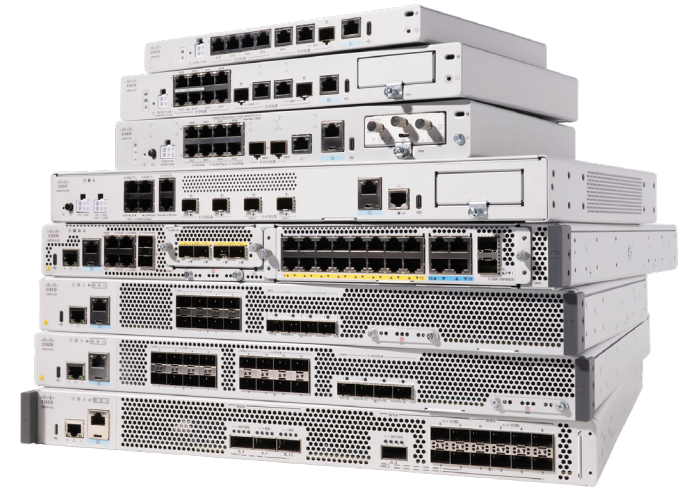


# Cisco 8000 Series Secure Routers



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## Overview

The Cisco® 8000 Series Secure Routers deliver the industry's most complete secure networking experience, combining cutting-edge security, routing, assurance, and SD-WAN capabilities into a unified platform. Designed for diverse use cases—from branches and campuses to data centers—these secure routers empower businesses to adapt dynamically to evolving demands. Featuring the all-new secure networking processor, the customized silicon is built for high-bandwidth AI/ML workloads while reducing power consumption and operational costs. The Cisco 8000 Series provides the foundation for resilient networks that scale with your business needs.



# Cisco 8000 Series Secure Router Family FAQ

## Q: What are the Cisco 8000 Series Secure Routers?

A: The Cisco 8000 Series Secure Routers offer a comprehensive range of solutions for modern network architectures. From small branches to large enterprises, these platforms provide advanced security, SD-WAN capabilities, and high-performance routing to meet diverse business needs.

## Q: What is the relative positioning among the various series within the portfolio?

A: Refer to the table below. See the Router Selector for more details on model selection.

Table 1. Cisco 8000 Secure Router family positioning

Platform	Positioning	Performance
Cisco 8100 Series Secure Routers	Small branch: Flexible 1GE LAN/WAN secure connectivity including 5G options	IPsec: Up to 1.5 Gbps (512B) Threat protection: Up to 1 Gbps (EMIX)
Cisco 8200 Series Secure Routers	Medium-sized branch: Lead series for midsize organizations, with 1GE, 2.5GE, and 10GE LAN/WAN secure connectivity along with cellular backup options	IPsec: Up to 5 Gbps (512B) Threat protection: Up to 2.4 Gbps (EMIX)
Cisco 8300 Series Secure Routers	Large branch: Purpose-built for integrated edge computing and 1GE, 2.5GE, 5GE, and 10GE LAN/WAN secure connectivity with additional expandability	IPsec: Up to 30 Gbps (512B) Threat protection: Up to 7 Gbps (EMIX)
Cisco 8400 Series Secure Routers	Campus: High-performance 1GE, 10GE, and 25GE secure connectivity for WAN aggregation	IPsec: Up to 45 Gbps (512B) Threat protection: Up to 10.9 Gbps (EMIX)
Cisco 8500 Series Secure Routers	Data center: Highest-performance 1GE, 10GE, 40GE, and 100GE secure connectivity for data center hub access	IPsec: Up to 63 Gbps (512B) IPsec tunnels: 10,000

**Q: What security solutions are offered with the Cisco 8000 Series Secure Routers?****A:****1. Threat Detection, Prevention, and Response**

Features designed to detect, prevent, and respond to security threats in real-time.

Features:

- Intrusion Protection and Detection (IPS/IDS)
- Advanced Malware Protection (AMP)
- Anomaly detection and machine learning

**2. Network Perimeter Security**

Features that safeguard the network's edge and control external access.

