SRX550M SERVICES GATEWAY

Product Description
Juniper Networks® SRX550M Services Gateway delivers a next-generation secure SD-WAN and security solution that supports the changing needs of cloud-enabled enterprise networks. Whether rolling out new services and applications across locations, connecting to the cloud, or trying to achieve operational efficiency, the SRX550M helps organizations realize their business objectives while providing scalable, easy to manage, secure connectivity and advanced threat mitigation capabilities. Next-generation firewall (NGFW) and advanced security also make it easier to detect and proactively mitigate threats to improve the user and application experience.

Architecture and Key Components
The SRX550M Services Gateway is a secure router that brings high performance and proven deployment capabilities to enterprises building a worldwide network composed of thousands of remote sites. WAN or Internet connectivity module options include:
- Ethernet, serial, T1/E1, ADSL2/2+, and VDSL
- 3G/4G LTE wireless
- 802.11ac Wave 2 Wi-Fi

Industry-best, high-performance IPsec VPN solutions provide comprehensive encryption and authentication capabilities to secure intersite communications. Multiple form factors that offer Ethernet switching support on native Gigabit Ethernet ports allow cost-effective choices for mission-critical deployments.

The SRX550M Services Gateway runs Junos® operating system, a proven, carrier-hardened network OS that powers the top 100 service provider networks around the world. The rigorously tested, carrier-class, rich routing features such as IPv4/IPv6, OSPF, BGP, and multicast have been proven in over 15 years of worldwide deployments. The automation and scripting capabilities of Junos OS and Junos Space® Security Director reduce operational complexity and simplify the provisioning of new sites.

The SRX550M recognizes more than 3500 Layer 3-7 applications, including Web 2.0 and evasive peer-to-peer (P2P) applications like Skype, torrents, and others. Correlating application information with user contextual information, the SRX550M can generate bandwidth usage reports, enforce access control policies, prioritize and rate-limit traffic exiting WAN interfaces, and proactively secure remote sites. This optimizes resources in the branch office and improves the application and user experience.

Product Overview
The SRX550M Services Gateway combines security, SD-WAN, routing, switching, and WAN interfaces with next-generation firewall and advanced threat mitigation capabilities for secure, cost-effective connectivity across distributed enterprise locations.

By consolidating fast, highly available switching, routing, security, and next-generation firewall in a single device, enterprises can remove network complexity, protect and prioritize their resources, and improve user and application experience while lowering total cost of ownership.
Along with Contrail® Service Orchestration, the SRX550M delivers fully automated SD-WAN to both enterprises and service providers. A zero-touch provisioning (ZTP) capability greatly simplifies branch network connectivity for initial deployment and ongoing management. The SRX550M efficiently utilizes multiple links and load-balances traffic across the enterprise WAN, blending traditional MPLS with other connectivity options such as broadband Internet, leased lines, 4G/LTE, and more. Policy- and application-based forwarding capabilities enforce business rules created by the enterprise to steer application traffic towards a preferred path.

At the perimeter, the SRX550M offers a comprehensive suite of application security services, threat defenses, and intelligence services. The services consist of intrusion prevention system (IPS), application security user role-based firewall controls and cloud-based antivirus, antispam, and enhanced Web filtering, protecting networks from the latest content-borne threats. Integrated threat intelligence via Juniper Networks SecIntel offers adaptive threat protection against Command and Control (C&C)-related botnets and policy enforcement based on GeoIP. Customers can also leverage their own custom and third-party feeds for protection from advanced malware and other threats.

Integrating the Juniper Advanced Threat Protection solution, the SRX550M detects and enforces automated protection against known malware and zero-day threats with a high degree of accuracy. The SRX550M enables agile SecOps through automation capabilities that support zero-touch deployment (ZTD), Python scripts for orchestration, and event scripting for operational management.

