

## Avaya Secure Router 3120

The Avaya Secure Router 3120 is a powerful modular system that converges routing, security and multimedia traffic forwarding in a single cost-effective platform for enterprises. Delivering fast, secure, reliable and scalable wide area network (WAN) access, the Secure Router 3120 is perfect for enterprises requiring high-speed IP or Internet access. Based on a simple-to-scale architecture, the Secure Router 3120 provides consistent wire-speed throughput even with advanced services enabled.



Avaya Secure Router 3120

Features
<p><b>Robust routing</b></p> <ul style="list-style-type: none"> <li>• Low latency, high packet throughput ideal for VoIP and multimedia transport</li> <li>• Advanced BGP-4 and Multicast (PIM-SM, IGMPv3) services</li> <li>• Multi-homing</li> <li>• Reliable wire-speed forwarding</li> </ul>
<p><b>Integrated security</b></p> <ul style="list-style-type: none"> <li>• Stateful packet inspection firewall</li> <li>• VPN hardware acceleration and IPsec VPN services for secure voice/data transport</li> <li>• H.323 and SIP ALGs for VoIP support</li> </ul>
<p><b>Quality of Service (QoS)</b></p> <ul style="list-style-type: none"> <li>• Multi-level priority-based queuing (Layer 2 and Layer 3) to optimize voice, video and data</li> </ul>
<p><b>Simplified user architecture</b></p> <ul style="list-style-type: none"> <li>• Command Line Interface (CLI) scripting tools to quickly deploy and maintain the router</li> </ul>
<p><b>Modular, scalable design</b></p> <ul style="list-style-type: none"> <li>• 1RU, two-slot chassis provides flexibility and scalability for growth</li> </ul>
<p><b>Multi-link</b></p> <ul style="list-style-type: none"> <li>• Dynamic load balancing across multiple WAN connections</li> </ul>

The Secure Router 3120 combines high performance, robust routing and flexible WAN connectivity and is targeted at larger branch and regional enterprise environments. A rich suite of routing services and advanced WAN functionality makes the Secure Router 3120 ideal for high-speed Internet access, private line WAN connectivity, IP Telephony and multimedia, IPsec VPN, stateful firewall or data backup applications. Comprehensive, simple-to-use software tools enable sophisticated access and bandwidth management for dependable communications.

### Robust routing

The Secure Router 3120 robust routing services include full IP protocol set, including BGP-4 and multicast capabilities. An industry-leading BGP-4 implementation allows up to eight convergence peers, each with a full Internet routing table — all without any additional system memory requirements. BGP Multi-homing further provides high availability through multiple service connectivity. IP Multicasting, including

PIM-SM/SSM and IGMPv3 services, enables fast, cost-effective forwarding

of multimedia business and personal applications. The Secure Router 3120 routing services, in particular, are optimized to deliver the low-latency, high-packet throughput required by VoIP and multimedia applications.

### Integrated security

The Secure Router 3120 features powerful, fully-integrated security features, including VPN and firewall for increased reliability and user confidence. Capabilities include:

- Stateful packet firewall with SIP, H.323 and other Application Level Gateway (ALG) support
- Detects and prevents over 60 Distributed Denial of Service (DDoS) attacks
- VPN hardware acceleration for hub and spoke deployment over IPsec VPN tunnels
- IPsec VPN data encryption services with AES, 3DES, DES, SHA-1, MD-5 and Diffie-Hellman support
- Simplified management with Secure Router 3120 unique Guided GUI and CLI
- Customizable security zones

increase interface density without additional hardware costs, lower policy creation costs, contain unauthorized users and attacks, and simplify VPN management

## Advanced Quality of Service

Secure Router's highly advanced QoS support goes beyond Layer 3 flow-based QoS support by including Layer 2 class-based queuing. The highest granularity of priorities (eight levels) provides maximum performance and lowest latency for voice, video and other high-priority traffic while guaranteeing bandwidth among all classes. Both IP and VLAN flows may be identified and retagged to drastically reduce network re-provisioning time and effort.

## Multi-link capabilities

Avaya's Secure Router 3120 provides best-in-class MLPPP and MFR (FRF.16 and FRF.15) support to allow bonding of T1/E1, T3 and other WAN interfaces to create a single virtual interface capable of transmitting at the maximum bandwidth available. Multi-linking enables hassle-free bandwidth scalability, high-speed video, voice and data transfer while securing connectivity from individual link failures.