Features:

- Enterprise Firewall with Application Awareness
- Zone-based firewall
- Network Address Translation (NAT)
- Secure Access Service Edge (SASE) integration

**3. Web and DNS Security**

Features that protect users and devices from web-based and DNS-layer threats.

Features:

- URL filtering
- DNS web-layer security agent
- SSL proxy

**4. Identity and Access Control**

Features that enforce secure access to the network, administrative interfaces, or resources.

Features:

- Cisco TrustSec®
- Identity-based networking (802.1X)
- Role-based Command-Line Interface (CLI) access
- Access Control Lists (ACLs)
- Authentication and integrity verification

**5. Routing and Traffic Security**

Features that ensure secure routing, traffic isolation, and mitigation of malicious traffic.

Features:

- Virtual Route Forwarding (VRF)-aware security
- Source-based Remotely Triggered Black Hole (RTBH) filtering
- Unicast Reverse Path Forwarding (RPF)

**6. Infrastructure and Control Plane Protection**

Features that protect the control plane and administrative access to devices.

Features:

- Control Plane Protection (CoPP)
- Secure Shell (SSH) v2
- Management plane protections

**7. Device and System Security**

Features that ensure the integrity, security, and reliability of hardware and software.

Features:

- Secure Boot with signed images and hardware anchoring with Secure Unique Device Identity (SUDI)
- Secure storage
- Run-time defenses
- Recovery mechanisms



**Q: What is the minimum Cisco IOS® XE Software release for the Cisco 8000 Series Secure Routers?**

A: The Cisco 8000 Series Secure Routers run Cisco IOS XE Software, which supports routing and SD-WAN. The minimum IOS XE Software versions are listed in the table below.

Table 2. Minimum Cisco IOS XE releases

Model	Minimum IOS XE Software version
C8570-G2, C8550-G2, C8475-G2, C8455-G2, C8375-E-G2	IOS XE 17.15.3
C8355-G2, C8235-G2, C8231-G2, C8161-G2, C8151-G2, C8140-G2, C8130-G2	IOS XE 17.18.1

**Note:** C8130-G2 and C8140-G2 will support routing mode only

**Q: Which Cisco 8000 Series Secure Routers support ThousandEyes®?**

A: ThousandEyes is supported on all platforms except models C8130-G2 and C8140-G2.

**Q: What configuration, management, and monitoring options are available for the Cisco 8000 Series Secure Routers?**

A: The Cisco 8000 Series Secure Routers can be managed and/or monitored via

- Cisco Catalyst™ SD-WAN Manager
- Cisco Catalyst Center
- Simple Network Management Protocol (SNMP)
- Onboard Cisco IOS XE Software WebUI

- NETCONF, RESTCONF, and YANG models
- CLI

**Q: What are the software and licensing options for the Cisco 8000 Series Secure Routers?**

A: There are two distinct licensing and subscription options for routing or SD-WAN deployments.

The routing licensing options include:

- Routing Essentials (perpetual and included with hardware purchase)
- Routing Advantage subscription

SD-WAN requires a flexible 12- to 84-month term under the Cisco Network Subscription with the following benefits:

- **Platform-class licensing:** Each platform class is categorized as Small, Medium, Large, or Extra Large based on the throughput, performance, and positioning characteristics of the underlying hardware platforms.
- **Elimination of bandwidth tiering:** Licenses for the next-generation hardware will not be segmented by bandwidth tiers.
- **License portability:** Platform-class licenses will be transferable between all hardware models within the same class, offering greater flexibility.
- **Management:** Licenses can be managed via Catalyst Center, SD-WAN Manager, or Meraki dashboard (WAN only).

All SD-WAN license entitlements are subscription-based, with two tiers available: Cisco WAN Essentials and Cisco WAN Advantage.

For additional licensing details and capabilities, please visit the [Cisco WAN and Routing Licensing Feature Matrix](#).

