THE CLOUD READY NETWORK

SD-WAN Data Sheet

stream
the digital backbone to your business

Solution Overview

Stream Managed SD-WAN enables an easy migration path from legacy MPLS or IPVPN to a cloud ready, flexible, AI driven, application aware Wide Area Network. With Stream SD-WAN you can securely connect your corporate network and remote users to hybrid multi-cloud environments, Unified Communication platforms and SaaS applications while providing application aware routing to ensure applications deliver a guaranteed Quality of Experience to users.

The Stream SD-WAN network

With key SD-WAN functionality pre-built within our Core aggregation network the Stream SD-WAN platform delivers a greater return on investment for SD-WAN deployments by reducing the capital expenditure needed for dedicated SD-WAN controllers and hubs.

In addition, the Stream Network delivers access to one of the largest aggregation platforms for underlay access for SD-WAN networks, providing our customers with the widest choice of network coverage.

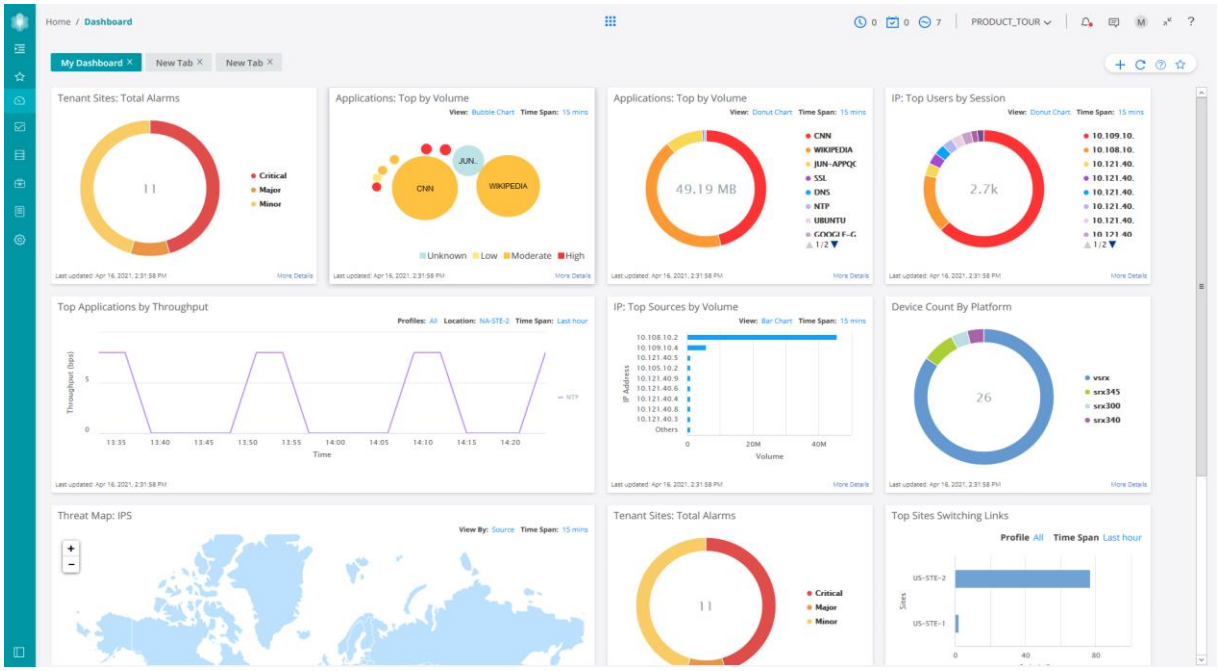
The Stream network extends further with dedicated peering agreements to the UK's main Voice Carrier networks for SIP termination and the major Cloud providers such as Azure, AWS, Google, IBM, Oracle, & SAP for Public Cloud access; this ensures your network traffic has the best path to critical web-based applications.