### Features and Benefits

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<thead>
<tr>
<th>Business Requirement</th>
<th>Feature/Solution</th>
<th>SRX550M Advantages</th>
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</table>
| **High performance** | Up to 7 Gbps of routing and firewall performance | • Meets the needs of small, medium, and large branch office deployments  
• Addresses future needs for scale and feature capacity |
| **Business continuity** | Stateful high availability (HA), IP monitoring | • Uses stateful HA to synchronize configuration and firewall sessions  
• Supports multiple WAN interface with dial-on-demand backup  
• Performs route/link failover based on real-time link performance |
| **SD-WAN** | Better end-user application and cloud experience and lower operational costs | • ZTP simplifies remote device provisioning  
• Orchestrates business intent policies across the enterprise WAN via centralized or local advanced policy-based routing (APBR)  
• Measures application service-level agreements (SLAs) and improves end-user experience through application quality of experience (AppQoE) |
| **End-user experience** | App visibility and control | • Detects 3500+ Layer 3-7 applications, including Web 2.0  
• Controls and prioritizes traffic based on application and user role  
• Inspects and detects applications inside SSL encrypted traffic |
| **High security** | IPsec VPN, Media Access Control Security (MACsec) | • Creates secure, reliable, and fast overlay link over public Internet  
• Employs anti-counterfeit features to defend against unauthorized hardware spares  
• Includes high-performance CPU with built-in hardware assist IPsec acceleration |
| **Threat protection** | IPS, antivirus, antispam, Juniper SecIntel, Juniper Advanced Threat Prevention | • Enables zone-based stateful firewall by default  
• Protects against malware and attacks with IPS and antivirus  
• Integrates open threat intelligence platform with third-party feeds  
• Defends against zero-day attacks |
| **Easy management and scale** | On-box GUI, Security Director | • Includes centralized management for autoprovisioning, firewall policy management, Network Address Translation (NAT), and IPsec VPN deployments  
• Includes simple, easy-to-use on-box GUI for local management |
| **Minimal TCO** | Junos OS | • Integrates routing, switching, and security in a single device  
• Reduces operational expense with Junos OS automation capabilities |
SRX550M Specifications

Software Specifications

Routing Protocols
- IPv4, IPv6, ISO, Connectionless Network Service (CLNS)
- Static routes
- RIP v1/v2
- OSPF/OSPF v3
- BGP with route reflector
- IS-IS
- Multicast: Internet Group Management Protocol (IGMP) v1/v2, Protocol Independent Multicast (PIM) sparse mode (SM)/dense mode (DM)/source-specific multicast (SSM), Session Description Protocol (SDP), Distance Vector Multicast Routing Protocol (DVMRP), Multicast Source Discovery Protocol (MSDP), Reverse Path Forwarding (RPF)
- Encapsulation: VLAN, Point-to-Point Protocol (PPP), Frame Relay, High-Level Data Link Control (HDLC), serial, Multilink Point-to-Point Protocol (MLPPP), Multilink Frame Relay (MLFR), and Point-to-Point Protocol over Ethernet (PPPoE)
- Virtual routers
- Policy-based routing, source-based routing
- Equal-cost multipath (ECMP)

QoS Features
- Support for 802.1p, DiffServ code point (DSCP), EXP
- Classification based on VLAN, data-link connection identifier (DLCI), interface, bundles, or multifield filters
- Marking, policing, and shaping
- Classification and scheduling
- Weighted random early detection (WRED)
- Guaranteed and maximum bandwidth
- Ingress traffic policing
- Virtual channels
- Hierarchical shaping and policing

Switching Features
- ASIC-based Layer 2 forwarding
- MAC address learning
- VLAN addressing and integrated routing and bridging (IRB) support
- Link aggregation and LACP
- Link Layer Discovery Protocol (LLDP) and Link Layer Discovery Protocol–Media Endpoint Discovery (LLDP-MED)
- Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP)
- Multiple VLAN Registration Protocol (MVRP)
- 802.1X authentication

Firewall Services
- Stateful and stateless firewall
- Zone-based firewall
- Screens and distributed denial of service (DDoS) protection
- Protection from protocol and traffic anomaly
- Integration with Pulse Unified Access Control (UAC)
- Integration with Aruba Clear Pass Policy Manager
- User role-based firewall
- SSL Inspection (forward-proxy)

Network Address Translation (NAT)
- Source NAT with Port Address Translation (PAT)
- Bidirectional 1:1 static NAT
- Destination NAT with PAT
- Persistent NAT
- IPv6 address translation

VPN Features
- Tunnels: Generic routing encapsulation (GRE) 3, IP-IP3, IPsec
- Site-site IPsec VPN, auto VPN, group VPN
- IPsec crypto algorithms: Data Encryption Standard (DES), triple DES (3DES), Advanced Encryption Standard (AES-256), AES-GCM
- IPsec authentication algorithms: MD5, SHA-1, SHA-128, SHA-256
- Pre-shared key and public key infrastructure (PKI) (X.509)
- Perfect forward secrecy, anti-reply
- IPv4 and IPv6 IPsec VPN
- Multi-proxy ID for site-site VPN
- Internet Key Exchange (IKEv1, IKEv2), NAT-T
- Virtual router and quality of service (QoS) aware
- Standard-based dead peer detection (DPD) support
- VPN monitoring
Network Services