## Cisco 8100 Series Secure Routers FAQ

### **Q: What are the different models within the Cisco 8100 Series?**

A: The Cisco 8100 Series Secure Routers consists of the following models: C8130-G2, C8140-G2, C8151-G2, and C8161-G2. The models have various combinations of WAN interfaces, cellular, Power over Ethernet (PoE) and security options.

### **Q: What is the size of the DRAM and flash on the Cisco 8100 Series Secure Routers?**

A: The C8130-G2 and C8140-G2 come with 4-GB DRAM, while the C8151-G2 and C8161-G2 come with 8-GB DRAM. All the Cisco 8100 Series platforms offer 16-GB flash storage.

### **Q: Can I upgrade the DRAM and flash?**

A: No. Neither the DRAM nor the flash are upgradable.

### **Q: Is the Cisco 8100 Series fanless?**

A: Yes, the Cisco 8100 Series Secure Routers are fanless.

### **Q: Is the Cisco 8100 Series PoE and PoE+ capable?**

A: Yes, the C8161-G2 supports either 4 Power over Ethernet (PoE) ports or 2 PoE+ ports.

### **Q: What power supplies are used on the Cisco 8100 Series?**

A: The C8130-G2 can be powered by a 30W or 66W AC power supply. The C8140-G2 and C8151-G2 require a 66W AC PSU. The C8161-G2 requires a 150W AC PSU.

### **Q: Does the Cisco 8100 Series support an external power supply?**

A: All power supplies are external.

### **Q: Does the Cisco 8100 Series support a DC power supply?**

A: All power supplies are AC-DC. No DC-DC power supplies are supported.

### **Q: Does the Cisco 8100 Series have a power button?**

A: No. There is no power button on the Cisco 8100 Series Secure Routers.

### **Q: How many GE WAN ports are available with the Cisco 8100 Series?**

A: The C8130-G2 comes with 1x RJ-45 1GE WAN plus 1x RJ-45/SFP 1GE WAN combo port only. The C8140-G2, C8151-G2, and C8161-G2 come with 2x RJ-45/SFP 1GE WAN ports.

### **Q: What are the different mounting options for the Cisco 8100 Series?**

A: The Cisco 8100 Series platforms can be rack, wall, or desk mounted or placed on a desktop. When mounting two Cisco 8100 Series routers in a rack, you must leave at least 1RU (1.75 inches, 4.45 cm) of space between the devices for proper ventilation and cooling. This helps ensure that the equipment operates efficiently and reduces the risk of overheating.

### **Q: Does the Cisco 8100 Series have feature parity with the ISR 1000 Series?**

A: Yes, the Cisco 8100 Series has software feature parity with the Cisco 1000 Series Integrated Services Routers (ISR 1000 Series).

### **Q: What VPN technologies are supported on the Cisco 8100 Series?**

A: The Cisco 8100 Series supports the following VPN technologies: FlexVPN, Dynamic Multipoint VPN (DMVPN), Group Encrypted Transport VPN (GETVPN), Site-to-Site VPN and MPLS VPN

**Q: Do the Cisco 8100 Secure Routers support redundant power supplies?**

A: Yes. The Cisco 8100 Series support redundant power supplies, which can be purchased separately.

**Q: Which Cisco 8100 Series platforms support cellular?**

A: Cellular Pluggable Interface Modules (PIMs) are supported only on the C8151-G2 and C8161-G2 models.

**Q: What are the different Cellular options supported?**

A: The Cisco 8100 Series Secure Routers support 5G standalone and CAT 7 LTE pluggable options.

**Q: Do the Cisco 8100 Secure Routers support dual SIMs?**

A: Yes. The PIM module supports dual SIMs in active-standby mode.

**Q: Do the Cisco 8100 Secure Routers support eSIM technology?**

A: Yes, eSIM is supported.

