

# SRX4600 SERVICES GATEWAY



## Product Overview

*The SRX4600 Services Gateway is a high-performance, next-generation firewall and hardware-accelerated security gateway that supports the changing needs of cloud-enabled enterprise and service provider networks. Whether rolling out new services in an enterprise data center or campus, connecting to the cloud, complying with industry standards, deploying distributed security gateways, or offering high-scale multitenant security services, the SRX4600 helps organizations realize their business objectives while providing scalability, high availability, ease of management, secure connectivity, and advanced threat mitigation capabilities.*

## Product Description

The Juniper Networks® SRX4600 Services Gateway protects mission-critical data center and campus networks for enterprises, mobile service providers, and cloud service providers. Designed for high-performance security services architectures, the SRX4600 protects key corporate IT assets as a next-generation firewall, acts as an enforcement point for cloud-based security solutions, and provides application visibility and control to improve the user and application experience.

Integrating networking and security in a single platform, the SRX4600 features multiple high-speed interfaces, intrusion prevention, advanced threat protection, and authentication, along with high-performance IPsec VPN and Internet gateway capabilities. It also offers high scalability, high availability, robust protection, application visibility, user identification, and deep content inspection to provide unparalleled control over the security infrastructure.

The SRX4600 also acts as a central enforcement point in the Juniper Connected Security framework, leveraging strong automation and actionable intelligence to protect users in a multivendor network environment.

The SRX4600 is powered by Juniper Networks Junos® operating system, the industry-leading OS that keeps the world's largest mission-critical enterprise and service provider networks secure.

## Architecture and Key Components

The SRX4600 hardware and software architecture provides cost-effective security in a small 1 U form factor. Purpose-built to protect network environments and provide Internet Mix (IMIX) firewall throughput up of 75 Gbps, the SRX4600 incorporates multiple security services and networking functions on top of Junos OS. Best-in-class security and advanced threat mitigation capabilities on the SRX4600 are offered as 20 Gbps of next-generation firewall, 20 Gbps of intrusion prevention system (IPS), and up to 16 Gbps of IPsec VPN in data center, enterprise campus, and regional headquarter deployments with IMIX traffic patterns.

Table 1. SRX4600 Statistics<sup>1</sup>

Performance	SRX4600
Firewall throughput	95 Gbps
Firewall throughput—IMIX	75 Gbps
Firewall throughput with application security	80 Gbps
IPsec VPN throughput—IMIX/1400 B	16/38 Gbps
Intrusion prevention system (IPS)	20 Gbps
NGFW <sup>2</sup> throughput	20 Gbps
Connections per second	500,000
Maximum session	60 Gbps

<sup>1</sup> Performance, capacity, and features listed are based on systems running Junos OS 17.4R1-S1 and are measured under ideal testing conditions. Actual results may vary based on Junos OS releases and by deployments.

<sup>2</sup> Next-generation firewall (NGFW) is a combination of advanced features such as application security, IPS, and URLF in addition to the foundational services such as logging and stateful firewall.

The SRX4600 recognizes more than 3500 applications and nested applications in plain text or SSL-encrypted transactions. The firewall also integrates with Microsoft Active Directory and combines user information with application data to provide network-wide application and user visibility and control.

