

SRX Series Services Gateways: Delivering a Scalable, Secure Solution for Network-Based Managed Services Providers

Challenge

Globalization and an increase in collaboration are causing enterprise customers to exert constant pressure on MSPs to offer innovative, value-added services that provide enterprises a competitive edge. The enterprise also seeks solutions that will enable scalable growth to meet ever-changing market conditions, while providing security and reliability.

Solution

Juniper Networks SRX Series Services Gateways is a revolutionary services delivery platform for MSPs. The SRX Series is based on a unique architecture offering extremely flexible processing input/output (I/O) capabilities that enable MSPs to add features without incurring additional equipment and rack charges. By allowing MSPs to turn integrated features on or off at the operating system level, the SRX Series maximizes return on investment (ROI) while ensuring superior network scalability.

Benefits

The SRX Series accelerates service model innovation to drive network profitability while containing costs. With the SRX Series, MSPs can easily scale infrastructure without the delay and cost associated with new hardware installations, thus reducing capital expenses.

Globalization and an increase in workplace collaboration are driving a need for networking solutions that allow businesses to grow bandwidth as needed. Faced with implementing and maintaining multi-functional networks in a climate of increased competition and higher operating costs, enterprise customers are looking to managed service providers (MSPs) for customized, cost-effective networking solutions. To take advantage of this new potential revenue stream, MSPs must differentiate themselves from competitors by offering value-added services customers need to remain competitive in today's dynamic business environment.

To do this, MSPs must continually add additional hardware at considerable cost. What they need, however, is an entirely new, network-based approach to provide their customers with scalable, extensible, and secure solutions they can depend on long term. Network-based solutions offer a variety of cost-effective benefits for both MSPs and their enterprise customers, including MSP-site-based maintenance that eliminates truck rolls, efficient software/hardware upgradeability, and vastly improved availability and reliability.

Juniper Networks®, a leader in high-performance networking and security solutions, remains at the pinnacle of network-based infrastructure with its next-generation firewall platform, the SRX Series Services Gateways. The SRX Series is the first service delivery platform to feature a truly integrated architecture that delivers the flexibility required to add new services on the fly and the scalability to accommodate the exponential growth of managed services—all within a secure operating environment.

The Challenge

Inflexible security infrastructures prevent MSPs from helping customers quickly scale their networks. The only solution is adding more expensive hardware, which also triggers costly, time-consuming installation. Moreover, adding capabilities on a security appliance often leads to performance degradation. To offset this loss, some appliances require dedicated add-on equipment. Designed to implement or accelerate specific features, the installed products typically cannot be reused for other functionality and often sit idle as customer requirements fluctuate. The need for additional rack space and customized management features to accommodate new equipment also negatively impacts the bottom line.

Many current appliances also have limited processing flexibility and I/O capacities. Created to provide a sound balance between processing and I/O, these products inevitably fail to deliver on both counts, prompting MSPs to install new hardware that may not be fully utilized. To address scalability concerns, some products now offer blade solutions to minimize installation costs. Although sharing the same hardware chassis reduces the need for additional rack space, any savings realized is negated by the lack of true integration between disparate blades, which often increases MSP overhead by complicating overall network management.



The Juniper Networks SRX Series Services Gateways

Juniper addresses these challenges by offering the high-performance SRX Series, delivering the flexibility MSPs need to add new services on the fly and the scalability customers need to grow their business.

Features and Benefits

Meeting Market Demands for Scalability

The SRX Series helps MSPs offer customers the ability to scale in terms of processing capability and throughput. To increase processing capability, MSPs can simply add additional service processing cards (SPCs) to the SRX Series Services Gateways. The number of all-purpose SPCs supported by the flexible appliance chassis is limited only by the number of slots. Since cards are not dedicated to accelerate a specific function, adding processing power for an intrusion prevention system (IPS), a firewall, or any other feature simply requires additional SPCs. The use of customizable SPCs provides the highest return on investment, since they can be utilized regardless of enabled features, which can rapidly change based on market and customer requirements.

Instead of purchasing hardware dedicated to a specific function, MSPs utilizing the SRX Series can reduce operational complexity by quickly and easily segmenting the existing network according to customers' unique demands, directly from the MSP network operations center (NOC). A MSP could, for example, increase a customer's firewall coverage for an additional 100 business units by adding an extra blade with multiple ports, expanding I/O interfaces independent of the unit's processing capabilities.

High Reliability and Enhanced Performance

Running on Juniper Networks Junos® operating system—Juniper's globally tested and proven operating system—SRX Series Services Gateways enable MSPs to quickly and cost effectively "turn on" new capabilities as dedicated or multiple services tightly integrated into the operating system. In addition to meeting customers' needs quickly, the ability to rapidly configure new services on existing equipment helps MSPs create new revenue immediately, without the cost and time required to install and maintain additional hardware. The SRX Series also positions MSPs and their customers for long-term growth through the Junos OS's capacity to easily accommodate new capabilities.