**Q: Can the Cisco 8100 Series fall back to 4G?**

A: Yes, the Cisco 8100 Series supports 4G as well, and can fall back from 5G to 4G/LTE.

## Cisco 8200 and 8300 Series Secure Routers FAQ

**Q: What are the models within the Cisco 8300 and 8200 Series?**

A: The Cisco 8300 and 8200 Secure Routers include the following models:

- C8375-E-G2: Cisco 8300 Series with 1x Service Module (SM), 1x Network Interface Module (NIM) slot, 1x Pluggable Interface Module (PIM) slot, 2x 1GE/10GE Small-Form-Factor Pluggable (SFP) ports, and 4x Multigigabit Ethernet (2.5GE) RJ-45 WAN ports, with Cisco UPOE®+ support on the last 2 ports
- C8355-G2: Cisco 8300 Series with 1x PIM slot, 4x 1GE/10GE SFP ports, 4x Multigigabit Ethernet (5GE) RJ-45 ports, and 2x 1GE RJ-45 ports, with UPOE+ support on all 4 Multigigabit ports
- C8235-G2: Cisco 8200 Series with 1x PIM slot, 2x 1GE/10GE SFP ports, and 8x Multigigabit Ethernet (2.5GE) RJ-45 ports, with UPOE+ support on ports 6-7 and PoE support on ports 4-5
- C8231-G2: Cisco 8200 Series with 2x 1GE/10GE WAN SFP ports, 4x Multigigabit Ethernet (2.5GE) RJ-45 ports with PoE+ support on port 7, and 4x 1GE RJ-45 copper ports

**Q: What are the key differences between the Catalyst 8300 and 8200 Edge Platforms and the Cisco 8300 and 8200 Secure Routers?**

A: The Cisco 8300 and 8200 Series Secure Routers are the next generation of secure WAN appliances, offering the following key benefits:

- Higher IPsec performance and scale
- Higher Cisco Express Forwarding performance
- Higher built-in WAN port density
- Improved backplane connectivity with high-speed connections
- Fixed and modular DRAM options
- 256-bit WAN MACsec on all front-panel ports
- 128-bit LAN MACsec on select models
- Embedded Layer 2 ports on select models

**Q: What are the key capabilities of the Cisco 8300 and 8200 Series Secure Routers?**

A: The Cisco 8300 and 8200 Series Secure Routers offer:

- SD-WAN and SD-Routing capabilities
- Support for Kernel-based Virtual Machine (KVM) containers, providing support for integrated applications

- Support for applications including Snort® IDS/IPS, URL filtering, advanced malware protection, Cisco Secure Malware Analytics (formerly Threat Grid), SSL proxy, and TCP optimization
- Open API programmability using NETCONF and YANG
- Zero-Touch Provisioning (ZTP)
- Multiple options for WAN, LAN, voice, storage, and edge computing (Cisco UCS® E-Series) modules on the Cisco 8300 Series
- Multiple options for WAN, LAN, and cellular on the Cisco 8200 Series
- Support for border node and control plane node functionalities in Cisco Software-Defined Access (SD-Access)
- Application Quality of Experience (AppQoE), TCP optimization, Data Redundancy Elimination (DRE), Forward Error Correction (FEC), and packet duplication
- Comprehensive options for wireless WAN through LTE Cat7 and 5G

