Cisco 8500 Series Secure Routers

A Part of the Cisco 8000 Series Secure Router Family.

Contents

Overview

Cisco 8500 Series Secure Routers deliver secure networking simplified. Powered by the third-generation Quantum Flow Processor (QFP) ASIC for high throughput and scale, Cisco 8500 Series Secure Routers deliver robust, platform-level security, advanced performance engineering via 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

Purpose-built for data center and colocation environments, Cisco 8500 Series Secure Routers offer massive scalability and granular traffic optimization. With support for high-throughput workloads, physical guardrails, and advanced automation, the 8500 Series ensures your data center infrastructure remains fast, secure, and future ready for exponential growth and evolving demands.

Use cases:

- Secure WAN aggregation for high-performance, scalable routing for massive data flows
- Secure interconnects between data centers and clouds

Key features and benefits

Hardware-accelerated security and networking	• Dedicated QFP ASIC for fast cryptography and deep packet inspection • Hardware acceleration ensures high throughput and scale
Efficient design for data center deployments	• Compact 1RU form factor • Front panel accessibility for label trays
Secure networking with PQC readiness	• Future-proofs security with advanced, quantum-resistant encryption

Models and specifications

Cisco 8500 Series Secure Routers are 1 RU fixed form factor devices. There are two models: Cisco 8550-G2 and 8570-G2. Cisco 8550-G2 provides 12 x 10GE ports, whereas the Cisco 8570-G2 provides 12 x 10GE, 2 x 40GE, and 2 x 100GE ports (max 240GE of ports enabled simultaneously).

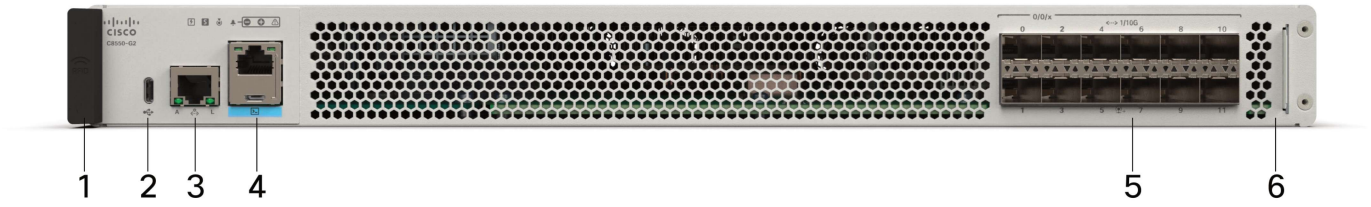

Figure 1. Front view of a Cisco C8550-G2 Secure Router

Table 1. Front panel of Cisco C8550-G2 Secure Router

Label	Description
1	RFID
2	USB 3.0 Type C Storage
3	Management RJ-45 Port
4	Console RJ-45 / Micro-USB Port
5	12 x 1/10G SFP+ Ports
6	Label Tray

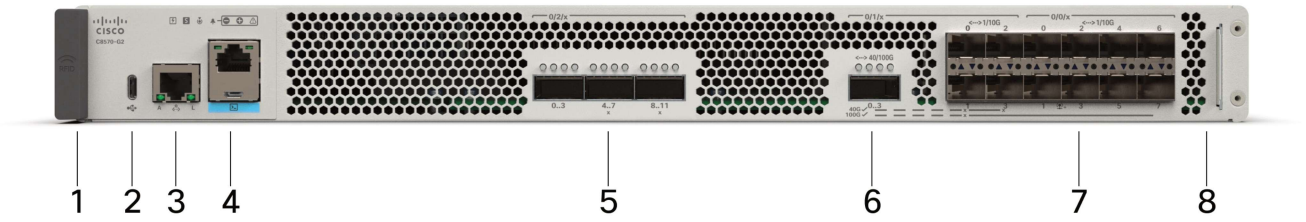

Figure 2. Front view of a Cisco C8570-G2 Secure Router

Table 2 Front panel of Cisco C8570-G2 Secure Router

Label	Description
1	RFID
2	USB 3.0 Type C Storage
3	Management RJ-45 Port
4	Console RJ45 / Micro-USB Port
5	Bay 2: 1x 40/100G QSFP28, 2x 40G QSFP+
6	Bay 1: 1x 40/100G QSFP28, 4x 1/10G SFP+
7	Bay 0: 8x 1/10G SFP+
8	Label Tray