## Features and Benefits

Table 2. SRX4600 Features and Benefits

Business Requirement	Feature/Solution	SRX4600 Advantages
<b>High performance</b>	Up to 95 Gbps of firewall throughput (up to 75 Gbps of IMIX firewall throughput)	<ul style="list-style-type: none"> <li>• Best suited for enterprise campus and data center edge deployments</li> <li>• Ideal for secure router/VPN concentrator deployments at the head office</li> <li>• Addresses diverse needs and scale for service provider deployments</li> </ul>
<b>High-quality end-user experience</b>	Application visibility and control	<ul style="list-style-type: none"> <li>• Detects 3500+ L3-L7 applications, including Web 2.0</li> <li>• Controls and prioritizes traffic based on application and use role</li> <li>• Inspects and detects applications inside SSL-encrypted traffic</li> </ul>
<b>Advanced threat protection</b>	Intrusion prevention system (IPS), antivirus, antispam, threat intelligence feeds, Juniper Sky™ Advanced Threat Prevention, Juniper ATP Appliance	<ul style="list-style-type: none"> <li>• Provides real-time updates to IPS signatures and protects against exploits</li> <li>• Implements industry-leading antivirus and URL filtering</li> <li>• Delivers open threat intelligence platform that integrates with third-party feeds</li> <li>• Protects against zero-day attacks</li> <li>• Stops rogue and compromised devices to disseminate malware</li> </ul>
<b>Professional-grade networking services</b>	Routing, secure wire	<ul style="list-style-type: none"> <li>• Supports carrier-class advanced routing and quality of service (QoS)</li> </ul>
<b>Highly secure</b>	IPsec VPN	<ul style="list-style-type: none"> <li>• Provides high-performance IPsec VPN with dedicated crypto engine</li> <li>• Offers diverse VPN options for various network designs, including remote access and dynamic site-to-site communications</li> <li>• Simplifies large VPN deployments with auto VPN</li> <li>• Includes hardware-based crypto acceleration</li> </ul>
<b>Highly reliable</b>	Chassis cluster, redundant power supplies	<ul style="list-style-type: none"> <li>• Provides stateful configuration and session synchronization</li> <li>• Supports active/active and active/backup deployment scenarios</li> <li>• Offers highly available hardware with dual power supply unit (PSU)</li> </ul>
<b>Easy to manage and scale</b>	On-box GUI, Juniper Networks Junos Space® Security Director	<ul style="list-style-type: none"> <li>• Enables centralized management for autoprovisioning, firewall policy management, Network Address Translation (NAT), and IPsec VPN deployments</li> <li>• Includes simple, easy-to-use on-box GUI for local management</li> </ul>
<b>Low TCO</b>	Junos OS	<ul style="list-style-type: none"> <li>• Integrates routing and security in a single device</li> <li>• Reduces OpEx with Junos OS automation capabilities</li> </ul>

## Software Specifications

### Firewall Services

- Stateful and stateless firewall
- Zone-based firewall
- Screens and distributed denial of service (DDoS) protection
- Protection from protocol and traffic anomalies
- Unified Access Control (UAC)

### 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
- Port Block Allocation method for CGNAT
- Deterministic NAT

### VPN Features

- Auto Discovery VPN (ADVPN)
- Suite-B Crypto
- VPN-Monitor
- Remote Access VPN with Network Control Protocol (NCP) Client
- Public key infrastructure (PKI): SCEP, CMPv2, OCSP
- Tunnels: Generic routing encapsulation (GRE), IP-IP, IPsec
- Site-site IPsec VPN, auto VPN, group VPN
- IPsec crypto algorithms: Data Encryption Standard (DES), triple DES (3DES), Advanced Encryption Standard (AES-256)
  - 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
  - Multiproxy 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

### High Availability Features

- Virtual Router Redundancy Protocol (VRRP)—IPv4 and IPv6
- Stateful high availability:
  - HA clustering
  - Active/passive
  - Active/passive
  - Dual MACsec-enabled HA control ports (10GbE)
  - Dual MACsec-enabled HA fabric ports (10GbE)
  - Configuration synchronization
  - Firewall session synchronization
  - Device/link detection
  - Unified in-service software upgrade (unified ISSU)
- IP monitoring with route and interface failover

### Application Security Services

- Application visibility and control
- Application-based firewall
- Application QoS
- Advanced/application policy-based routing feature (APBR)
- User-based firewall
- IPS
- Antivirus
- Antispam
- Category/reputation-based URL filtering
- SSL proxy/inspection

### Threat Defense and Intelligence Services

- Threat intelligence/feeds
- Protection from botnets (command and control)
- Adaptive enforcement based on GeoIP
- Juniper Sky ATP, a cloud-based SaaS offering, to detect and block zero-day attacks
- Juniper ATP Appliance, a distributed, on-premises advanced threat prevention solution to detect and block zero-day attacks

### Routing Protocols

- IPv4, IPv6, 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 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)
- Classification based on interface, bundles, or multifield filters
- Marking, policing, and shaping
- Classification and scheduling
- Weighted random early detection (WRED)
- Guaranteed and maximum bandwidth

## 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)

## Management, Automation, Logging, and Reporting

- SSH, Telnet, SNMP
- Smart image download
- Juniper CLI and Web UI
- Junos Space Security Director
- Python
- Junos OS events, commit, and OP scripts
- Application and bandwidth usage reporting
- Debug and troubleshooting tools