**Q: Will the Cisco 8300 Series Secure Routers provide 100% module parity with the previous generation of platforms?**

**A:** The figure below shows the list of validated modules on the Cisco 8300 Series.

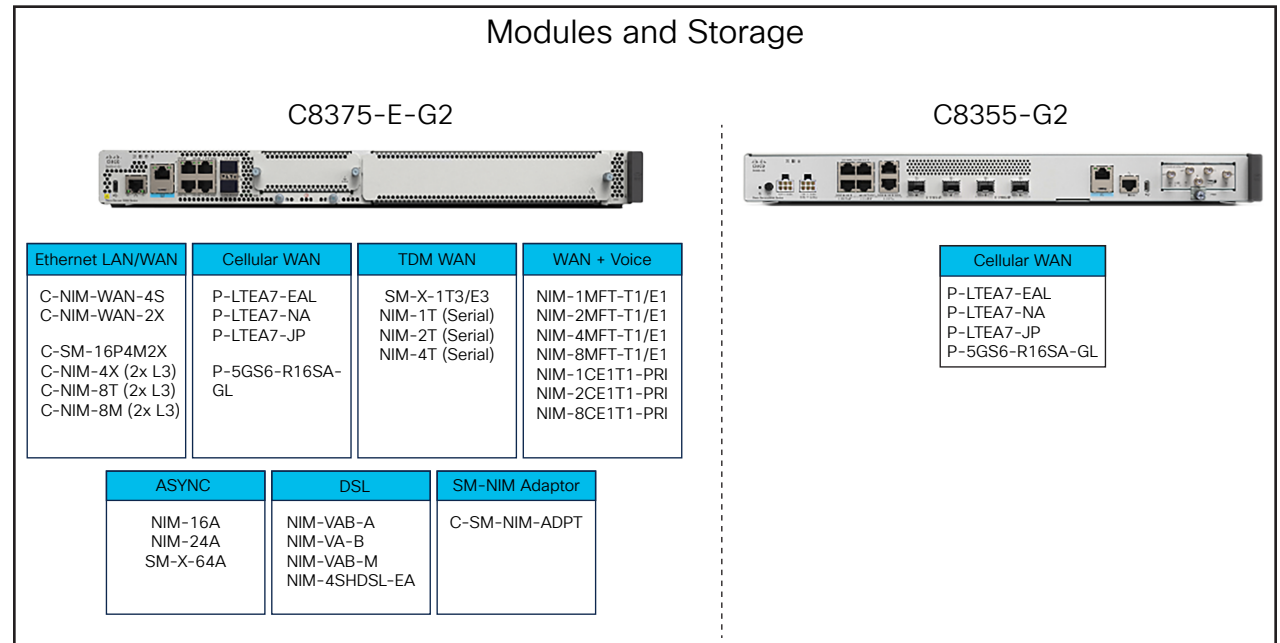


Figure 1. Validated modules on the Cisco 8300 Series Secure Routers

**Q: What are the available onboard Ethernet WAN port options on the Cisco 8300 and 8200 Secure Routers?**

A: The onboard Ethernet WAN port options are outlined in the table below.

Table 3. Onboard Ethernet WAN port options on the Cisco 8300 and 8200 Series Secure Routers

Platform	Gigabit Ethernet SFP	Multigigabit Ethernet RJ-45	Gigabit Ethernet RJ-45
<b>C8375-E-G2</b>	2	4	–
<b>C8355-G2</b>	4	4	2
<b>C8235-G2</b>	2	8	–
<b>C8231-G2</b>	2	4	4

**Q: What are the SM and NIM hardware configuration options on the Cisco 8300 and 8200 Series Secure Routers?**

A: The NIM and SM hardware configuration options are shown in the table below.

Table 4. NIM and SM configuration options on the Cisco 8300 and 8200 Series Secure Routers

Platform	SM	NIM	PIM
<b>C8375-E-G2</b>	1	1	1
<b>C8355-G2</b>	0	0	1
<b>C8235-G2</b>	0	0	1
<b>C8231-G2</b>	0	0	0

**Q: What are the different memory configuration options on the Cisco 8300 and 8200 Secure Routers?**

A: Memory configuration options are shown in the table below.

Table 5. Memory configuration options on the Cisco 8300 and 8200 Series Secure Routers

Platform	Total default DRAM	Memory upgrade options
<b>C8375-E-G2</b>	16 GB	32 GB
<b>C8355-G2</b>	16 GB	–
<b>C8235-G2</b>	16 GB soldered	–
<b>C8231-G2</b>	8 GB soldered	–

**Note:** For the C8375-E-G2, a single Dual Inline Memory Module (DIMM) configuration is supported. The upgrade options available are 1x 32 GB.