## Simple to install, simple to scale routers on a modular platform

The Secure Router 3120 provides advanced operational features while simplifying, or eliminating, time-consuming and confusing installation tasks. The Secure Router 3120 signature scalable design uses a two-slot chassis that allows it to accept a variety of medium modules to meet the dynamic demands of growing businesses. These

optional interface modules include four and eight-port T1/E1, two- and four-port Serial, and a one-port Clear Channel and Channelized DS3/T3. The Secure Router 3120 standard chassis interfaces include two Fast Ethernet ports, one console port, one AUX port, and one or two internal AC or DC power supplies.

## Management

- On Premise, Console and Command Line Interface; Telnet, Events, Syslog.
- Remote SSHv2 provides secure communication for configuration and maintenance.
- Central SNMP is popular, efficient and controllable, supported by virtually every enterprise network equipment manufacturer. Its centralized management uses UDP to deliver packets and is a quick method of transmitting data because of its inherent low overhead cost.

## Media modules for maximum flexibility

The Secure Router 3120 features a scalable, two-slot chassis that enables it to accept a variety of media modules to accommodate enterprise WAN connectivity needs. The Secure Router 3120 menu of interface modules includes four- and eight-port T1/E1; two- and four-port Serial and a one-port Clear Channel and Channelized DS3/T3. This design enables the 3120 to accommodate various WAN configurations, including low- and high-density T1/E1 applications, a mix of T1/E1 and serial interfaces or high-speed DS3 connections. Whether the focus is high-speed data transfer, wireless backhaul or toll-quality voice or video applications, the Secure Router 3120 platform can deliver the features and connectivity required.

## The Secure Router family of products simplifies your choices

The Secure Router 3120, with its modular design, high throughput and reliable performance, is complemented by Avaya's Secure Router 1000, 2330 and 4134 platforms. Deployed in combination with these Secure Router models, the 3120 can support data, voice and video transport to local or remote offices, wireless backhaul or any application needing a direct Internet connection. The Avaya Secure Router family is noted for its simplified management, superb scalability and an advanced, secure feature set.

## Optimized performance for voice, data and video applications

Avaya Secure Routers are dependable WAN access routers that may be deployed in a variety of configurations to maximize uptime with no single points of failure. Data, voice, video and other multimedia applications perform more smoothly without the latency, packet loss and jitter encountered with other products. Users enjoy clear, uninterrupted audio and video broadcasts.

## The easy choice for next-generation networks

The Secure Router 3120 modular design and simplified management make it the routing platform of choice for advanced scalability and performance.

## AVAYA SECURE ROUTER PRODUCT FAMILY HIGHLIGHTS

### Advanced security is not an option

Avaya Secure Routers include an extensive suite of advanced security features that include password, access control, network address translation (NAT), encryption, authentication, stateful firewall and virtual local area network (VLAN) tagging and forwarding protections. Built-in security provides protection from unauthorized access, improved data privacy and integrity, and fewer disruptions from attacks.

### IP Multicast technology built-in

All Secure Routers support powerful IP multicasting technology for fast, cost-effective delivery of multimedia business and personal applications. IP Multicasting is ideal for data delivery, IP Telephony, live TV programming, news feeds, multiplayer video games and stock ticker streaming. Using IP Multicasting, applications like Web conferencing, online chatting and multimedia conferencing are easy and cost-effective no matter the time or location. Network managers and service providers can quickly deploy services that let business and residential users take advantage of the same application simultaneously.