SRX4600

## Hardware Specifications

Table 3. SRX4600 Hardware Specifications

Specification	SRX4600
Total onboard I/O ports	8 10GbE (SFP+) 4x40GbE/100GbE (QSFP28)
Out-of-Band (OOB) management ports	RJ-45 (1 Gbps)
Dedicated high availability (HA) ports	2x10GbE (SFP+) Control 2x10GbE (SFP+) Data
Console	RJ-45 (RS232)
USB 2.0 ports (Type A)	1
<b>Memory and Storage</b>	
System memory (RAM)	256 GB
Secondary storage (SSD)	2x 1 TB M.2 SSD Formatted as 960 GB

Specification	SRX4600
<b>Dimensions and Power</b>	
Form factor	1 U
Size (WxHxD)	17.4 x 1.7 x 26.5 in (44.19 x 4.32 x 67.31 cm) With AC PEMs: 17.4 x 1.7 x 27.29 in (44.19 x 4.32 x 69.32 cm) With DC PEMs: 17.4 x 1.7 x 29.20 in (44.19 x 4.32 x 74.17 cm)
Weight (system and 2 power entry modules)	With AC PEMs: 38 lb (17.24 kg) Shipping weight: 45.47 lb (20.62 kg) With DC PEMs: 40 lb (18.14 kg) Shipping weight: 47.47 lb (21.53 kg)
Redundant PSU	1+1
Power supply	2x 1600 W AC-DC PSU redundant 2x 1100 W DC-DC PSU redundant
Average power consumption	650 W
Average heat dissipation	2218 BTU/hour
Maximum current consumption	12 A (for 110 V AC power) 6 A (for 220 V AC power) 24 A (for -48 V DC power)

<b>Precision Time Protocol Timing Ports</b>	
Time of day - RS-232 (EIA-23)	1xRJ-45
BITS clock	1xRJ-48
10-MHz timing connector (GNSS)	1xInput (COAX) 1xOutput (COAX)
Pulse per second connection (1-PPS)	1xInput (COAX) 1xOutput (COAX)

<b>Environmental and Regulatory Compliance</b>	
Acoustic noise level	69 dBA at normal fan speed.87 dBA at full fan speed
Airflow/cooling	Front to back
Operating temperature	32° to 104° F (0° to 40° C)
Operating humidity	5% to 90% noncondensing
Mean time between failures (MTBF)	112,000 hours
FCC classification	Class A
RoHS compliance	RoHS 2
NEBS compliance	Designed for NEBS Level 3

<b>Performance</b>	
Routing/firewall (64 B packet size) throughput Gbps <sup>3</sup>	17 Gbps
Routing/firewall (IMIX packet size) throughput Gbps <sup>3</sup>	75 Gbps
Routing/firewall (1518 B packet size) throughput Gbps <sup>3</sup>	95 Gbps
IPsec VPN (IMIX packet size) Gbps <sup>3</sup>	16 Gbps
IPsec VPN (1400 B packet size) Gbps <sup>3</sup>	38 Gbps
Application security performance in Gbps <sup>3</sup>	80 Gbps
Recommended IPS in Gbps <sup>4</sup>	20 Gbps
Next-generation firewall in Gbps <sup>4</sup>	20 Gbps
Connections per second (CPS)	500,000
Maximum security policies	80,000
Maximum concurrent sessions (IPv4 or IPv6)	60 million
Route table size (RIB/FIB) (IPv4 or IPv6)	4 million/1.2 million

<sup>3</sup>Throughput numbers based on UDP packets and RFC2544 test methodology

<sup>4</sup>Throughput numbers based on HTTP traffic with 44 KB transaction size and up to the numbers captured here

## Juniper Networks Services and Support

Juniper Networks is the leader in performance-enabling services that are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to maximize operational efficiency while reducing costs and minimizing risk, achieving a faster time to value for your network. Juniper Networks ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For services information specific to SRX Series Services Gateways, please read the Firewall Conversion Service or the SRX Series QuickStart Service datasheets. For more details, please visit [www.juniper.net/us/en/products-services](http://www.juniper.net/us/en/products-services).

## Ordering Information

To order Juniper Networks SRX Series Services Gateways, and to access software licensing information, please visit the How to Buy page.