- Dynamic Host Configuration Protocol (DHCP) client/server/relay
- Domain Name System (DNS) proxy, dynamic DNS (DDNS)
- Juniper real-time performance monitoring (RPM) and IP-monitoring
- Juniper flow monitoring (J-Flow)
- Bidirectional Forwarding Detection (BFD)
- Two-Way Active Measurement Protocol (TWAMP)
- IEEE 802.3ah Link Fault Management (LFM)
- IEEE 802.1ag Connectivity Fault Management (CFM)

High Availability Features

- Virtual Router Redundancy Protocol (VRRP)\(^1\)
- Stateful high availability
- Dual box clustering
- Active/passive
- Active/active
- Configuration synchronization
- Firewall session synchronization
- Device/link detection
- In-Band Cluster Upgrade (ICU)
- Dial on-demand backup interfaces
- IP monitoring with route and interface failover

\(^1\) GRE, IP-IP, J-Flow monitoring, and VRRP are not supported in stateful high availability mode.

Management, Automation, Logging, and Reporting

- SSH, Telnet, SNMP
- Smart image download
- Juniper CLI and Web UI
- Junos Space and Security Director
- Python, PyEz, and Ansible modules
- Junos OS event, commit, and OP script
- Application and bandwidth usage reporting
- Auto installation
- Debug and troubleshooting tools
- ZTP with Contrail Service Orchestration

Advanced Routing Services

- Packet mode
- MPLS (RSVP, LDP)
- Circuit cross-connect (CCC), translational cross-connect (TCC)
- L2/L3 MPLS VPN, pseudowires
- Virtual private LAN service (VPLS), next-generation multicast VPN (NG-MVPN)
- MPLS traffic engineering and MPLS fast reroute

Application Security Services\(^2\)

- Application visibility and control
- Application-based firewall
- Application QoS

Enhanced SD-WAN Services

- Application-based advanced policy-based routing (APBR)
- Application quality of experience (AppQoE)
- Application-based link monitoring and switchover with AppQoE

Threat Defense and Intelligence Services\(^2\)

- Intrusion prevention system (IPS)
- Antivirus
- Antispam
- Category/reputation-based URL filtering
- Juniper SecIntel to provide threat intelligence
- Protection from botnets (command and control)
- Adaptive enforcement based on GeoIP
- Juniper Advanced Threat Prevention to detect and block zero-day attacks
- Encrypted Traffic Analysis

\(^2\) Offered as advanced security services subscription licenses.

Hardware Specifications

Network Connectivity

- Fixed I/O: 6 x 10/100/1000 BASE-T + 4 small form-factor pluggable transceivers (SFP transceivers)
- I/O slots: 2 x SRX Series Mini-PIM, 6 x Gigabit-Backplane Physical Interface Module (GPIM) or multiple GPIM and XPIM combinations
- Services and Routing Engine slots: No
- WAN/LAN interface options: See ordering information
- Maximum number of PoE ports (PoE optional on some SRX Series models): Up to 40 ports of 802.3af/at with maximum 247 W
- USB: 2

Flash and Memory

- Memory (DRAM): 4 GB
- Memory slots: 2 DIMM
- Flash memory: 8 GB, CF internal
- USB port for external storage: Yes
Dimensions and Power

- Dimensions (W x H x D): 17.5 x 3.5 x 18.2 in (44.4 x 8.8 x 46.2 cm)
- Weight (device and power supply): 21.96 lb (9.96 kg) (no interface modules, 1 power supply)
- Rack-mountable: Yes, 2 U
- Power supply (AC): 100-240 VAC, single 645 W or dual 645 W
- Maximum PoE power: 247 W redundant, or 494 W non-redundant
- Maximum current consumption: 7.5 A @ 100 VAC with single PSU with PoE, 10.5 A @ 100 VAC with dual PSU with PoE
- Maximum inrush current: 45 A for half-cycle

Environmental, Compliance, and Safety Certification

- Operational temperature: 32° to 104° F (0° to 40° C)
- Nonoperational temperature: 4° to 158° F (-20° to 70° C)
- Humidity (operating): 10% to 90% noncondensing
- Humidity (nonoperating): 5% to 95% noncondensing
- Mean time between failures (Telcordia model): 9.6 years with redundant power
- FCC classification: Class A
- RoHS compliance: Yes

