (PAS)	Information regarding the certification status for given Cisco products in certain countries is available at Cisco's self-service PAS database. PAS database
	Product-related materials compliance	This page addresses Cisco's position regarding relevant product-related materials legislation, such as Restriction of Hazardous Substances (RoHS); Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH). RoHS and REACH
	Waste Electrical and Electronic Equipment (WEEE), battery, and packaging compliance	This page discusses Cisco's position regarding relevant product-related legislation on recycling, battery, and packaging. WEEE, battery and packaging
	Cisco packaging materials and codes	This table provides packaging material identification for packaging used for Cisco products. Packaging materials and codes
General	Sustainability inquiries	For ESG or CSR inquiries, please contact your Cisco account team.
	Cisco policies, positions, and guides	Links to select Cisco's Environmental Sustainability policies, positions, and guides are provided in the "Policies, positions, and guides" section of Cisco's Purpose Reporting Hub. Policies, positions, and guides
	Cisco Green Pay	This page provides an overview of Cisco Green Pay, a financing program aimed at promoting more sustainable technology adoption by providing flexible payment options. Green Pay

Appendix

Safety and compliance

Chassis

The section below lists the safety and compliance information for the Cisco 8300 Series Secure Routers chassis.

Safety and certifications	EMC and EMI compliance
• UL 60950-1 • CAN/CSA-C22.2 No. 60950-1 • UL 62368-1 • CAN/CSA-C22.2 No. 62368-1 • IEC 62368-1 • EN 62368-1 • AS/NZS 62368.1 • CNS15598-1 • KC 62368-1	• 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 15936 Class A • KS C 9832 Class A • IEC/EN 61000-3-2: Power Line Harmonics • IEC/EN 61000-3-3: Voltage Fluctuations and Flicker • 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-61000-4-11: Voltage DIPS, Short Interruptions, and Voltage Variations • KS C 9835 • 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

Document history

New or revised topic	Described in	Date
Document created	Datasheet	June 10, 2025
Amended	Datasheet	September 5 2025

Next steps

Cisco Capital	Cisco Capital flexible payment solutions offer choices so you get the tech you need and the business outcomes you want.
Explore Cisco Capital	https://www.cisco.com/site/us/en/buy/payment-solutions/index.html
Find a partner	Solve your business challenges by finding a Cisco partner authorized to design, sell, and support custom solutions.
Meet our partners	https://www.cisco.com/site/us/en/partners/connect-with-a-partner/index.html
Community	Cisco Community is an active and collaborative place to learn more about our products and ask questions of peers and Cisco experts.
Join the community	https://community.cisco.com/
Cisco Services	Transform with more ease and less risk while making sure your technology delivers tangible business value.
Browse Cisco Services	https://www.cisco.com/site/us/en/services/index.html