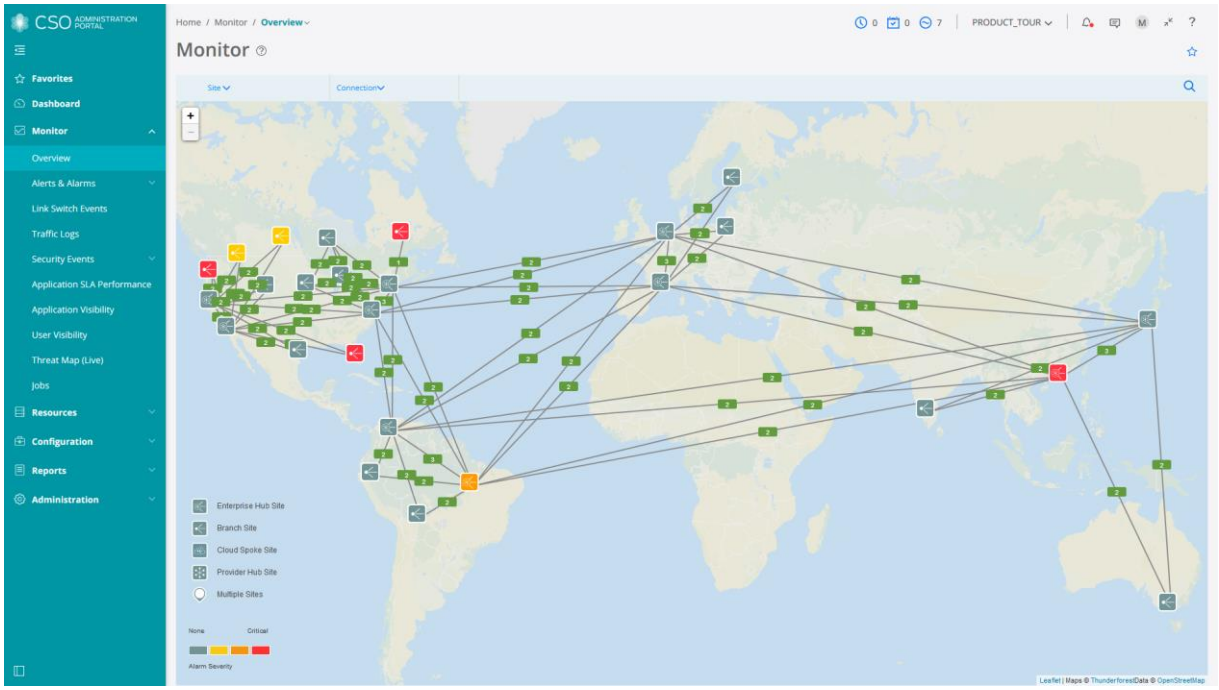
Contrail Service Orchestrator Overview

The Stream cloud-based SD-WAN orchestration interface CSO (Contrail Service Orchestrator), simplifies the configuration and management of your entire WAN infrastructure. CSO delivers centralised configuration of Next Gen security policies, application steering, routing and device management. With a range of physical and virtual appliances to choose from, you can deploy the Stream SD-WAN platform to offices, branches, remote workers, data centres, public and private clouds.

SD-WAN Monitoring

The CSO monitoring platform delivers a complete overview of your entire WAN and security infrastructure enabling IT managers to easily access and gain insight in to live network traffic, applications, devices and security events in real time.





Zero Touch Provisioning – ZTP

Zero Touch Provisioning (ZTP) allows you to provision new devices in your network automatically, with minimal manual intervention, saving on costly engineers to deploy new networks. You can use either management ports or network ports, depending on the device, to connect to the network. When you physically connect a device to the network and boot it with a default factory configuration, the device upgrades (or downgrades) the OS release and auto installs a configuration file from the network. The configuration file can be templated so ensure continuity across your network.

Security

Next Generation Security comes as standard within the Stream SD-WAN platform, deployed on Edge devices or via centralized Internet breakout.

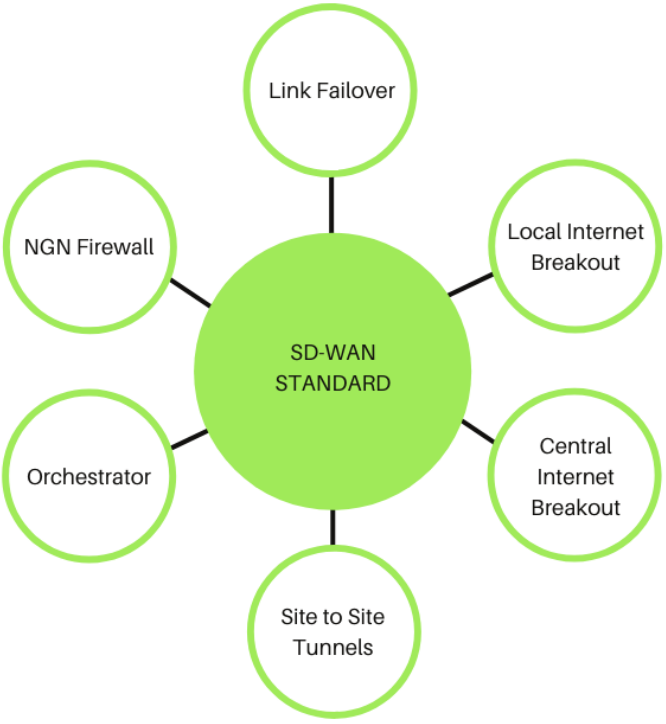
The SRX range of service gateways supports advanced firewall capabilities such as intrusion prevention, application visibility and control, and content security that include antivirus, antispam, and enhanced Web filtering for protected connectivity. Juniper Advanced Threat Prevention provides comprehensive threat defense with dynamic malware detection, SecIntel threat feeds, encrypted traffic insights, and adaptive threat profiling. All these features make it easier to detect and mitigate threats for an improved user and application experience.