Junos OS—Foundation for Services

- Flexible design to support new capabilities
- Proven track record in integrating new services
- Expanding to support security and other services

Reduced Footprint

Instead of adding extra equipment to meet customers' networking demands, the SRX Series accommodates growth with the addition of blades. As MSPs add services, the SRX Series footprint remains the same. In addition to conserving rack space, adding blades does not require additional cooling or maintenance, saving time and reducing costs.

High Firewall Performance

Performing almost an order of magnitude faster than other market offerings, the SRX Series firewall outperforms many other devices to ensure that advanced applications incorporating data, voice and video are delivered securely. This high performance helps MSPs deliver more products to and support many more customers.

Carrier-Grade Reliability

True, carrier-grade reliability ensures that MSPs deliver a proven level of quality to justify reliability-based service levels, delivering expected resiliency in case of outages.

Centralized Management

Juniper Networks® Junos® Space Security Director, an application on Junos Space Network Management Platform, provides extensive security scale, granular policy control, and policy breadth across the network, including ongoing access to Juniper and third-party Junos Space ecosystem innovations. It helps administrators quickly manage all phases of the security policy life cycle for stateful firewall, unified threat management (UTM), intrusion prevention system (IPS), application firewall (AppFW), VPN, and Network Address Translation (NAT) through a centralized web-based interface. Junos Space Security Director reduces management costs and errors with efficient security policy, workflow tools, and a powerful "app" and platform architecture.

Performance-Enabling Service and Support

Customized to meet the unique requirements of enterprise and MSP environments, Juniper's comprehensive service levels range from basic support to advanced consulting to accommodate any point in the network lifecycle.

Industry Leading Partnerships

Juniper's partnerships with industry leaders like Sophos and Websense help MSPs expand product and service portfolios with reputable, proven security solutions.

Advanced Security Features

Advanced SRX Series security features automatically detect and mitigate threats while the SRX Series routing features intelligently prioritize and accelerate traffic. The sum of these features protects and distributes advanced services and applications to support millions of subscribers or multiple enterprise departments across the network.

Application Protection

Juniper Networks AppSecure is a suite of next-generation security capabilities for Juniper Networks SRX Series Services Gateways that utilize advanced application identification and classification to deliver greater visibility, enforcement, control, and protection over the network. Working in conjunction with the other security services of the SRX Series, AppSecure provides a deep understanding of application behaviors and weaknesses to prevent application-borne threats that are difficult to detect and stop. As an integrated service on the world's fastest services gateways, AppSecure enables service providers to provide the scalability for meeting the requirements of the most demanding customer environments.

SRX Series Solution Components

The SRX Series includes the following components:

- Stateful Firewall
- IPsec VPN
- IPS
- Denial of service (DoS) and distributed denial of service (DDoS) protection
- AppSecure
 - AppTrack - Detailed analysis on application volume/usage throughout the network based on bytes, packets and sessions.
 - AppFirewall - Fine grained application control policies to allow or deny traffic based on dynamic application name or group names.
 - AppQoS - Provides ability to prioritize traffic as well as limit and shape bandwidth based on application information and contexts for improved application and overall network performance.
 - Application signatures - Open signature library for identifying applications and nested applications.
- SSL Proxy (forward and reverse)
- Network Address Translation (NAT)
- Routing and switching

The Juniper Networks SRX Series Services Gateways scale in performance and capacity based on the number of cards installed. All modules for the Juniper Networks SRX3000 line are shared between the SRX3400 and SRX3600, including power supplies. All modules for the Juniper Networks SRX5000 line are shared between the SRX5600 and SRX5800. Modules for the SRX3000 line are not interchangeable with the SRX5000 line and vice versa. Models include the following:

- **SRX3400**—supporting up to 30 Gbps firewall throughput, 8 Gbps IPsec VPN throughput, or 8 Gbps IPS throughput
- **SRX3600**—supporting up to 55 Gbps firewall throughput, 15 Gbps IPsec VPN throughput, or 15 Gbps IPS throughput