**Q: Is Online Insertion and Removal (OIR) supported on the Cisco 8300 and 8200 Secure Routers?**

A: Yes, OIR is supported on the Cisco 8300 and 8200 Secure Routers for the following scenarios:

- Unexpected insertion or removal of any NIM in any of the NIM slots.
- Unexpected insertion or removal of any SM in the SM slots.
- Unexpected insertion or removal of a PIM cellular 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 fans inside the fan tray.



**Q: Do the Cisco 8300 and 8200 Secure Routers support redundant power supplies?**

A: Yes. The Cisco 8300 and 8200 Series support redundant power supplies.

**Q: What are the power supply options for the Cisco 8300 and 8200 Secure Routers?**

A: The available power supply options are detailed in the following table.

Table 6. Power supply options for the Cisco 8300 and 8200 Series Secure Routers

Platform	Type of PSU	Dual AC	Dual DC	PoE AC PSU
C8375-E-G2	Internal	Yes	Yes	Yes
C8355-G2	External	Yes	No	Yes
C8235-G2	External	Yes	No	Yes
C8231-G2	External	Yes	No	Yes

**Q: What front-panel ports are PoE-capable on the Cisco 8300 and 8200 Secure Routers?**

A: The table below outlines the PoE-capable ports in the Cisco 8300 and 8200 Secure Routers.

Table 7. PoE-capable ports on the Cisco 8300 and 8200 Series Secure Routers

Platform	Front-panel ports
C8375-E-G2	Ports 2-3 UPOE+)
C8355-G2	Ports 0-3 (UPOE+)
C8235-G2	Ports 4-5 (PoE), 6-7 (UPOE+)
C8231-G2	Port 7 (PoE+)

**Q: Are SSDs supported on the Cisco 8300 and 8200 Secure Routers?**

A: 600-GB and 2-TB M.2 NVMe SSDs are supported on the Cisco 8300 Series for container-based application hosting services and for general storage purposes. SSDs are not supported on the Cisco 8200 Series.

**Q: Do the front-panel ports on the Cisco 8300 and 8200 Secure Routers have Layer 2, Layer 3, or flex capability?**

A: The front-panel ports on the Cisco 8300 and 8200 Secure Routers provide various connectivity options as listed in the table below.

Table 8. Connectivity options on the front-panel ports of the Cisco 8300 and 8200 Series Secure Routers

Platform	WAN Ports	Flex Ports	LAN Ports
C8375-E-G2	2 x 10G SFP/SFP+ 4 x 2.5G mGig RJ45 (2x UPOE+)	-	-
C8355-G2	2 x 10G SFP/SFP+ 2 x 5G mGig RJ45 (2x UPOE+)	2 x 5G mGig RJ45 (2x UPOE+) 2 x 1G RJ45	2 x 10G SFP/SFP+
C8235-G2	10G SFP/SFP+ 2 x 2.5G mGig RJ45 (2x UPOE+)	2 x 2.5G mGig RJ45 (1x PoE+)	4 x 2.5G mGig RJ45
C8231-G2	2 x 10G SFP/SFP+ 2 x 2.5G mGig RJ45 (1x PoE+)	2 x 2.5G mGig RJ45	4 x 1G RJ45

**Q: What Cellular WAN options are available?**

A: The CAT7 LTE is supported on the Cisco 8300 and 8200 Series Secure Routers in the PIM slot. In addition, these platforms support Cisco Cellular Gateways, providing deployment flexibility.

**Q: Do the Cisco 8300 and 8200 Secure Routers support dual SIMs?**

A: Yes. The PIM module supports dual SIMs in active-standby mode.

**Q: Do the Cisco 8300 and 8200 Secure Routers support eSIM technology?**

A: Yes, eSIM is supported.