Application Steering (AppQoE)

In today's modern network, ensuring applications have priority and perform as expected is key to business productivity. The Stream SD-WAN platform takes your networking strategy to a higher level by combining automation with intelligence. Application Steering utilises the AppQoE protocol which employs the capabilities of two application security services - application identification (AppID) and advanced policy-based routing (APBR). It uses AppID to identify specific applications in your network and advanced policy-based routing (APBR) to specify a path for certain traffic. In conjunction with the SLA set the SD-WAN network automatically routes traffic dependant on metrics such as latency, jitter, round trip time and link utilisation ensuring your applications have access to the best network path available, at all times.

SD-WAN STANDARD OVERVIEW

SD-WAN standard provides the best migration path for customers on legacy MPLS or IPVPN networks. SD-WAN standard delivers a cloud ready, secure and flexible network but without the added benefits of Application Steering.

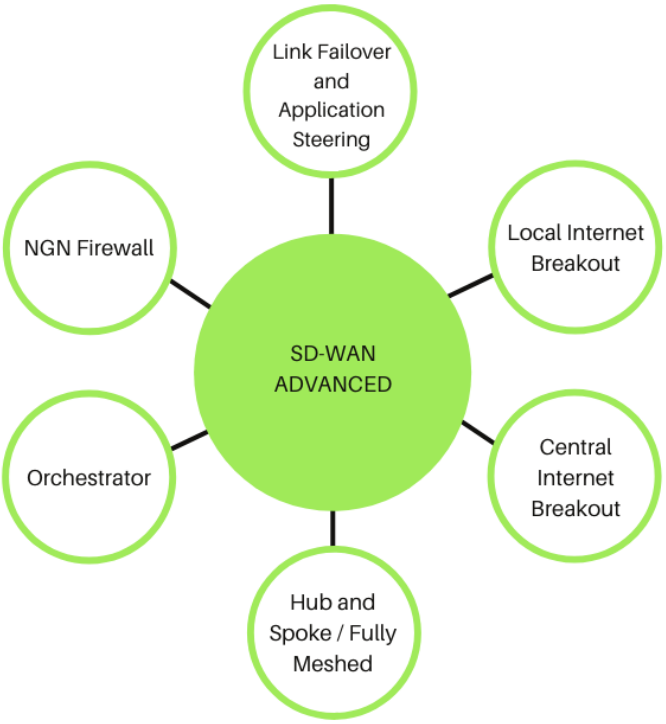


SD-WAN STANDARD FEATURES

- Next Generation Firewall Capabilities (IPS & AppSecure)
- Site to Site Tunnelling
- Local or Centralised Internet Breakout
- Access to Contrail Service Orchestrator (CSO)
- CSO Monitoring and Device Management
- Link Failover for Edge Devices
- ZTP

SD-WAN ADVANCED OVERVIEW

SD-WAN Advanced provides an enhanced SD-WAN network integrating Application Steering (AppQOE), additional Next Generation Firewall Capabilities, and advanced network design topology.



SD-WAN ADVANCED FEATURES

- Next Generation Firewall Capabilities (IPS, AppSecure, AV & AS)
- Hub and Spoke or Fully Meshed Network Topology
- Local or Centralised Internet Breakout
- Access to Contrail Service Orchestrator (CSO)
- CSO Monitoring and Device Management
- Link Failover for Edge Devices
- ZTP
- Application Steering (AppQoE)

Customer Premises Equipment – SRX300 SERIES

Juniper Networks® SRX300 line of services gateways 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 SRX300 line helps organizations realize their business objectives while providing scalable, easy to manage, secure connectivity and advanced threat mitigation capabilities. Next-generation firewall and unified threat management (UTM) capabilities also make it easier to detect and proactively mitigate threats to improve the user and application experience.