Description	SRX4600
Hardware	Included
Management (CLI, J-Web, SNMP, Telnet, SSH)	Included
L2 transparent, secure wire	Included
Routing (RIP, OSPF, BGP, virtual router)	Included
Multicast (IGMP, PIM, SSDP, DMVRP)	Included
Packet mode	Included
Overlay (GRE, IP-IP)	Included
Network services (J-Flow, DHCP, QoS, BFD)	Included
Stateful firewall, screens, application-level gateways (ALGs)	Included
NAT (static, SNAT, DNAT)	Included
IPsec VPN (site-site VPN, auto VPN, group VPN)	Included
Firewall policy enforcement (UAC, Aruba CPPM)	Included
Chassis cluster, VRRP, unified ISSU	Included
Automation (Junos OS scripting, auto-installation)	Included
General Packet Radio Service (GPRS)/GPRS tunneling protocol (GTP)/Stream Control Transmission Protocol (SCTP)	Included
Application security (AppID, AppFW, AppQoS, AppRoute)	Included
Enhanced Web filtering	Optional
NGFW security bundle featuring antispam, antivirus, enhanced Web filtering, application security (AppID, AppFW, AppQoS, AppRoute)	Optional
IDP updates	Optional
Juniper Sky Advanced Threat Prevention	Optional
Juniper ATP Appliance	Optional

## Base Systems

Product Number	Description
SRX4600-AC	SRX4600 Services Gateway, AC
SRX4600-DC	SRX4600 Services Gateway, DC
SRX4600-AC-TAA	SRX4600 Services Gateway, AC, TAA
SRX4600-DC-TAA	SRX4600 Services Gateway, DC, TAA

All systems include dual (redundant) AC or DC power supplies, five (4+1) redundant fans, country-specific power cords, dual (redundant) solid-state drives, rack mount kit, and core Junos OS software (stateful firewall, NAT, IPsec, and routing).

## Advanced Security Services Subscription Licenses

Product Number	Description
SRX4600-W-EWF-1	Enhanced Web Filtering, 1 year, SRX4600
SRX4600-W-EWF-3	Enhanced Web Filtering, 3 year, SRX4600
SRX4600-W-EWF-5	Enhanced Web Filtering, 5 year, SRX4600
SRX4600-CS-BUN-1	NGFW Security Bundle, 1 year, SRX4600
SRX4600-CS-BUN-3	NGFW Security Bundle, 3 year, SRX4600
SRX4600-CS-BUN-5	NGFW Security Bundle, 5 year, SRX4600
SRX4600-IPS-1	Intrusion Prevention Signature Updates, 1 year, SRX4600
SRX4600-IPS-3	Intrusion Prevention Signature Updates, 3 year, SRX4600
SRX4600-IPS-5	Intrusion Prevention Signature Updates, 5 year, SRX4600
SRX4600-ATP-1	Juniper Sky ATP, 1 year, SRX4600
SRX4600-ATP-3	Juniper Sky ATP, 3 year, SRX4600
SRX4600-ATP-5	Juniper Sky ATP, 5 year, SRX4600
SRX4600-ATP-BUN-1	1 year subscription for AppSecure, IPS (IDP), Enhanced Web Filtering (EWF), antivirus, and Juniper Sky ATP service on SRX4600
SRX4600-ATP-BUN-3	3 year subscription for AppSecure, IPS (IDP), EWF, antivirus, and Juniper Sky ATP service on SRX4600
SRX4600-ATP-BUN-5	5 year subscription for AppSecure, IPS (IDP), EWF, antivirus, and Juniper Sky ATP service on SRX4600
SRX4600-THRTFEED-1	Juniper Sky ATP feeds only, 1 year, SRX4600
SRX4600-THRTFEED-3	Juniper Sky ATP feeds only, 3 year, SRX4600
SRX4600-THRTFEED-5	Juniper Sky ATP feeds only, 5 year, SRX4600

## Service Spares

Product Number	Description
JNP-FAN-1RU	Universal fan, 1 U chassis
JNP-PWR1600-AC	Universal AC power supply, 1600 W
JNP-PWR1100-DC	Universal DC power supply, 1100 W
JNP-SSD-M2-1TB	Universal 1 TB SSD, in carrier, no Junos OS
SRX4600-4PST-RMK	Rack mount kit, 4-post adjustable for SRX4600

## 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.

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