**Q: What broadband technologies are supported on the Cisco 8300 Series?**

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

**Q: Do the Cisco 8300 and 8200 Secure Routers have feature parity with previous generations of Catalyst 8300 and 8200 Series Edge Platforms?**

A: Yes. Cisco 8300 and 8200 Series Secure Routers have feature parity with the Catalyst 8300 and 8200 Series Edge Platforms.

## Cisco 8400 and 8500 Series Secure Routers FAQ

**Q: What are the Cisco 8400 and 8500 Series Secure Routers?**

A: The Cisco 8400 Series Secure Routers are designed as campus edge routers to address the transition from 10 Gigabit Ethernet to 25 Gigabit Ethernet at the WAN. These routers are powered by an all-new Secure Network Processor (SNP) to accelerate routing, encryption, and threat protection in a compact 1RU form factor.

The Cisco 8500 Series Secure Routers are designed as enterprise aggregation routers for data center or colocation deployments. These routers are powered by the 3rd generation Quantum Flow Processor (QFP) ASIC to accelerate routing and encryption in a compact 1RU form factor,

**Q: What are the different models of the Cisco 8400 Series Secure Router platforms?**

A: The Cisco 8400 Series Secure Routers have the following two models:

- C8455-G2: 8x 1GE + 2x 1GE/10GE + 2x 10GE/25GE
- C8475-G2: 8x 1GE + 8x 1GE/10GE + 4x 10GE/25GE

**Q: What are the different models of the Cisco 8500 Series Secure Router platforms?**

A: The Cisco 8500 Series Secure Routers have two models:

- C8550-G2: 12x 1GE/10GE
- C8570-G2: 12x 1GE/10GE + 2x 40GE + 2x 40GE/100GE (max 240GE total)

**Q: What parts are field-replaceable on the Cisco 8400 and 8500 Secure Routers?**

A: See the table below. The fan tray can be replaced, but it is not hot-swappable.

Table 9. Field-replaceable and hot-swappable parts on the Cisco 8400 and 8500 Series Secure Routers

Part	Field-Replaceable Unit (FRU)	Hot-swappable (OIR)
DRAM	Yes	No
M.2 storage	Yes	No
Fan tray	Yes	No
Power supplies	Yes	Yes

**Q: Are there redundant power supplies in the Cisco 8400 and 8500 Secure Routers?**

A: Yes, redundant power supplies are included by default.

**Q: What VPN technologies are supported on the Cisco 8400 and 8500 Secure Routers?**

A: The Cisco 8400 and 8500 Secure Routers support VPN technologies including FlexVPN, DMVPN, and GETVPN.

**Q: Is MACsec supported on the Cisco 8400 and 8500 Secure Routers?**

A: Yes, WAN and LAN MACsec are supported on all built-in ports of the Cisco 8400 and 8500 Series Secure Routers.

**Q: Are Threat Protection, Advanced Malware Protection, and URL Filtering supported on the Cisco 8400 and 8500 Series Secure Routers?**

A: Threat Protection, Advanced Malware Protection, and URL Filtering are all supported on the Cisco 8400 Series. It is not supported on the Cisco 8500 Series.

**Q: Is broadband aggregation (Broadband Network Gateway [BNG]/L2TP Access Concentrator [LAC], L2TP Network Server [LNS], Intelligent Wireless Access Gateway [iWAG]) supported on the Cisco 8400 and 8500 Series Secure Routers?**

A: Broadband aggregation is supported on the Cisco 8500 Series. Broadband aggregation is not supported on the Cisco 8400 Series.

**Q: Do the Cisco 8400 and 8500 Secure Routers have feature parity with the Catalyst 8500 Series Routers?**

A: The Cisco 8400 Series have feature parity Catalyst 8500L, While the Cisco 8500 Series have feature parity with Catalyst 8500.

**Q: Are the Cisco 8400 and 8500 Secure Routers ENERGY STAR certified?**

A: Yes, all Cisco 8400 and 8500 Secure Routers are ENERGY STAR certified.