avaya.com

Avaya Secure Router 8000 Series

A powerful family of enterprise core routers built to deliver resilient, high-speed, end-to-end transport of converged network traffic. The Avaya Secure Router 8000 Series combines feature-rich IP routing, flexible high-speed wide area networking (WAN) and carrier-class reliability and is an ideal core and edge WAN routing solution for enterprises and service providers.

The Avaya Secure Router 8000 Series is a highly scalable yet flexible routing solution. Consisting of four models — the Secure Router 8002, 8004, 8008 and 8012 — it can address a range of deployment scenarios, including enterprise core routing, branch office aggregation (WAN and VPN) and high-speed Internet routing. All models offer the high-performance, advanced routing services, resiliency and traffic management services required for today's converged voice/data networks.

With packet processing of up to 24 million packets per second and a 40 Gig backplane architecture, the 8000 Series is equipped to handle both enterprise data center and service provider edge routing environments. Flexible support for high-speed (OC-3/STM-1, POS and ATM) and high-density WAN interfaces (up to 96 T1/E1) also makes the 8000 Series well suited for companies needing to connect large numbers of remote sites and users — all without sacrificing the reliability and traffic management required by demanding converged voice/data applications.

Key features

High-performance advanced IPv4 and IPv6 routing

Secure Router 8000 robust routing services include a full IPv4 and IPv6 protocol set, including OSPFv2/3, RIPv1/v2, BGP-4 and multicast capabilities. A full-function IPv6 implementation also allows deployment in environments requiring extended IP addressing with the same routing services — all without any additional system memory requirements. All models deliver resilient high-performance routing with support for up to 600k route capacity and a full Internet route table.

High availability and resiliency

The Secure Router 8000 Series provides highly resilient IPv4 and IPv6 routing services, with multiple redundant hardware components, non-stop forwarding and graceful restart capabilities. The Secure Router 8012 further supports multiple redundant processors and provides sub-second fail-over services — a key requirement for core IP and data center routing environments.

MPLS VPN support

In addition, the family provides comprehensive Layer 2 and Layer 3 MPLS VPN capabilities. This enables enterprises to support MPLS/IP VPN traffic management within a WAN routing platform. With the ability to support up to 255 virtual routers, the Secure Router 8000 can, for example, create multiple Layer 3 virtual routing domains for separate divisions or locations within an enterprise.

Highly optimized Quality of Service (QoS)

The Secure Router 8000 Series' highly optimized QoS design handles the demands of converged voice and data applications through an integrated Layer 2 and Layer 3 QoS architecture. State-of-the-art Differentiated Services (DiffServ) capabilities provide packet classification, metering, policing, coloring, re-marking, queuing and shaping capabilities. Offering the highest granularity of priorities, the Secure Router 8000 Series delivers maximum performance and low latency for voice, video and other high-priority traffic — while guaranteeing bandwidth among all classes.

Additionally, Layer 2 to Layer 4 traffic classification and Classed Based Queuing can be used for granular definition of service classes. These classes can be defined to match any communication service levels required for Layer 2 to Layer 4 networks.

Delivering multi-gigabit performance, the Secure Router 8000 has the processing power needed to ensure reliable, efficient traffic handling while maintaining critical services under even the most severe loads.

Secure Router 8012

Integrated security

The Secure Router 8000 Series combines secure device access with secure networking services to ensure business continuity and to protect enterprises' valuable business assets. The Secure Router 8000 Series offers:

- Site-to-site VPN services for scalable, resilient branch office VPN applications
- Full-featured packet filtering (i.e., Access Control Lists)
- Fully-featured Network Address Translation (NAT)

Key features at a glance

- High-performance advanced IPv4 and IPv6 routing
- High availability and resiliency
- Enterprise WAN edge aggregation
- IPSec VPN and security services
- MPLS VPN services
- Voice/data convergence support

Secure Router 8000 Series Product Matrix

	SR 8002	SR 8004	SR 8008	SR 8012
Number of Chassis Slots	4	6	10	12
Chassis Height	3U	3U	5U	6U
Maximum Interface Cards	2	4	8	8
Max. Flexible Interface Cards (FICs)	2	4	8	8
Max. High Speed Interface Cards (HICs)	2	3	3	6
Network Processor Units	1	1	1	2
Router Processor Units	1	1	1	2
Fixed 10/100 Ethernet Ports in Chassis	2	2	2	2
10/100M Ethernet Ports	16	24	24	64
1000M (GigE) Ethernet Ports	4	6	6	12
ATM (OC-3, STM-1) Ports	4	6	6	24
Unchannelized POS Ports (OC-3)	8	12	12	24
Channelized POS (T1/E1) (OC-3)	2	4	8	8
E3 (Channelized or ATM) Ports	2	4	8	8
HSSI Ports	4	8	16	16
Synchronous Serial Ports	8	16	32	32
Multi-channel T1/E1 ports	16	32	64	96
VPN Acceleration Module	1	1	1	1
Power Supplies	2 (1+1)	2 (1+1)	2 (1+1)	2 (1+1)

Secure Router 8000 Series Family

Secure Router 8002 | Secure Router 8012 | Secure Router 8008 | Secure Router 8004

Management solutions

The 8000 Series offers advanced graphical management and industry-standard Command Line Interface (CLI) tools to quickly deploy, operate and maintain the routers. Multi-level, role-based management access and extensive event logging and troubleshooting reduce operational costs while maximizing availability and performance across the enterprise network. The 8000 Series enables Secure Access via SSHv2 and IPSec VPNs, includes RADIUS and TACACS+ for user authentication and provides secure network management via SNMPv3.