Performance and Scale

- Firewall performance (large packets): 7 Gbps
- Firewall performance (IMIX): 2 Gbps
- Firewall + routing pps (64 Byte): 700 Kpps
- Firewall performance (HTTP): 2 Gbps
- IPsec VPN throughput (large packets): 1.0 Gbps
- IPsec VPN tunnels: 2000
- Application firewall*: 2.0 Gbps
- Intrusion prevention system (IPS)*: 800 Mbps
- Antivirus: 300 Mbps (Sophos antivirus)
- Connections per second: 27,000
- Maximum concurrent sessions: 375,000
- Maximum security policies: 8000
- Maximum users supported: Unrestricted
- Route table size (RIB/FIB) (IPv4 or IPv6): 1.5 million/750,000
- NAT rules: 6144
- MAC table size: 1500
- Number of remote access users: 500
- GRE tunnels: 1500
- Maximum number of security zones: 96
- Maximum number of virtual routers: 128
- Maximum number of VLANs: 3967
- AppID sessions: 65,000
- IPS sessions: 64,000
- URL filtering (URLF) sessions: 64,000

Ordering Information

To order Juniper Networks SRX Series Services Gateways, and to access software licensing information, please visit the How to Buy page at https://www.juniper.net/us/en/how-to-buy/.

<table>
<thead>
<tr>
<th>Product Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>SRX550M Base System</td>
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<tr>
<td>SRX550-645AP-M</td>
<td>SRX550M Services Gateway with 4 GB DRAM and 8 GB CF, 2 U height, 6 GRPM slots, 2 Mini-PIM slots, 6 10/100/1000BASE-T ports, 4 GbE SFP ports, dual PS slots, and fans; ships with one 645 W AC power supply with 247 W PoE power (power cord and rack-mount kit included)</td>
</tr>
<tr>
<td>SRX550-645DP-M</td>
<td>SRX550M Services Gateway with 4 GB DRAM and 8 GB CF, 2 U height, 6 GRPM slots, 2 Mini-PIM slots, 6 10/100/1000BASE-T ports, 4 GbE SFP ports, dual PS slots, and fans; ships with one 645 W DC power supply with 247 W PoE power (power cord or rack-mount kit included)</td>
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SRX550M Power Supplies and Accessories

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<th>Product Number</th>
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<tbody>
<tr>
<td>SRX600-PWR-645AC-POE</td>
<td>Spare 645 W AC PoE power supply unit for SRX550M systems; one is included in SRX550M base system (SRX550M-645AC)</td>
</tr>
<tr>
<td>SRX600-PWR-645DC-POE</td>
<td>645 W DC source power supply for SRX550M provides 397 W system power @ 12 V and 248 W PoE power @ 50 VDC; works with 43-56 VDC input; no power cord</td>
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SRX550M Software Licenses