SRX300

SRX320

SRX340

SRX345

SRX380

SRX300 Series Hardware Specification

Specification	SRX300	SRX320	SRX340	SRX345	SRX380
Connectivity					
Total onboard ports	8x1GbE	8x1GbE	16x1GbE	16x1GbE	20 (16x1GbE, 4x10GbE)
Onboard RJ-45 ports	6x1GbE	6x1GbE	8x1GbE	8x1GbE	16x1GbE
Onboard small form-factor pluggable (SFP) transceiver ports	2x1GbE	2x1GbE	8x1GbE	8x1GbE	4x10GbE SFP+
MACsec-capable ports	2x1GbE	2x1GbE	16x1GbE	16x1GbE	16x1GbE 4x10GbE
Out-of-band (OOB) management ports	0	0	1x1GbE	1x1GbE	1x1GbE
Mini PIM (WAN) slots	0	2	4	4	4
Console (RJ-45 + miniUSB)	1	1	1	1	1
USB 3.0 ports (type A)	1	1	1	1	1
PoE+ ports	N/A	6	0	0	16
System memory (RAM)	4 GB	4 GB	4 GB	4 GB	4 GB
Storage	8 GB	8 GB	8 GB	8 GB	100Gb
SSD slots	0	0	0	1	1

SRX300 Series Performance and Scale

Parameter	SRX300	SRX320	SRX340	SRX345	SRX380
Routing with packet mode (64 B packet size) in Kpps[8]	300	300	550	750	1700
Routing with packet mode (IMIX packet size) in Mbps[8]	800	800	1600	2300	5000
Routing with packet mode (1,518 B packet size in Mbps[8]	1500	1500	3000	5500	10000
Stateful firewall (64 B packet size) in Kpps[8]	200	200	350	550	1700
Stateful firewall (IMIX packet size) in Mbps[8]	500	500	1000	1700	6000
Stateful firewall (1,518 B packet size) in Mbps[8]	1000	1000	3000	5000	10000
IPsec VPN (IMIX packet size) in Mbps[8]	100	100	200	300	1000
IPsec VPN (1,400 B packet size) in Mbps[8]	300	300	600	800	3500
Application visibility and control in Mbps[9]	500	500	1000	1700	6000
Recommended IPS in Mbps[9]	200	200	400	600	2000
Next-generation firewall in Mbps[9]	100	100	200	300	1000
Route table size (RIB/FIB) (IPv4 or IPv6)	256K/256K	256K/256K	1m/600K	1m/600K	1m/600k
Maximum concurrent sessions (IPv4 or IPv6)	64000	64000	256000	375000	380000
Maximum security policies	1000	1000	2000	4000	4000
Connections per second	5000	5000	10000	15000	50000
NAT rules	1000	1000	2000	2000	3000
MAC table size	15000	15000	15000	15000	16000
IPsec VPN tunnels	256	256	1024	2048	2048
Number of remote access/SSL VPN (concurrent) users	25	50	150	250	500
GRE tunnels	256	256	512	1024	2048
Maximum number of security zones	16	16	64	64	128
Maximum number of virtual routers	32	32	64	128	128
Maximum number of VLANs	1000	1000	2000	3000	3000
AppID sessions	16000	16000	64000	64000	64000
IPS sessions	16000	16000	64000	64000	64000
URLF sessions	16000	16000	64000	64000	64000

SRX1500 Service Gateway

The foundation for strong business growth is secure connectivity that can scale to protect your key assets. The SRX1500 Services Gateway delivers that connectivity to help your business meet its goals. Whether rolling out new services and applications, connecting to the cloud, meeting compliance requirements, or improving operational efficiency, the SRX1500 keeps your network scalable, secure, and easy to manage.

A high-performance security appliance, the SRX1500 protects distributed enterprise campus locations and serves as a perimeter firewall for small to midsize data centers.

The combination of hardware and software architectures on the SRX1500 delivers very high performance in a small, 1 U form factor. The SRX1500 performs ultra-fast, high-speed firewalling and intrusion protection that can extend to protect end-user devices. Firewall performance remains consistent across different application profiles and usage patterns. Unified threat management (UTM) and intrusion prevention system (IPS) capabilities make it easier to detect intrusions, enforce policies, and proactively mitigate threats to improve the user and application experience.