Summary

The innovative Avaya Secure Router 8000 Series combines high-performance IP routing, integrated security and support for converged voice and data along with flexible wide area networking, to offer a new generation of secure wide area networking solutions for enterprise and provider networks.

Software Features:

Internet Routing:

- IPv4
- IPv6

Routing and Multicast

- OSPF
- RIPv1/v2
- BGP4
- Policy-based Routing
- IS-IS
- IGMPv1/2/3
- PIM-SM/SSM/DM
- MBGP

IP Address Management

- NAT (Symmetric and port restricted cone); NATPT
- DHCP Relay, Server, Client (PPPoE)
- Static

Secure Router 8000 Specifications

Platform Specifications:

	SR 8002	SR 8004	SR 8008	SR 8012
Height (H)	130.5 mm (5.2 in)	130.5 mm (5.2 in)	219.5 mm (8.6 in)	263.9 mm (10.4 in)
Width (W)	436.2 mm (17.2 in)	436.2 mm (17.2 in)	436.2 mm (17.2 in)	436.2 mm (17.2 in)
Depth (D)	420.0 mm (16.5 in)	420.0 mm (16.5 in)	420.0 mm (16.5 in)	480.0 mm (18.9 in)
Max. Config. Weight	15 Kg (33 lb)	17.5 Kg (38.5 lb)	27.5 Kg (60.5 lb)	32 Kg (70.4 lb)
Fixed Interfaces	1 AUX port 1 console port 2 10/100 BaseTX			1 AUX port 1 console port 1 10/100/1000Base-TX 2 100/1000M SFP
SDRAM	512 MB			1 GB
Flash	32 MB			64 MB
Packet Processing	Up to 6 Mpps	Up to 9 Mpps	Up to 9 Mpps	Up to 24 Mpps

Power:

	SR 8002	SR 8004	SR 8008	SR 8012
Power Options	Up to 2 AC or DC power supplies (1+1 redundancy)			
Input Voltage Rating	100 V AC to 240 V AC, 50/60 Hz -48 V DC to -60 V DC			
Max Power Consumption	180 Watts	200 Watts	220 Watts	320 Watts

Environmental

	SR 8002	SR 8004	SR 8008	SR 8012
Operating Temperature	0°C to 45°C (32°F to 113°F)			
Storage Temperature	-40°C to 70°C (-40°F to 158°)			
Relative Humidity	5% to 85% noncondensing (operating) 5% to 90% noncondensing (storage)			

Regulatory Compliance

	SR 8002	SR 8004	SR 8008	SR 8012
Safety	EN 60950-1, IEC 60950-1, UL 60950-1, CAN/CSA 22.2 No. 60950-1, AS/NZS 60950.1			
Emissions	EN 55022 Class A, IECS-003 Class A, FCC Part 15 Class A, AS/NZS CISPR 22 Class A, VCCI V-3 Class A , CNS 13438 Class A			
Immunity	CISPR 24, EN55024, IEC-1000, EN 61000-3-2, EN 61000-3-3			

MPLS
- Layer 2 VPN
- Layer 3 VPN (RFC 2547
- VPN Routing and Forwarding (VRF)
- LDP
- RSVP-TE
- Martini Pseudowire Edge-to-Edge (PWE3)
- MPLS Fast Reroute
- DiffServ-aware Traffic Engineering

WAN (Layer 2)
- Point-to-Point Protocol (PPP), including PPPoE, PPPoA, PPPoEoA
- Frame Relay, including FRF.9, NBMA, Direct Mode, Bridged Mode
- X.25
- ATM, including AAL5, IMA, PPP/AAL5, ATM COS–VBR-nrt/VBR-rt; ATM COS–CBR/UBR, UBR+/ABR; ILMI Version 4
- Packet over Sonet

Multilink WAN
- Multilink PPP (MLPPP); MCE-MLPPP (RFC 2686)
- Multilink Frame Relay (FRF.16)

WAN (Layer 1)
- V.35, V.24, T1, E1, T3, E3, ISDN PRI, POS, OC-3/STM-1

Ethernet LAN
- 10/100/1000 Base-TX
- 100/1000M Optical SFP
- VLAN

Quality of Service (QoS)
- DiffServ
- Priority queuing (strict and bandwidth allocation)
- Weighted Fair Queuing
- Queuing per interface or virtual circuit (FR/ATM)
- RED/WRED
- Traffic Shaping/Policing
- Class Based Queuing (CBQ)

Security
- Packet-based Firewall
- AAA, RADIUS, TACACS+
- IPsec VPN (DES, 3DES, AES 128-256)
- MD-5 and SHA-1 authentication
- GRE
- SNMPv3

High Availability
- Redundant router and network processors (SR 8012)
- VRRP
- IETF Graceful Restart
- Non-stop routing/forwarding
- Hot-swap cards
- Dynamic configuration update

System Management/Monitoring
- Command Line Interface
- Syslog
- Netflow
- SNMPv2 and SNMPv3
- RMON

Learn More

To learn more about Avaya solutions and products contact your Avaya Account Manager or Avaya Authorized Partner or visit us at: **www.avaya.com**.

About Avaya

Avaya is a global leader in enterprise communications systems. The company provides unified communications, contact centers, and related services directly and through its channel partners to leading businesses and organizations around the world. Enterprises of all sizes depend on Avaya for state-of-the-art communications that improve efficiency, collaboration, customer service and competitiveness. For more information please visit www.avaya.com.

AVAYA

INTELLIGENT COMMUNICATIONS

03/10 • DN5108

avaya.com