Table 3. Technical specifications

	Cisco Secure Router C8550-G2	Cisco Secure Router C8570-G2
Interfaces		
WAN Ports	12x 1/10GE (SFP+)	12x 1/10GE (SFP+) 2x 40GE (QSFP+) 2x 40/100GE (QSFP28) Note: max 240GE ports can be enabled simultaneously
WAN Mac	Supported in all built-in ports	Supported in all built-in ports
Management Port	1x RJ-45 OOB Management 1x RJ-45 / 1x Micro-USB	1x RJ-45 OOB Management 1x RJ-45 / 1x Micro-USB
Memory and Storage		
DRAM	32 GB (default) 64 GB	32 GB (default) 64 GB
Storage	480 GB (default)	480 GB (default)
Power Supply	750 W AC 950 W AC	750 W AC 950 W AC
Throughput		
Forwarding (512B)	Up to 115 Gbps	Up to 190 Gbps
IPsec (512B)	Up to 48 Gbps	Up to 63 Gbps
SD-WAN* (512B)	Up to 19 Gbps	Up to 21 Gbps

	Cisco Secure Router C8550-G2	Cisco Secure Router C8570-G2
Scale		
IPv4/IPv6 routes	8M	8M
IPsec tunnels	10,000	10,000
IPv4 ACLs	4K	4K
IPv4 ACEs	380K	380K
NAT Sessions	16M	16M
VRFs	8K	8K

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

Table 4. Physical specifications

	Cisco Secure Router C8550-G2	Cisco Secure Router C8570-G2
Dimensions (H x W x D)	1.73 in. x 17.50 in. x 18.46 in.	1.73 in. x 17.50 in. x18.46 in.
Rack units (RU)	1 RU	1 RU
Chassis weight with 2x AC power supplies and fan tray	20.6 lbs	21 lbs
Operating temperature	32°F to 104°F	32°F to 104°F
Storage temperature	-40°F to 150°F	-40°F to 150°F
Relative humidity	Operating: 10 to 85% Non-operating and storage: 5 to 95%	Operating: 10 to 85% Non-operating and storage: 5 to 95%
NEBS criteria levels	GR-1089 and GR-63	GR-1089 and GR-63
Altitude	-500 to 10,000 feet (-152 to 3048 meters)	-500 to 10,000 feet (-152 to 3048 meters)

Software management

Software

The minimum Cisco IOS XE release versions for the Cisco 8500 Series Secure Routers are listed below:

	Device OS	Cisco Catalyst SD-WAN Manager
Cisco C8550-G2	Starting IOS XE 17.15.4	Starting SD-WAN Release 20.15.4
Cisco C8570-G2	Starting IOS XE 17.15.4	Starting SD-WAN Release 20.15.4

Ordering information

For a detailed overview of the ordering process, please visit the Cisco 8500 Series Secure Routers Ordering Guide

Warranty

Cisco 8500 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 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 5. Sustainability references

Sustainability topic		Description
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 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.
Ecolabels	ENERGY STAR	Cisco 8500 Series Secure Routers are ENERGY STAR certified and meet energy-efficiency specifications set by the U.S. Environmental Protection Agency (EPA), helping customers save energy and money while helping to protect the environment, improve air quality, and protect public health.
	80 PLUS Platinum/ Titanium Certified Power Supply Units	Cisco 8500 Series Secure Routers support high-efficiency power supply units. 80 PLUS Platinum Certified PSUs offer up to 94% efficiency at 50% load and titanium PSUs reaching up to 96% efficiency at 50% load at 230V input.

Sustainability topic		Description
Materials, modularity, and reuse	Hardware standardization and modularity	Cisco 8500 Series Secure Routers uses standard subassemblies and common components across products to streamline production and enhance repairability and upgradability.
	Simplified architecture	Cisco 8500 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.
Materials, modularity, and reuse	Powder-coat finish	Cisco 8500 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 8500 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 8500 Series Secure Routers is 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

This section below lists the safety and compliance information for the Cisco 8500 Series Secure Routers chassis.

Safety and certifications	EMI and EMC compliance
• UL 60950-1 • CAN/CSA-C22.2 No. 60950-1 • EN 60950-1 • IEC 60950-1 • AS/NZS 60950-1 • GB4943	• 47 CFR Part 15 Class A • ICES 003 Class A • AS/NZS CISPR 32 Class A • CISPR 22/CISPR 32 Class A • EN55022/EN55032 Class A • VCCI Class A • KN32 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 • KN35

Safety and certifications	EMI and EMC compliance
	• EN300 386: Telecommunications Network Equipment (EMC) • EN55022: Information Technology Equipment (Emissions) • EN55032: Multimedia Equipment (Emissions) • EN55024: Information Technology Equipment (Immunity) • EN55035: Multimedia Equipment (Immunity) • EN50082-1/EN-61000-6-1: Generic Immunity Standard

Document History

New or revised topic	Described in	Date
Document created	Datasheet	June 10, 2025
Document updated	Datasheet	September 19, 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