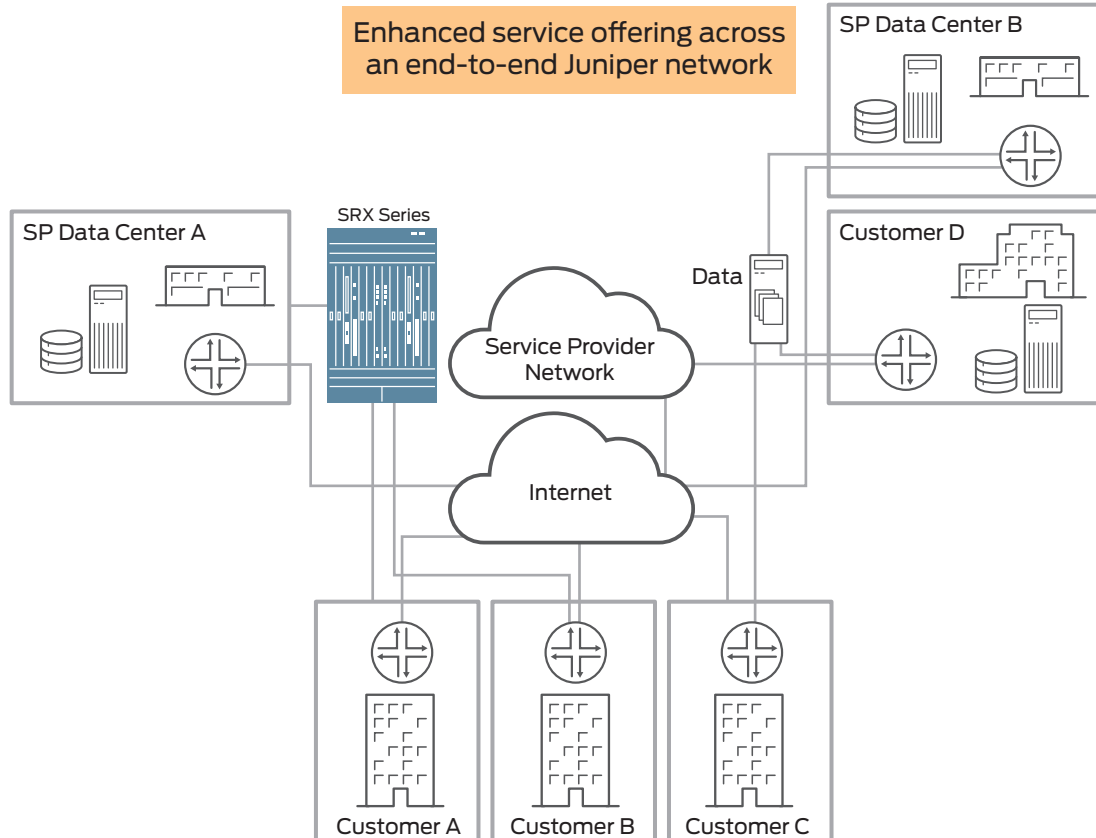


Figure 1: Network-based managed services with Juniper Networks SRX Series platform

- **SRX5400**—supporting up to 65 Gbps firewall throughput, 43 Gbps IPsec VPN throughput, or 22 Gbps IPS throughput
- **SRX5600**—supporting up to 130 Gbps firewall throughput, 75 Gbps IPsec VPN throughput, or 50 Gbps IPS throughput
- **SRX5800**—supporting up to 300 Gbps firewall throughput, 150 Gbps IPsec VPN throughput, or 100 Gbps IPS throughput

SRX Series—Paving the Way for Innovation

Juniper's extensible SRX Series Services Gateways enable MSPs to stay ahead of the competition by quickly and cost-effectively creating innovative service offerings and scalable solutions. The SRX Series provides all of the key benefits of a network-based solution—performance, reliability, security, service and support—MSPs need to meet their customers' dynamic networking needs in today's demanding competitive environment. And with the SRX Series, MSPs can more quickly enjoy the additional revenue that comes with the ever-expanding service offerings enabled through network-based services.

The SRX Series enables MSPs to support hundreds of enterprise customers within a single network-based services gateway by utilizing VPN routing and forwarding (VRF), security zones, and logical systems (LSYS) features to deliver cost-effective per-customer connectivity, routing and security. LSYS/Logical Systems support enables MSPs to implement secure multi-tenancy. Each SRX Series device is seamlessly managed from the MSP network operations center using Juniper Networks Junos Space Security Director for policy management, events logging, and reporting.

Tightly integrated into Junos OS, the SRX Series allows MSPs to easily configure and implement new capabilities as dedicated or multiple services. Junos OS integration also supports enhanced routing and QoS features in a comprehensive service-based management network.

For a multi-tenancy requirement beyond 32 Logical Systems, there is Juniper Networks vSRX, a virtual firewall that is delivered in a virtual machine (VM) form factor and based on Juniper's Junos® operating system and SRX Series Services Gateway. The vSRX delivers scalable, available, and granular security with segmentation capabilities that create clear demarcation between departments, lines of business, user groups and application types as well as rich connectivity features like Network Address Translation (NAT), routing and VPN. The vSRX also includes Junos Space Virtual Director, an intuitive and easy-to-use lifecycle management application that enables administrators to automate provisioning and resource allocation of vSRX VMs, easily scaling them to meet elastic demand.

Next Steps

For more information about the SRX Series and other Juniper security products, visit www.juniper.net/us/en/products-services/security/

About Juniper Networks

Juniper Networks challenges the status quo with products, solutions and services that transform the economics of networking. Our team co-innovates with customers and partners to deliver automated, scalable and secure networks with agility, performance and value. Additional information can be found at Juniper Networks or connect with Juniper on [Twitter](https://twitter.com/juniper) and [Facebook](https://facebook.com/juniper).

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