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<tr>
<td>SRX550-IDP</td>
<td>One-year subscription for intrusion detection and prevention (IDP) updates on SRX550M</td>
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<tr>
<td>SRX550-S2-AS</td>
<td>One-year subscription for Juniper-Sophos antivirus updates on SRX550M</td>
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<tr>
<td>SRX550-W-EWF</td>
<td>One-year subscription for Juniper Web filtering updates on SRX550M</td>
</tr>
<tr>
<td>SRX550-SMB4-CS</td>
<td>One-year security subscription for enterprise; includes Sophos antivirus, AppSecure, and IDP on SRX550M</td>
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<tr>
<td>SRX550-IDP-3</td>
<td>Three-year subscription for Juniper-Sophos antivirus updates on SRX550M</td>
</tr>
<tr>
<td>SRX550-IDP-3</td>
<td>Three-year subscription for IDP updates on SRX550M</td>
</tr>
<tr>
<td>SRX550-S-AV-3</td>
<td>Three-year subscription for Juniper-Sophos antivirus updates on SRX550M</td>
</tr>
<tr>
<td>SRX550-SMB4-CS-3</td>
<td>Three-year subscription for enterprise Sophos antivirus, AppSecure, and IDP on SRX550M</td>
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<td>SRX550-W-EWF-3</td>
<td>Three-year subscription for Juniper Web filtering updates on SRX550M</td>
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<tr>
<td>SRX550-SMB4-CS-3</td>
<td>Three-year subscription for enterprise Sophos antivirus, AppSecure, and IDP on SRX550M</td>
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</table>
**Product Number** | **Description**  
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SRX550-ATP-3 | Three-year subscription for Advanced Threat Prevention Cloud for SRX550M  
SRX550-IDP-5 | Five-year license for IDP updates on SRX550M  
SRX550-W-EWF-5 | Five-year subscription for Juniper Web filtering updates on SRX550M  
SRX550-SMB4-CS-5 | Five-year security subscription for enterprise Sophos antispam, AppSecure, and IDP on SRX550M  
SRX550-S-SMB4-CS-5 | Five year security subscription for enterprise; includes Sophos antivirus, enhanced Web filtering, Sophos antispam, AppSecure, and IDP on SRX550M  
SRX550-APPSEC-A-1 | One-year subscription for Application Security and IPS updates for SRX550M  
SRX550-APPSEC-A-3 | Three-year subscription for Application Security and IPS updates for SRX550M  
SRX550-ATP-5 | Five-year subscription for Advanced Threat Prevention Cloud for SRX550M  
SRX-RAC-5-LTU | Dynamic VPN Client: 5 simultaneous users  
SRX-RAC-10-LTU | Dynamic VPN Client: 10 simultaneous users  
SRX-RAC-25-LTU | Dynamic VPN Client: 25 simultaneous users  
SRX-RAC-50-LTU | Dynamic VPN Client: 50 simultaneous users  
SRX-RAC-100-LTU | Dynamic VPN Client: 100 simultaneous users  
SRX-RAC-150-LTU | Dynamic VPN Client: 150 simultaneous users  
SRX-RAC-250-LTU | Dynamic VPN Client: 250 simultaneous users  
SRX-RAC-500-LTU | Dynamic VPN Client: 500 simultaneous users  
SRX-GP-16GE-POE | 16-port 10/100/1000BASE-T PoE XPIM  
SRX-GP-8SFP | 8-port GbE copper, fiber SFP XPIM  
SRX-GP-DUAL-T1-E1 | Dual T1/E1 GPIM  
SRX-GP-QUAD-T1-E1 | Quad T1/E1 GPIM  
SRX-GP-1DS3-E3 | 1-port clear channel DS3/E3 GPIM single GPIM slot  
SRX-MP-1T1E1-R | 1 port T1E1, MPIM form factor supported on SRX320, SRX340, SRX345, SRX380, and SRX550M Services Gateways; ROHS compliant  
SRX-MP-1VDSL2-R | 1 port VDSL2 (backward compatible with ADSL/ADSL2+), MPIM form factor supported on SRX320, SRX340, SRX345, SRX380, and SRX550M Services Gateways; ROHS compliant  
SRX-MP-1SERIAL-R | 1 port Synchronous Serial, MPIM form factor supported on SRX320, SRX340, SRX345, SRX380, and SRX550M Services Gateways; ROHS compliant  
SRX-MP-LTE-AA | 4G/LTE MPIM support for 1, 3, 5, 7-8, 18-19, 21, 28, 38-41 LTE bands (for Asia and Australia); supported on SRX320, SRX340, SRX345, SRX380, and SRX550M Services Gateways

### Interface Modules

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<tbody>
<tr>
<td>SRX-GP-16GE-POE</td>
<td>16-port 10/100/1000BASE-T PoE XPIM</td>
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<tr>
<td>SRX-GP-8SFP</td>
<td>8-port GbE copper, fiber SFP XPIM</td>
</tr>
<tr>
<td>SRX-GP-DUAL-T1-E1</td>
<td>Dual T1/E1 GPIM</td>
</tr>
<tr>
<td>SRX-GP-QUAD-T1-E1</td>
<td>Quad T1/E1 GPIM</td>
</tr>
<tr>
<td>SRX-GP-1DS3-E3</td>
<td>1-port clear channel DS3/E3 GPIM single GPIM slot</td>
</tr>
<tr>
<td>SRX-MP-1T1E1-R</td>
<td>1 port T1E1, MPIM form factor supported on SRX320, SRX340, SRX345, SRX380, and SRX550M Services Gateways; ROHS compliant</td>
</tr>
<tr>
<td>SRX-MP-1VDSL2-R</td>
<td>1 port VDSL2 (backward compatible with ADSL/ADSL2+), MPIM form factor supported on SRX320, SRX340, SRX345, SRX380, and SRX550M Services Gateways; ROHS compliant</td>
</tr>
<tr>
<td>SRX-MP-1SERIAL-R</td>
<td>1 port Synchronous Serial, MPIM form factor supported on SRX320, SRX340, SRX345, SRX380, and SRX550M Services Gateways; ROHS compliant</td>
</tr>
<tr>
<td>SRX-MP-LTE-AA</td>
<td>4G/LTE MPIM support for 1, 3, 5, 7-8, 18-19, 21, 28, 38-41 LTE bands (for Asia and Australia); supported on SRX320, SRX340, SRX345, SRX380, and SRX550M Services Gateways</td>
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### About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.