SRX 1500 Hardware Specification

Specification	SRX1500
Connectivity	
Total onboard ports	16x1GbE and 4x10GbE
Onboard RJ-45 ports	12x1GbE
Onboard small form-factor pluggable (SFP) transceiver ports	4x1GbE
Onboard SFP+ ports	4x10GbE
Out-of-band (OOB) management ports	1
Dedicated high availability (HA) ports	1x1GbE (SFP)
Mini PIM (WAN) slots	2
Console (RJ-45 + miniUSB)	1
USB 3.0 ports (type A)	1
PoE+ ports	N/A
System memory (RAM)	16Gb
Storage	16Gb
Secondary SDD	100Gb

SRX1500 Performance and Scale

Parameter	SRX1500
Routing/firewall (IMIX packet size) Gbps2	5
Routing with packet mode (1,518 B packet size in Gbps[8]	9
IPsec VPN (IMIX packet size) Gbps2	1.3
IPsec VPN (1400 B packet size) in Gbps2	4.5
Application visibility and control in Gbps3	7
Recommended IPS in Gbps3	4
Next-generation firewall in Gbps3	1.7
Route table size (RIB/FIB) (IPv4)	2 million / 1 million
Maximum concurrent sessions (IPv4 or IPv6)	2,000,000
Maximum security policies	16,000
Connections per second	90,000
NAT rules	8,000
Media access control (MAC) table size	64,000 (standalone mode)
IPsec VPN tunnels	2,000
Number of remote access/SSL VPN (concurrent) users	2,000
GRE tunnels	2,048
Maximum security zones	512
Maximum virtual router	512
512 Maximum VLANs	3900

Virtual SRX Appliance – vSRX

Organizations are increasingly moving workloads to the cloud to capitalise on virtualization benefits—but with that move comes new security requirements. Enter the vSRX Virtual Firewall, providing scalable, secure protection across private, public, and hybrid clouds.

The vSRX offers the same features as our physical SRX Series firewalls but in a but in a virtualized form factor for delivering security services that scale to match network demand. It offers the same features as the SRX appliance, including core firewall, robust networking, full next-gen capabilities, and automated life-cycle management. Handling speeds up to 100 Gbps, the vSRX is the industry's fastest virtual firewall.

It supports Juniper Contrail, OpenContrail, and third-party software-defined networking (SDN) solutions and integrates with cloud orchestration tools such as OpenStack. Junos Space Security Director with Policy Enforcer enables automated security enforcement, giving you unified management and visibility for physical and virtual assets through a common interface.

Private Cloud

Deployed in your private cloud, vSRX protects against the lateral spread of advanced threats between virtual machines within your network borders. It provides scalable application security for dynamic workloads and protects mission-critical applications from known and unknown threats. It supports VMware ESXi and NSX and KVM/OpenStack (Ubuntu, Centos, Red Hat), as well as Nutanix Enterprise private clouds.

Public Cloud

The vSRX Virtual Firewall helps you seamlessly extend your private cloud into public cloud environments, securely moving data and workloads with ease. As a VPN gateway, the vSRX provides remote users with safe access to their workloads. As a segmentation gateway, the vSRX protects public-cloud workloads by blocking lateral threats using application policies that help maintain security and compliance.

Stream – The Digital Backbone to your Business

About Stream

Founded in 2007 Stream are a privately owned ISO27001 IS09001, G-Cloud approved telecommunications provider. Our mission is to deliver secure, resilient digital communications and cloud services that provide a clear return on investment for the public sector, finance, legal, not for profit and education sectors.

Stream has a valuable range of knowledge and skills that enable us to both discuss strategy on the one hand, whilst being able to deliver rapid programs to manage change on the other. Whether it's high-level discussions to outline new ways of communicating, or highly tangible deliverables, such as cost reduction, planning new ways of working, or proven ways to improve communication, Stream can help transition your communication and business support platform tothe brave new world of unified communications and 'information everywhere'.

Our Network

The Stream network is built for business. Our core network utilises Junipers latest MX series routing platform and EX Series switches to provide a fully meshed MPLS environment between 4 key UK datacentres. From the core our footprint extends with our UK and international peering agreements that provide low latency transit for critical applications such as voice, cloud and video. Our resilient fibre network connects into the leading carrier networks providing network access to over 2 million UK on net post codes.

Our mission is to provide resilient communications that business can rely on. Our network and our customer's networks are proactively managed and monitored 24x7x365 to ensure your business stays connected whatever the weather.

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