<p><b>SECURE ROUTER 3120 MODULAR OPTIONS</b></p>	 <p>DS3 Media Module    8-port T1/E1 Media Module    USB port    Compact flash port    Ethernet ports    Console port    AUX port</p>	
	<p><b>Standard 2-slot chassis</b> with 2 fast Ethernet ports, 1 console, 1 AUX and 1 AC power supply. Optional DC (3120-DC) and dual power (3120-DAC, 3120-DDC) available. AC/DC power configuration also available.</p>	<ul style="list-style-type: none"> <li>• Supports up to 16 T1/E1 WAN ports</li> <li>• Supports up to 8 serial ports</li> <li>• Supports up to two DS3 modules</li> <li>• Integrated firewall</li> <li>• Wire-speed performance</li> </ul>
	<p><b>4-port T1/E1 Media Module</b></p>	<ul style="list-style-type: none"> <li>• Integrated CSU/DSU</li> </ul>
	<p><b>8-port T1/E1 Media Module</b></p>	<ul style="list-style-type: none"> <li>• Integrated CSU/DSU</li> <li>• World's highest density 16xT1/E1 routers</li> </ul>
	<p><b>2-port Universal Serial Interface Media Module</b></p>	<ul style="list-style-type: none"> <li>• V.35, X.21, RS-232, RS-449, EIA-530/530A</li> <li>• DTE or DCE mode of operation</li> <li>• Up to 6 Mbps per port</li> </ul>
	<p><b>4-port Universal Serial Interface Media Module</b></p>	<ul style="list-style-type: none"> <li>• V.35, X.21, RS-232, RS-449, EIA-530/530A</li> <li>• DTE or DCE mode of operation</li> <li>• Up to 6 Mbps per port</li> </ul>
	<p><b>1-port Clear Channel DS3/T3 Media Module</b></p>	<ul style="list-style-type: none"> <li>• High-density 2-port DS3 routers in a 1 rackmount unit</li> </ul>
	<p><b>1-port Channelized DS3/T3 Media Module</b></p>	<ul style="list-style-type: none"> <li>• Up to 28 channelized DS1 (T1) circuits per module, for a total of 56 DS1 circuits per 3120</li> </ul>
	<p><b>VPN upgrade license</b></p>	<ul style="list-style-type: none"> <li>• 1000 VPN Tunnel support</li> </ul>

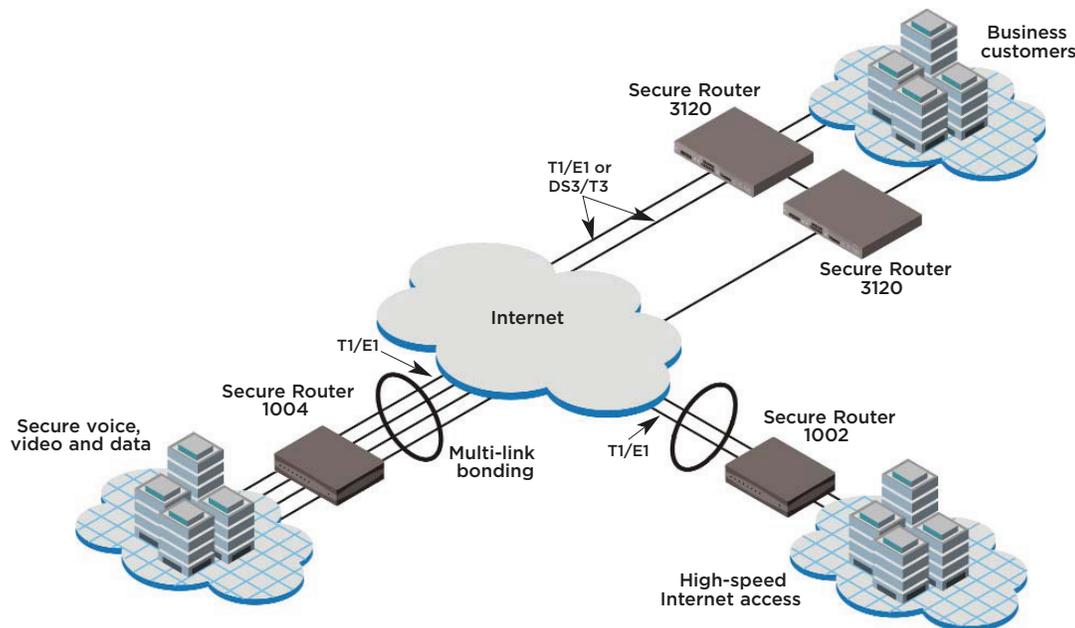


Figure 1. The Avaya Secure Router family includes fixed-configuration 1000 Series and modular 3120 platforms. All Secure Routers may be deployed in a variety of configurations to provide high-quality data, voice, video and multimedia performance with advanced security features, lower total cost of ownership, flexible deployment options and fast, reliable application delivery.



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## Secure Router 3120 technical specifications

### Software features

#### WAN

- Point-to-Point Protocol (PPP), including PPP over Ethernet (PPPoE)
- Frame Relay (including FRF.12 fragmentation)
- HDLC
- Bridge Control Protocol (BCP)

#### Multilink WAN support

- Multilink PPP (MLPPP)
- Multilink Frame Relay (MFR), including FRF.15 (end-to-end) and FRF.16 (UNI/NNI)
- Bonding of T1/E1, Serial or DS3 interfaces

#### LAN

- VLAN-802.1Q tagging and forwarding, double tagging for VLAN domain
- PPP over Ethernet (PPPoE)
- 802.1p, 802.1q

#### Layer 3

- Routing: static routing, RIP, OSPF, BGP4, ECMP
- High availability: VRRP, redundant router connections
- ACL, NAT, DHCP relay, GRE Tunneling, IP-IP for GRE

#### Quality of Service/traffic management

- RED, WRED, DiffServ, bandwidth guarantee/sharing, flow monitoring
- Traffic policing
- Eight-level Priority Class Based Queuing (per IP address/subnets, Ports, DSCP and ToS bits, VLAN ID (802.1q), VLAN Priority (802.1p)
- Frame Relay traffic shaping and policing

#### Firewall

- Stateful packet inspection firewall
- 25-zone support (including corporate, Internet, DMZ)
- Policy based NAT/PAT

- 60+ Distributed Denial of Service (DDoS) attack preventions
- 30+ ALG support (including H.323/SIP)
- Pass through, IPSec, L2TP, PPTP

#### VPN (license option)

- IPSec VPN, NAT-Traversal
- Site-to-site and remote access support
- DES, 3DES, AES, SHA1, MD5
- Embedded VPN acceleration module
- 1000 VPN tunnels

#### “VoIP-friendly” features

- Low-latency packet forwarding
- SIP ALG for NAT and Firewall
- Cone NAT (for Avaya Unistim protocol) with NAT hairpinning
- Frame Relay fragmentation (FRF.12)
- Compressed RTP (cRTP)

#### IP multicast

- IGMPv2, IGMPv3
- PIM-SM, PIM-SSM
- Multipath support

#### Service provisioning

- Management: Telnet, SSHv2, FTP/TFTP, SNMPv1, SNMPv2c, RADIUS, TACACS+, TCL Scripting
- Management UI: CLI and Graphical
- Monitoring: Syslog, statistics, alarm
- Diagnostics: BERT, loopback testing, trace route, packet capture (PCAP)

#### Physical specifications

- Form factor 1RU, 2 slot rack mountable chassis
- 1.75” H x 17.25” W x 15” D
- Weight 11 lbs

- Mounting Rack mount: 19 in or 23 in (optional)
- WAN 2 medium module slots
- Compact Flash 1 slot
- USB 1 slot
- LAN interface 2 Fast Ethernet
- Auxiliary, console ports RJ-45
- CPU speed 400 Mhz
- System Memory 256MB DDR

#### Power

- AC input current: 50-60 Hz 100-240V, 80 Watts
- DC output current: -40 to -60 VDC (-48VDC nominal)

#### Environmental

- Operating temperature: 32° to 104°F (0° to 40°C)
- Relative humidity: 0 to 95%

#### EMC

- FCC Class A digital device and compliance
- FCC Part 15 Class; CE Emissions, Immunity VCCI

#### Regulatory approvals

- Safety: UL/cUL 60950 2000; IEC 60950; EN 60950
- EMC: FCC 15 Class A; EN55022A; EN55024; EN61000-3-2; EN61000-3-3
- Telecom: US FCC Part 68; Canada Industry Canada CS-03; Europe CTR 12/13

#### Media Module specifications

##### Four- and Eight-Port T1/E1 Module

##### T1 specifications

- Line code: B8ZS/AMI
- Framing: ESF/D4

- Output level: DS1/DSX-1
- Line build out (DS1): 0, -7.5, -15 dB
- Equalization (DSX-1): 0-655 ft.
- Clock: Internal or line

##### E1 specifications

- Line rate: 2.048 Mbps
- Framing: G.704
- Line code: HDB3
- Electrical: G.703
- Clock: Internal or line

#### Two- and four-port serial

- V.35, X.21, RS-232, RS-449, EIA530/530A
- DTE or DCE mode of operation

#### 1-port DS3/T3 — Clear Channel

- Line speed: 44.736 Mbps, sub-rate DS3 support
- Framing: C-bit parity or M13 framing
- 75 Ohm termination via dual BNC connector

#### 1-port DS3/T3 — Channelized

- Line speed: 44.736 with 28 DS1/T1 (1.544 Mbps) multiplexed circuits
- Framing: M13; ESF/SF on DS1/T1 circuits
- 75 Ohm termination via dual BNC connector



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### 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](http://www.avaya.com).

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